University of Southern California Catalogue 2017–2018

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

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Academic Calendar 2017-2018

Fall Semester 2017
71 instructional days

Open Registration	Mon-Fri	August 14-18
Move-In	Wed	August 16
Classes Begin	Mon	August 21
Labor Day	Mon	September 4
Thanksgiving Holiday	Wed-Sun	November 22-26
Classes End	Fri	December 1
Study Days	Sat-Tue	December 2-5
Exams	Wed-Wed	December 6-13
Winter Recess	Thu-Sun	December 14 – January 8

Spring Semester 2018
73 instructional days

Open Registration	Thu-Fri	January 4-5
Classes Begin	Mon	January 8
Martin Luther King's Birthday	Mon	January 15
President's Day	Mon	February 19
Spring Recess	Sun-Sun	March 11-18
Classes End	Fri	April 27
Study Days	Sat-Tue	April 28-May 1
Exams	Wed-Wed	May 2-9
Commencement	Fri	May 11

Summer Session 2018
58 instructional days

Registration	Mon-Tue	May 14-15
Classes Begin	Wed	May 16
Memorial Day	Mon	May 28
Independence Day	Wed	July 4
Classes End	Tue	August 7

Catalogue Home

Welcome to the course Catalogue for the University of Southern California. Click on the links at left to find the answers to all your course, curriculum, school, program, admission, resources and services questions.

USC Transforms Campuses as It Debuts New Cutting-Edge Developments

In light of the new forward-thinking construction projects completed in the last decade, the University of Southern California continues to ensure its ability to meet the present and future needs of its dynamic community. The 2016-2017 academic year was no exception as several new state-of-the-art buildings opened their doors to much fanfare.

The Glorya Kaufman School of Dance unveiled its expansive Glorya Kaufman International Dance Center with style and flair last fall.

Students are now taking care of business at Jill and Frank Fertitta Hall, the new home of the Marshall School of Business' undergraduate program that opened at the start of the fall semester.

USC Village, the groundbreaking $700 million retail and residential project, is set to debut at the end of summer — just in time for the new cohort of Trojans.

The 190,000-square-foot Michelson Hall, which will house the interdisciplinary Michelson Center for Convergent Bioscience, is projected to open in the fall.

On the Health Sciences Campus, the USC Stevens Hall for Neuroimaging, home to the USC Mark and Mary Stevens Neuroimaging and Informatics Institute, and Currie Hall, a new student residential facility that also offers patient and family suites, both made their debut last fall semester.

A Message from the President

"The University of Southern California offers a tremendous range of academic and intellectual opportunities, and this catalogue should serve as your roadmap. In it you will find information on classes offered by our Dornsife College of Letters, Arts and Sciences, the Graduate School and 18 different professional schools. I hope you will feel inspired to consider innovative and creative ways of pursuing your education.

To our undergraduates: You are fortunate to have advisers and professors who wholeheartedly encourage you to explore different disciplines and departments. These years should be a time of discovery, for stretching yourself intellectually, creatively and socially. One of USC's distinctive traits is its emphasis at the baccalaureate level on what we call "depth with breadth" — that is, promoting the creative combination of majors (or majors and minors) that seem far apart in the intellectual landscape. USC offers more than 170 minors, and we encourage you to examine those that challenge you, perhaps taking your studies in an entirely new direction.

To our graduate students: Your courses — though designed to focus rigorously on various specialties — are intended to deepen and expand your knowledge. We urge you to pursue interdisciplinary connections and to build relationships with your peers in other fields. These relationships will enrich your work, and increase the tremendously vibrant academic culture on our campuses.

Intellectual breadth and agility are the tools you will need to succeed professionally, and the education you receive at USC will certainly equip you well. Be bold in designing your USC education — and in creating your future!"

C. L. Max Nikias
President

Administration

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Admission and Orientation

Orientation

New Student Orientation

USC Orientation welcomes new students to the Trojan Family and provides events that promote success for all graduate and undergraduate students beginning their studies at USC. The university strongly recommends that all students attend an Orientation event to familiarize themselves with the campus services and academic requirements that will assist them in their transition to USC.

Numerous Orientation events are held for new freshman and transfer students. During Orientation, students meet with academic advisers to plan their first-semester schedule. Guests are invited to attend Orientation with their students to become acquainted with the university. There is an additional charge for guests to attend Orientation. Please see the Office of Orientation Programs Website at orientation.usc.edu for details.

All international students are required to complete their Passport Verification (PPV), which is offered during the International Student Orientation. More details can be found on the Orientation Website at orientation.usc.edu.

Graduate students are offered a centralized Graduate Orientation event before the start of the semester. Many academic departments and professional schools offer additional orientation sessions for their specific departments. Sessions are also available for graduate assistants through the Center for Excellence in Teaching (CET). For information about CET's programs, see Special Study Options or visit cet.usc.edu. Email usccet@usc.edu to subscribe to the *Friends of CET* weekly updates.

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

Undergraduate Education Admission

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

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

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

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

Applicants with Disabilities

In compliance with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act Amendments Act (ADAAA),

USC offers equal access to its degree programs to academically qualified applicants with documented disabilities. Applicants will be expected to have demonstrated by their record in a college preparatory high school curriculum or in an appropriate transferable college course of study that they can perform well in a competitive academic environment. USC is committed to providing equal access and reasonable accommodations to students with disabilities. For information on the accommodation request and review process, as well as the university's documentation guidelines, please read more here.

Retention of Records

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

Application Procedures

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

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

USC does not undertake the collection of these credentials. The application for admission and complete credentials should be submitted via the Common App by the appropriate deadlines.

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

Deferring Admission A student is accepted only for the semester and program specified in the letter of admission. If a different semester is desired or if the student cannot arrive on campus in time for the specified semester, students may defer admission for up to one year by submitting a USC Admission Deferral Request Form to the Admission Office. A deferral may be requested within one year of the original semester of application. (Example: A student applied for the fall 2017 semester and wishes to have admission deferred to the fall 2018 semester.) Longer gaps required for religious reasons or for compulsory military service will also be considered.

Once students have been admitted, they complete, sign and date the Admission Deferral Request Form and submit it to the Office of Admission as soon as possible. Only students who have been formally admitted to USC may request a deferral.

School and Department Application Requirements

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

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

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

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

Jimmy Iovine and Andre Young Academy for Arts, Technology and the Business of Innovation (BS) To apply, first-year and transfer applicants should submit the Common Application and the USC Writing Supplement by December 1. Applicants must include a one-minute proposal video and are encouraged to submit a portfolio of creative work. Current USC students who wish to transfer in to the Academy should complete only the SlideRoom portion of the application. For more information, please call (213) 821-6140, email iovine-young@usc.edu or visit iovine-young.usc.edu.

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

School of Cinematic Arts (Animation and Digital Arts, Cinema and Media Studies, Film and Television Production, Interactive Media and Games, Media Arts and Practice, and Writing for Screen and Television) Supplemental materials for first-year applicants are due December 1. Transfer students should apply by February 1. Transfer students applying to the writing program should note that the application deadline is December 1 and that the core curriculum takes four years to complete. For specific instructions on applications and required supplementary material, contact the USC School of Cinematic Arts, Student Affairs Office, Los Angeles, CA 90089-2211, (213) 740-8358, email admissions@cinema.usc.edu or visit cinema.usc.edu.

Annenberg School for Communication and Journalism (Communication, Journalism and Public Relations) All applicants to the Annenberg programs must include a statement of intent explaining their reasons for pursuing an education and a career in communication, journalism or public relations. Statements are read with great attention to commitment and literacy. For more information, contact the USC Annenberg School for Communication and Journalism, Recruitment Office, Los Angeles, CA 90089-0281, (213) 821-0770, email ascadm@usc.edu or visit annenberg.usc.edu.

Kaufman School of Dance (BFA) Admission to the USC Kaufman School is competitive: No more than 15 to 20 students will be invited to enroll. In addition to the Common Application, applicants must submit the USC Kaufman School Supplement via SlideRoom. All required materials must be received by December 1. Finalists will be invited to audition in person. Current USC students and transfer students are welcome to apply but should note that the BFA in Dance is a four-year program. For more information, contact the USC Kaufman School at 849 West 34th Street, Los Angeles, CA 90089-3521, email aubertsa@usc.edu or visit kaufman.usc.edu.

Herman Ostrow School of Dentistry (Dental Hygiene) All prerequisite and general education course work must be completed prior to entering dental hygiene classes, which begin in the fall of the student's junior year. Contact the department about completing necessary courses at USC or elsewhere. Admission is for the fall semester only. The deadline to submit the USC Common Application is February 1. Only junior transfer students may apply.

For further information and a supplemental application, write or call the Herman Ostrow School of Dentistry, Office of Admissions and Student Affairs, 925 West 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841 or visit dentistry.usc.edu.

School of Dramatic Arts (BFA and BA) Applicants must complete portfolio requirements for the School of Dramatic Arts. The deadline for all first-year programs, and transfer BFA programs, is December 1. The deadline for BA transfer programs is February 1.

An audition/interview is required for admission to the BFA program. Interviews (which may be conducted over the phone) are required for BA applicants. Applicants will be notified of the dates and locations for auditions and interviews after the departmental application is received. Additional information is available by calling (213) 740-1286 or visiting dramaticarts.usc.edu.

Viterbi School of Engineering Applicants to engineering and computer science majors must respond to the two short-answer questions on the USC Writing Supplement. For first-year applicants to all majors in engineering and computer science, four years of mathematics are required for admission consideration, preferably with calculus in progress or completed by senior year. Three years of natural sciences are also required. Transfer applicants to all majors in engineering and computer science should have completed one or more semesters of college-level calculus and meet USC admission requirements. Transfer students are encouraged to complete additional pre-engineering course work as available; visit viterbi.usc.edu/admission for a list of relevant courses. For more information, contact the Viterbi School of Engineering Admission and Student Affairs Office at (213) 740-4530 or viterbi.admission@usc.edu.

Thornton School of Music The deadline for all music majors (first-year and transfer) is December 1. All required supplementary materials must be received by this date. An audition is required for most majors. Audition requirements and dates can be found at music.usc.edu or by contacting the Thornton School of Music Office of Admission, University Park, UUC 218, Los Angeles, CA 90089-2991, (213) 740-8986. Applicants are urged to apply as early as possible.

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

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

Admission from Secondary Schools

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

Academic Expectations

The most fundamental expectation of each entering student at USC is that she or he will have completed a rigorous high school curriculum in English, mathematics, science, social studies, foreign language and the arts. We realize, of course, that individual talents, circumstances and opportunities vary greatly. Therefore, no specific curriculum is prescribed. However, we do expect that prospective students will take advantage of the highest level of classes offered to them in their secondary schools.

Grade Point Average

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

Standardized Test Requirement

SAT and ACT

USC requires either SAT or ACT scores from all first-year applicants, and from transfer students who have accumulated fewer than 30 transferable semester units since finishing high school. Students applying for fall 2018 admission must submit the new format of the SAT. The optional essay is not required. For students who take the SAT more than once, USC records the highest scores for each section, even if achieved in different sittings. For students taking the ACT, USC will record the highest composite score.

If test information and application forms are not readily available, write to the College Board SAT Program, 901 South 42nd Street, Mount Vernon, IL 62824; or the American College Testing Program, P.O. Box 414, Iowa City, IA 52240. For the SAT, visit collegeboard.org; for the ACT visit act.org.

SAT Subject Tests

We require SAT subject tests only from first-year applicants who do not attend a regionally accredited high school, e.g., home schools, some private, parochial or even some new schools. These students must submit three SAT subject exams, including one in mathematics, in addition to the SAT or ACT. For all other applicants, these exams are optional. We find them helpful in evaluating applications for merit scholarships.

Standardized Exams

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

TOEFL/IELTS/PTE Academic

International first-year and transfer applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) or the PTE Academic test. International first-year applicants with minimum scores of 650 on the SAT Evidence-Based Reading test or a 27 on the ACT English are exempt from taking the TOEFL, IELTS or PTE Academic. The TOEFL, IELTS or PTE Academic must have been taken within two years of the application date.

Credit by Examination

Students may earn a total of 32 semester units of credit toward their bachelor's degree by examination. Advanced Placement, International Baccalaureate and A-Level credit is granted at USC for exams taken before matriculation at a two-year or four-year college and will be evaluated solely according to USC's standardized exam policies.

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

Advanced Placement Examinations (AP)

USC grants college credit for the Advanced Placement Examinations of the Educational Testing Service. A student may be granted four semester units of credit for most AP tests with scores of four or five. For specific AP credit information call the Office of Admission, (213) 740-1111 or visit arr.usc.edu/transfercredit.

International Baccalaureate

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

A-Level Exams

USC typically awards 8 semester units for most A-Level exams with an appropriate score. Results must be sent directly from the examining agency. Refer to the Articulation Office Website at arr.usc.edu/transfercredit for additional polices regarding transfer credits and AP, IB and A-Level exams.

Subject Credit by Special Examination

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

College Level Examination Program (CLEP)

USC does not grant credit on the basis of the College Level Examination Program (CLEP).

Admission from Colleges and Universities

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

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

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

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

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

Admission of International Students

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

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

English Language Requirements

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

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

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

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

American Language Institute

Any student who has not demonstrated adequate English proficiency based on the criteria outlined above will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The extent to which a student may be required to take courses at the ALI is determined by his or her performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

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

Graduate and Professional Education Admission

Office of Admission and Financial Aid
(213) 740-1111
gradadm@usc.edu
uscesd.custhelp.com/app/home

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

The University of Southern California admits qualified individuals as students regardless of race, color, religion, gender,

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

Application

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

Online Graduate Programs

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

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

Applicants with Disabilities

In compliance with the Rehabilitation Act (Section 504) and the Americans with Disabilities Act Amendments Act (ADAAA), USC offers equal access to its degree programs to academically qualified applicants with physical, psychological or learning disabilities. Applicants will be expected to have demonstrated by their record in course work completed toward their undergraduate degree that they can perform well in a competitive academic environment. Refer to this page for a discussion of possible accommodations. USC is committed to providing appropriate, reasonable accommodations to students with disabilities.

Retention of Records and All Application Documents

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

Continuing Registration Requirement

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

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

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

Doctoral Admission with Advanced Standing

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

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

Admission to Candidacy

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

University Faculty

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

The Graduate School

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

Professional Master's and Doctoral Degrees

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

Dual Degree Programs

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

Admission of International Students

The University of Southern California has an outstanding record of commitment to international education. From a small presence during our early history, our international enrollment grew to an average of 200 students by the 1930s. After declining international enrollments in the years surrounding World War II, USC began rebuilding and in 1951 began providing specialized admission services to international students. By 1964, more than 1,000 international students were enrolled at USC. Today, the Office

of Graduate Admission serves thousands of prospective students each year by providing both general and specialized information and by maintaining the expertise necessary to evaluate academic records from the various educational systems around the world. The Office of Graduate Admission also issues the required certificates of eligibility (I-20 or DS-2019) to admitted students who certify to attend USC so that they can apply for a student or scholar visa to enter the United States.

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

Admission

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

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

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

American Language Institute

Any student who has not demonstrated adequate English proficiency based on the criteria outlined above will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The extent to which a student may be required to take courses at the ALI is determined by his or her performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

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

Teaching Assistantships

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

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

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

Financial Guarantee Statement

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

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

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

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

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

Deadline for International Applications

Once students complete their online applications and have received their 10-digit USC IDs, they should send the required documents to the Office of Graduate Admission. All international students must follow the deadlines in the application for their particular program of study.

Only an admission letter from the Office of Admission grants official admission; correspondence with department chairpersons, program directors or individual faculty members does not constitute admission.

Official Document to Enter the United States

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

Registration Requirements for International Students

International students must maintain full-time student status as determined by the Office of International Services and the departmental adviser. Such students are not eligible to be considered

students without formal registration and are in violation of immigration laws when not properly registered. Any international student having questions about registration requirements should consult the Office of International Services, Parking Structure D (PSD), Suite 101.

Admission Evaluations

Admission evaluations for international students are completed by the Office of Admission. Official transcripts for all previous academic work completed should be directed to the Office of Admission.

Tuition and Fees (Estimated), Fall 2017

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

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

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

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

Tuition (semester), (Estimated)

Undergraduate Students	
(12–18 units)	$26,724.00
unit basis	1,800.00
Graduate Students	
(15–18 units)	26,724.00
unit basis	1,800.00
Advanced Dentistry (per trimester)	30,736.00
Dentistry (per trimester)	
Session 006	30,409.00
Dental Hygiene (per trimester)	
Session 007	24,769.00
Special Dental International Students	
(per trimester) Session 008	30,409.00
Engineering Graduate units (500 level and above)	
unit basis	1,937.00
Law Session 002	
flat fee basis (13–17 units)	30,949.00
unit basis	2,393.00
Medicine Session 003	
flat fee basis	30,714.00
Master of Physician Assistant Practice	
flat fee basis	26,724.00
Pharmacy Session 004, 005	
flat fee basis (15–18 units)	27,462.00
unit basis	1,830.00
Graduate Cinema Session 037	
unit basis (no flat fee)	1,915.00
Business Graduate (500-level and above)	
unit basis	1,847.00
Doctor of Physical Therapy	
full year for year 1 and 2 students	65,111.00
partial year for year 3 students	39,339.00
Master of Real Estate Development Session 038	
flat fee basis (16–18 units)	31,936.00
unit basis	1,996.00

Mandatory Fees (Estimated)

Application Fee, undergraduate (not refundable)	80.00
Application Fee, graduate applicants (not refundable)*	90.00
Application Fee, Marshall graduate applicants (not refundable)	155.00
Commitment Deposit, freshman and transfer only (not refundable but applicable to tuition and fees)	300.00
Commitment Deposit, graduate and professional (not refundable but applicable to tuition and fees): Students should consult their academic department or school.	
New Student Fee (undergraduate)	350.00
New Student Fee (graduate)	55.00
Student Health Service, per semester (for students with load of six units or more)	334.00
Summer, $20 per week, 12-week maximum	240.00
Student Programming Fee, per semester undergraduate	64.00
Student Programming Fee, per semester graduate	40.00
Norman H. Topping Student Aid Fund, per semester, all students	8.00

Student Health Insurance (on campus students)

Fall semester**	670.00
Spring semester and summer session**	1,205.00
Dental insurance (optional) per year**	136.00
See here.	
*Some academic programs have a higher application fee, which is noted on the application.	
**Students who are registered for classes at off-campus locations (i.e., Skirball Center or Orange County) will follow a different health plan structure. Please see the 2017–2018 plan description for a listing of those rates, as well as the available dependent rates.	

Special Fees (Estimated)

Replacement with mag stripe	25.00
Replacement with Prox contactless	25.00
Required of all students. Students must be registered before a card is issued. The fee may be assessed for each replacement of identification card.	
Laboratory Fees	5.00 – 500.00
For certain laboratory courses in architecture, biological sciences, chemistry, engineering, fine arts, geological sciences, physical education and physics. These fees are variable, and students should consult the current Schedule of Classes for amount of individual fees.	
Dissertation Fee	115.00
For USC Libraries and Graduate School processing of doctoral dissertation	
Thesis Fee	105.00
For USC Libraries and Graduate School processing of master's thesis	
Application for re-entry	no charge
Special Subject Examination (one-half per-unit rate regardless of units per course)	900.00
Transcript Fee	
Official	10.00
Late articulation petition fee	150.00
Articulation of international undergraduate transfer credit	185.00
Replacement with mag stripe	25.00
Replacement with Prox contactless	25.00
Required of all students. Students must be registered before a card is issued. The fee may be assessed for each replacement of identification card.	
Laboratory Fees	5.00 – 500.00
For certain laboratory courses in architecture, biological sciences, chemistry, engineering, fine arts, geological sciences, physical education and physics. These fees are variable, and students should consult the current Schedule of Classes for amount of individual fees.	
Dissertation Fee	115.00
For USC Libraries and Graduate School processing of doctoral dissertation	

Thesis Fee	105.00
For USC Libraries and Graduate School processing of master's thesis	
Application for re-entry	no charge
Special Subject Examination (one-half per-unit rate regardless of units per course)	900.00
Transcript Fee	
Official	10.00
Late articulation petition fee	150.00
Articulation of international undergraduate transfer credit	185.00

Late Registration and Late Settlement Fees

First week	100.00
Second week	100.00
Third week	100.00

Registration is not permitted after the third week of classes.
The university currently assesses a monthly finance charge on all past due balances. The current annual rate is 12 percent, subject to change.
A "returned check charge" of $25 is assessed for a check or e-check returned by the bank for any reason. Under California Civil Code #1719, a returned check may create liability for treble (three times) the amount owed, but not less than $100.

Obligation for Payment

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

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

Tuition and fees for all students, including those whose tuition has been deferred, become an obligation in accordance with the provisions of the Withdrawal Refund Policy as follows: Tuition and fees are due, in full, by the settlement deadline. Failure to make payments of any indebtedness to the university when due, including but not limited to tuition, deferred tuition, housing, student loans, lab fees and USCard, is considered sufficient cause, until the debt is settled with the university to (1) bar the student from classes and examinations; (2) withhold diploma, scholastic certificate or transcripts; (3) bar the student from university housing; (4) suspend all university services and privileges; (5) suspend the student; (6) assign the student to a collection agency (students who have been assigned to an outside collection agency may be required to pay in advance for all future registrations and services); and (7) report the student to a credit bureau. This policy will be equally enforced against debts discharged through bankruptcy.

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

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

Methods of Payment

You may pay your bill via the Internet (USCe.pay), by mail or in person. If you are paying by mail, please follow the instructions on your monthly billing statement. Be sure to mail your payment early enough for the university to receive it by the settlement deadline.

USCe.pay allows you to manage your student account online. You can pay your tuition and fees by transferring funds from your savings or checking account, or by charging to your VISA, MasterCard or Discover card. You can also print e-receipts and view your billing statements or current account information. In addition, you can set up individual guest user access for parents or anyone else you choose so they can make payments on your account. For more information or to login to your account, view sfs.usc.edu/epay.

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

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

VISA/MasterCard and Discover Card

You should present the credit card (and parent's written authorization if the card is not in your name) as well as a valid driver's license. Presentation of any credit card does not constitute payment of tuition and fees. Authorization must be obtained from the credit card institution in order to be posted to the student account. Declined authorizations are your responsibility. If a bank card transaction is later disallowed by the bank for any reason, the student account will be subject to the "Returned Item" penalties in accordance with the returned item policy.

Financial Aid

Financial aid recipients will have most of their available financial aid (such as scholarships, grants, loans and graduate assistantship tuition awards) applied to their university accounts each semester as direct credits against their total charges. Federal and state aid such as Pell Grants, Supplemental Educational Opportunity Grants, Cal Grants, Direct Loans, Direct PLUS Loans and Perkins Loans are applied to student accounts no sooner than 10 days before the first day of classes for the term. Students must complete all application steps and meet all disbursement requirements before funds will be applied to their accounts. For details, visit financialaid.usc.edu.

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

Billing Information

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

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

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

Refund of Tuition

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

Full (100 percent) refunds for the regular/general 12- to 15-week fall or spring session are made through the end of the third week of classes (the refund deadline). No refunds are issued for classes canceled after the deadline.

If you are enrolled in any other fall or spring session, or if you are enrolled in the summer, a different refund deadline may apply. See the academic department for specific information.

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

Tuition Refund Insurance

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

What Tuition Refund Insurance Covers

The insurance covers 100 percent of the tuition and mandatory fees (excluding the student health insurance fee) for the semester if a student withdraws from all classes due to injury or sickness. For withdrawals from all classes due to a psychological or emotional condition (as defined in the DSM-IV manual), the coverage is 80 percent, provided the student is confined in a hospital for two consecutive days during the term. The plan covers payments made directly by the student, loans, grants or scholarships. USC grants and scholarships are credited back to the university and loans may be credited back to the lender as determined by the Financial Aid Office.

By default, at the time you register, Web Registration will enroll you in Tuition Refund Insurance. This will result in a charge equal to approximately .40 of 1 percent of your tuition and mandatory fees, which will be added to your student account.

If you wish to remove Tuition Refund Insurance after you have registered, you may make the change on Web Registration (my.usc.edu and webreg.usc.edu) by clicking the Tuition Refund Insurance tab and following the prompts. You may decline tuition refund insurance up until the end of week three of the fall or spring semester or the week three equivalent in special sessions or by June 20 for the summer semester.

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

Exit Loan Counseling

All students who borrowed a Direct Loan or Direct Graduate PLUS Loan must complete exit loan counseling when they graduate, withdraw or are no longer enrolled at least half time. Exit loan counseling is a two-part requirement for borrowers of Direct and/or Direct Graduate PLUS loans. First, a borrower must complete online exit loan counseling at studentloans.gov. This online process takes about 20 minutes and requires students to update their contact information with the U.S. Department of Education. Second, a borrower must also participate in an in-person exit loan counseling information session or an exit loan counseling webinar. Information and schedules for in-person exit loan counseling and webinars is available online at financialaid.usc.edu at the end of each semester.

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

Tuition Assistance Benefits

The Tuition Assistance Benefits program provides USC tuition payments for eligible faculty and staff and their spouses or registered domestic partners and children. The amount of tuition payment varies based on who is taking the class, the type of class and the maximum number of units eligible for assistance. Tuition assistance is limited to tuition, and does not apply to any fees or books.

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

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

An employee must be employed by the university in a tuition-benefits-eligible position on or before the first day of classes in the semester for which application is made. Please note that the "first day of classes" refers to the first day classes are in session for the semester, not the first day the specific class in which the student is enrolled meets. Conversely, the "end of the semester," refers to the last day classes are in session for the semester, not the last day the specific class in which the student is enrolled meets. This includes the summer semester, which has different "sessions" but still has very specific semester start and end dates (see Academic Calendar). A student who receives tuition assistance is responsible for payment of a prorated amount of tuition assistance if certain changes in employment status of the employee or sponsoring employee occur during the semester. See the Tuition Assistance Benefits Policy available online at benefits.usc.edu for complete information about eligibility and requirements. General information about the tax liability for certain types of tuition assistance is included in the policy. For additional information, contact the Benefits Office on the University Park Campus. Application forms for tuition assistance may be found on the Benefits Website at benefits.usc.edu by clicking the icon "Forms" and then "Tuition Assistance Application Forms."

Cancellations

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

Drops

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

This policy is enforced equally for settled and unsettled registrations.

Financing Alternatives

Prepayment Program (PP)

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

USC Payment Plan

The USC Payment Plan, administered by Student Financial Services, enables students and parents to pay tuition, fees and

university housing and meal plan charges in monthly installments rather than in a single payment at the beginning of each semester. Payments are made over a five-month period for each semester, beginning August 1 for the fall semester and January 1 for the spring semester, and may be made only by electronic transfer. A trimester plan is offered to law, dental and MBA-PM, MS marketing and nursing students. There is a small application fee each semester. The student must be in good financial standing at the university. For further information, contact Student Financial Services, (213) 740-4077 or by email at uscsfs@usc.edu. You are able to set up a payment plan by login on USCe.pay.

Private and Federal Financing

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

Student Health Insurance

USC student health insurance plan coverage periods:

- Fall 2017 coverage: August 14, 2017 through January 7, 2018
- Spring/Summer 2018 coverage: January 8, 2018 through August 12, 2018

Aetna Insurance premiums (on-campus students) for the 2017–18 academic year are: Fall 2017: $670 and Spring/Summer 2018: $1,205+.

The university requires that all students have supplemental health insurance to help cover the cost of health care that cannot be obtained at the health center, especially in emergency situations where hospitalization may be required.

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

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

Waiver Requirements

Enrollment in the USC student health plan will only be waived and the premium charge removed from the fee bill if documented proof of health coverage from another plan is presented using the online waiver application by the deadline date of September 8, 2017. In order to receive a waiver of the USC student health insurance, the insurance presented must meet all the following requirements:

General Criteria:

- Your health plan must have in-network providers (hospital and doctors) in the Los Angeles area. *(on-campus students only)* Emergency/urgent care only is not accepted for waiver.
- Provide continuous year-round coverage while you are a student at the University of Southern California.
- Your insurance plan must meet Affordable Care Act (ACA) criteria. Only plans in compliance with ACA will be accepted. (No major exclusions such as maternity or mental health coverage allowed).
- Cover preventive care services at 100%.
- Have an annual combined deductible and out-of-pocket expense of $6,850 or less.

Upon request, you must be able to provide a copy of:

- Verifiable proof of coverage with student's name (ID card, insurance policy or letter from insurance carrier).
- Plan document(s) in English, with currency amounts converted to U.S. dollars, and an insurance company contact phone number in the United States is mandatory.

The waiver must be submitted using the online waiver portal by September 8, 2017. Go to aetnastudenthealth.com to complete the waiver process. For more information, email the Student Health Insurance Office at eshcins@usc.edu or call (213) 740-0551.

Graduate Assistants

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

Student Health Insurance for Students Studying Overseas

Students participating in USC-sponsored study abroad programs are required to have USC health insurance coverage. These students are automatically enrolled in the USC overseas studies health insurance plan unless they are enrolled in the USC health plan. For more information, please email the Student Insurance Office at eshcins@usc.edu or call (213) 740-0551.

Student Dental Plan (Optional)

Dental coverage for students is available for purchase and billed to the student's account. Dental coverage is not automatic. The coverage period is August 14, 2017 – August 12, 2018. Coverage is for the entire year and must be purchased by the deadline of September 8, 2017. Spring enrollment will only be allowed for new incoming students in the spring semester. Plan details are available at engemannshc.usc.edu.

Veterans' Benefits

Veterans must register with the Veterans Certification Office each semester in order to receive benefits. Students may expect an educational allowance based only on courses that are a legitimate part of the degree program approved for veterans. The student must notify the Veterans Certification Office immediately upon any change in unit load or change of major. The office is located in the Veterans Resource Center in the Tutor Campus Center, Room 330. Students may contact the office at vets@usc.edu, (213) 740-4619, FAX: (213) 821-3760. Office hours are 8:30 a.m. to 5 p.m. Monday–Friday.

For more information, visit our Website at *usc.edu/va*.

Students may visit gibill.va.gov for more information regarding GI Bill Educational Assistance.

Naval Reserve Officer Training Corps (NROTC)

The Department of Naval Science courses are structured primarily for those who are participating in the Naval Reserve Officers Training Corps (NROTC) but are open to all undergraduate students. The NROTC program eventually leads to a commission as an officer in the United States Navy or the United States Marine Corps. Most NROTC midshipmen at USC are the recipients of national scholarships earned through competition while seniors in high school. These scholarships pay full tuition, fees, a book stipend and

a $250 to $400 monthly subsistence stipend to help defray living expenses. The university also provides an additional automatic scholarship of $4,000 per year for each NROTC scholarship recipient to help pay for living expenses. The USC Price School of Public Policy offers an additional scholarship for classes in excess of 18 units per semester. Navy/Marine Corps scholarships are also available on a competition basis to students who enroll directly in the NROTC college program at the university. College program students receive no NROTC financial aid until they are selected for a scholarship, qualified medically, and meet naval body composition and fitness standards. College program students who are not selected for a scholarship may apply for advanced standing status during their sophomore year, which enables them to continue in the program and makes them eligible to receive a subsistence stipend beginning in their junior year. Upon completion of the bachelor's degree and NROTC requirements, scholarship and advanced standing students are commissioned as active duty Ensigns in the U.S. Navy or as Second Lieutenants in the U.S. Marine Corps, and proceed to advanced training in the Navy Officer communities of aviation, submarines, surface ships, and naval special warfare or Marine Corps Military Occupational specialties such as aviation, infantry, intelligence, artillery, etc. For specific information, contact the Department of Naval Science at (213) 740-2663 or visit usc.edu/dept/nrotc.

Air Force Reserve Officer Training Corps (AFROTC)

Air Force Reserve Officer Training Corps (AFROTC) is open to most students pursuing a baccalaureate degree. Classes consist of one hour of academics and two hours of laboratory for freshmen and sophomores; three hours of academics and two hours of laboratory for juniors and seniors. AFROTC offers a variety of scholarships, some of which pay the full cost of tuition, books and fees. AFROTC cadets on scholarship and all juniors and seniors receive a monthly tax-free stipend and a textbook allowance. The university also provides an additional automatic scholarship of $4,000 per year for each AFROTC scholarship recipient to help pay for living expenses. The USC Price School of Public Policy offers an additional scholarship for classes in excess of 18 units per semester. Upon successful completion of AFROTC academic classes and leadership laboratories, students will qualify for a commission as a second lieutenant in the United States Air Force. For more information, you may visit our Website at afrotc.usc.edu or contact the Department of Aerospace Studies (AFROTC) at (213) 740-2670.

Army Reserve Officer Training Corps (AROTC)

Army Reserve Officer Training Corps is one of the most demanding and successful leadership programs in the country. The training a student receives in Army ROTC teaches leadership development, military skills and career training. Courses take place both in the classroom and in the field, and are mixed with normal academic studies. Students may also attend additional summer programs, such as Airborne School. Upon completion, an Army ROTC graduate earns a commission as an officer starting out as a second lieutenant in the U.S. Army. The USC Army ROTC program has a limited number of full-tuition scholarships for full-time undergraduate and graduate students. Scholarships are offered on a competitive basis to all qualified applicants and are not based on financial need. Students (cadets) may compete for active duty, U.S. Army Reserve or National Guard duty. All cadets receive a monthly stipend based on his or her academic year and a book stipend per semester. The university also provides an additional automatic scholarship of $4,000 per year for each AROTC scholarship recipient to help pay for living expenses. The USC Price School of Public Policy offers an additional scholarship for classes in excess of 18 units per semester. All enrolled cadets receive uniforms, military science textbooks and any other required items from the department. Students may select any major offered by the university. Prior to the completion of their degree and commissioning, students will choose from the 17 different career fields (branches) the U.S. Army has to offer. Veterans, Reservists and National Guard members and AROTC graduates qualify for advanced placement. For further information, visit the Army ROTC office located in the Physical Education Building, Room 110, call (213) 740-1850 or visit the Website at uscrotc.com.

Academic and University Policies

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

Registration

Registration Procedures and Current Course Offerings

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

Enrollment Status

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

Extra Units

A normal academic load is 16 units per semester for undergraduate students and 8 units (500-level) for graduate students. The university recommends that undergraduate students register for no more than 18 units and graduate students for no more than 16

units. Permission to enroll in more than 20 units requires written approval from the school or home department of the student's major.

Declaration of Major

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

Declaration of Minor

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

Classification and Numbering of Courses

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

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

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

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

Unit Value

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

Repeating Courses

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

Appropriate Course Enrollment

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

Preparatory Courses

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

Prerequisites

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

Corequisites

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

Recommended Preparation

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

Guaranteeing a Space in a Class

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

Pass/No Pass Enrollment Option

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

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

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

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

Credit/No Credit Courses

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

Courses Numbered 490x and 390

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

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

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

390 Special Problems (1-4, max 4)

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

Audited Courses

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

Limited Status Enrollment

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

Eligibility for Limited Status Enrollment

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

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

International Students

Limited status enrollment does not fulfill requirements for issuing a student visa. International students (students studying or wishing to study in the United States on a non-immigrant visa) must have the approval of the Office of International Services (Parking Structure D, PSD 101) before registering for classes.

Limited Status Enrollment Eligibility for Non-immigrant Visa Holders

1. B-1 and B-2 status holders are not eligible for Limited Status enrollment at USC.
2. F-1 status applicants who are on another institution's I-20 are eligible for Limited Status enrollment if they will concurrently enroll at the I-20 school and USC. A letter from the international office at the I-20 school verifying enrollment will be required when submitting your Limited Status application. F-1 status applicants who are currently not maintaining immigration status/or will not be enrolled at the I-20 school are not eligible for Limited Status enrollment at USC.
3. Individuals on other visa categories such as A, E, H, J, etc. and TN are eligible for Limited Status enrollment if maintaining status on that visa category. A copy of the passport and I-94 card will be required when submitting the Limited Status application.

Restrictions on Limited Status Enrollment

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

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

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

Dropping and Adding Courses

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

Registration in Graduate-Level Courses by Undergraduate Students

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

USC-UCLA Cross-Registration for Graduate Students

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

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

Conversion of Non-Degree Option Course Work

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

Permission to Register at Another Institution

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

University Policies

Academic Integrity at USC

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

Guidelines governing academic integrity can be found on the Student Judicial Affairs and Community Standards Website at sjacs.usc.edu.

Family Educational Rights and Privacy Act

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

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

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

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

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

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

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

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

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

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

Policy on Accommodations for Students with Disabilities

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

The general definition of a student with a disability is any person who has "a physical or mental impairment which substantially limits one or more of such person's major life activities," and any person who has "a history of, or is regarded as having, such an impairment." Reasonable accommodations are determined for

students based on an interactive review process, incorporating the student's self-report, supporting documentation according to the university's documentation guidelines, requirements of the student's program of study, and university policies.

Procedures for Obtaining Accommodations

Students with disabilities are encouraged to contact Disability Services and Programs (DSP) prior to or during the first week of class attendance or as early in the semester as possible. The office will work with the course instructor and his or her department, and the student to arrange for reasonable accommodations. It is the student's responsibility to provide documentation that verifies the student's disability in a timely way.

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

Academic Accommodations

Students seeking academic accommodations due to a disability should make the request to the course instructor prior to or during the first week of class attendance or as early in the semester as possible. Course instructors should require that a student present verification of documentation of a disability from Disability Services and Programs if academic accommodations are requested. The USC Gould School of Law has a unit-specific policy for handling requests for academic accommodations; however, all students with disabilities should register with DSP. Refer to the *Law School Student Handbook*.

For assistance in how to provide reasonable accommodations for a particular disability, course instructors are encouraged to consult with the staff at DSP. Students requesting academic accommodations must have verification of disability.

Grievance Procedures

Detailed information about processing a grievance can be found at dsp.usc.edu.

University Policies

USC's policy Website contains all university policy, including links to SCampus student policies at https://policy.usc.edu/student/scampus/.

Equal Opportunity, Affirmative Action and Non-Discrimination policy Office of Equity and Diversity at http://policy.usc.edu/equal-opportunities/.

Examinations

Final Examinations Make-up Policy

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

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

Administrative Examinations

The following administrative examinations are given at USC:

Placement Examinations

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

Placement exams are administered by Testing Services in mathematics (MATH 040x, MATH 108, MATH 117, MATH 118 and MATH 125), chemistry (CHEM 050, CHEM 102, CHEM 105a or CHEM 105b), and the International Student English Examination (ISE) in conjunction with the American Language Institute. The MATH and CHEM placement exams are administered on scheduled dates on the USC campus and require a reservation with Testing Services. The ISE exam is administered by the American Language Institute. All exams require a USC ID and/or proof of USC enrollment. For additional information regarding MATH and CHEM placement exams, contact Testing Services, STU 301, (213) 740-7166, undergrad.usc.edu/services/testing. For exam information regarding the ISE exam, contact the American Language Institute, PSD 106, (213) 740-0079, askali@usc.edu.

Placement in elementary and intermediate foreign language courses is made by the foreign language placement exams. Foreign Language placement exams are administered by the Language Center on scheduled dates throughout the academic year and during summer. Transfer courses in foreign languages do not fulfill the prerequisite for the next course in the sequence; students are required to take the USC placement exam to continue in language courses at USC. For additional information concerning foreign language exams, contact the Language Center, THH 309, (213) 740-1188, language.usc.edu.

Transfer students may be advised to repeat, without additional credit, a semester or semesters of instruction to qualify for the next level in the sequence if their skills are judged insufficient at the time of testing.

University Writing Examination

Students who score below specified levels on certain sections of the SAT or ACT exams and students completing American Language Institute course work are required to take the University Writing Examination to determine if they must complete preparatory course work before enrolling in WRIT 150. See The Writing Program section.

Equivalency Examinations

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

Subject Credit by Special Examination

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

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

With the permission of the dean of the academic unit in which the student is a degree candidate, the student may file a Request for Credit by Special Examination form in the Grade Department (Trojan Hall 101). The following rules apply:

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

Academic Standards

Definition of Grades

The following grades are used: A — excellent; B — good; C — fair in undergraduate courses and minimum passing in courses for graduate credit; D — minimum passing in undergraduate courses; F — failed. In addition, plus and minus grades may be used, with the exceptions of A plus, F plus and F minus. The grade of F indicates that the student failed at the end of the semester or was doing failing work and stopped attending the course after the twelfth week of the semester. Minimum passing grades are D- for undergraduate credit and C for graduate credit. Additional grades include: CR — credit (passing grade for non-letter-graded courses equivalent to C- quality or better for undergraduate courses and B (3.0) quality or better for graduate courses); NC — no credit (less than the equivalent of a C- for an undergraduate and a B for a graduate, non-letter-graded course); P – pass (passing grade equivalent to C- quality or better for undergraduate letter-graded courses and B (3.0) quality or better for graduate courses taken on a Pass/No Pass basis); NP – no pass (less than the equivalent of a C- for an undergraduate and a B (3.0) for a graduate, letter graded course taken on a Pass/No Pass basis).

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

Grade Point Average Categories and Class Levels

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

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

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

Grades of Incomplete (IN)

Conditions for Completing a Grade of Incomplete

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

Time Limit for Completion of an Incomplete

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

Extension of Time for Completion of an Incomplete

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

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

Missing Grades

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

Time Limit for Resolution of a Missing Grade

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

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

Correction of Grades

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

Disputing a Grade

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

Academic Dishonesty Sanctions

When a student is found responsible for a violation of the USC Student Conduct Code standards pertaining to academic dishonesty, the Vice President for Student Affairs (or designee) will inform the Office of Academic Records and Registrar. In appropriate cases, the

Office of Academic Records and Registrar will post the sanction information on the student's academic records. Disciplinary sanctions noted on student records include suspension and expulsion from the university and revocation of admission and degree. Disciplinary grade sanctions (e.g., F in course) are not distinguished on a student's transcript from marks assigned for academic work accomplished. In cases of suspension or expulsion, the student's registration for the current term may be cancelled with marks of "W."

Repeated Course Work at USC

Under certain conditions, a student may repeat a course for grade point credit. In no case will additional unit credit be allowed for repeated courses or duplicated work. No student may repeat a course for grade point credit in which a grade of B- or better was received. A prerequisite course may not be repeated after a student has completed a course for which it is designated a prerequisite. (See prerequisites in the Registration section of the Catalogue.)

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

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

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

Excessive Withdrawals (Marks of W)

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

The Dean's List

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

Class Rank

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

Student Good Standing

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

Probation and Disqualification of Undergraduate Students

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

Academic Probation

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

Mandatory Advisement

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

Academic Disqualification

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

Readmission after Academic Disqualification

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

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

Students must petition for readmission by December 30 for spring semester, by May 1 for summer session and by August 15 for fall semester. Since a student's readmission petition must be

reviewed and approved by CAPP before he or she can register, under no circumstances will a petition be accepted after the deadline. A nonrefundable fee of $50 must accompany the readmission petition.

Academic Warning and Dismissal of Graduate Students

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

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

Ethics Guidelines for Graduate Study

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

Research Involving Human Subjects

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

Language of Instruction

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

Exception Procedures

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

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

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

USC Committee on Academic Policies and Procedures

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

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

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

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

Registration-related Exceptions

Requests for an exception to published registration procedures and enrollment deadlines are heard by the Dean of Academic Records and Registrar. Such requests are generated in the Petition Services Office in the Registrar One Stop Center, John Hubbard Hall (JHH 114). Requests that are not approved by the dean are referred to a CAPP panel for review.

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

General Education Petitions

Students may petition to waive individual general education requirements or apply one or more courses not listed in the USC Catalogue toward general education requirements. If the course or

courses to be substituted was or will be taken at USC, a General Petition may be initiated in the student's home department; if the course was taken at another institution, an Articulation Petition may be initiated at my.usc.edu. See the Transfer Credit section under Course Work Taken Elsewhere.

Degree Requirement-related Exceptions

Requests for exception to specific degree requirements are generated in the academic unit. Most requests will be forwarded by the adviser to CAPP for review. For a list of department-initiated petitions presented to CAPP for review see Petition Services. Some exceptions are made by the dean of the academic unit and are recorded on the Student Academic Record System (STARS) report by the academic department, using the exception process.

The Graduate School

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

Graduate and Professional Programs

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

Undergraduate Education

Resident Honors Program

Hancock Foundation Building 410
(213) 740-2955
Director: Richard Edinger

Each year, USC welcomes a small number of exceptional and highly motivated high school seniors to begin their college careers a year early as part of the Resident Honors Program. The program accepts students interested in all majors, but looks particularly for mature individuals who are ready for the challenges of a university. The typical Resident Honors student has a cumulative SAT score above 1500 and a high school GPA above 4.0.

The application process for the Resident Honors Program begins during a student's junior year of high school. SAT or ACT scores are an important part of the application and students are encouraged to take the SAT or ACT in October or November. In addition to an expanded university application, the program also requires a nomination form from the student's high school counselor and two letters of recommendation from high school teachers (one from the student's English teacher). The application is available online at usc.edu/rhp.

For more information, call (213) 740-2955 or email residenthonors@dornsife.usc.edu.

Financial Aid for Undergraduate Students

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

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

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

Application Procedures and Eligibility Requirements for Financial Aid

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

Scholarships

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

Grants

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

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

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

Federal Work-Study

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

Federal Student and Parent Loans

Federal Perkins Loans may be awarded to eligible students who meet all application deadlines. Repayment begins nine months after the borrower graduates, withdraws or ceases to be enrolled at least half time.*

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

Federal Direct Parent PLUS Loans are available to parents of dependent** undergraduate students who meet the credit criteria established by the U.S. Department of Education. Payments may be deferred while the student is enrolled at least half time.*
**Enrollment status will be calculated based only on those courses that are required for, or that can be applied as an eligible elective credit toward, a student's degree or certificate program.*
***Undergraduate students considered dependent for the purpose of receiving federal financial aid*

Private Financing Programs

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

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

Financial Aid for Double Majors or Dual Degrees

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

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

Financial Aid for a Second Bachelor's Degree

Students who are pursuing their second bachelor's degree are eligible for a limited number of financial aid programs, specifically Federal Direct Loans. Parents of dependent* students may also borrow Federal Direct Parent PLUS Loans. Please refer to the Special Programs sections of the Financial Aid Website for more information.
**Undergraduate students considered dependent for the purpose of receiving federal financial aid*

Financial Aid for Enrollment in a Progressive Degree Program

Progressive degree students are classified as undergraduate students until their undergraduate degree is conferred or they complete 144 units, whichever comes first. If a transfer student's course work is not accepted for credit toward the degree, he or she may appeal to request that those units not count toward the 144 units.

Undergraduate Classification

While classified as undergraduates, students are assessed the undergraduate tuition rate, and their enrollment status and financial aid eligibility are determined by undergraduate standards. Undergraduate-level progressive degree students maintain their eligibility for Federal Pell Grants, Federal SEOG Grants, Cal Grants, Direct Subsidized and Unsubsidized Loans, Direct Parent PLUS Loans and any applicable eligibility for USC Merit Scholarships or USC University Grants, as long as they are enrolled in courses that are required for, or that can be applied as an eligible elective credit toward, their undergraduate degree. The Registrar's Office determines when a student has completed his or her undergraduate degree and manages the process of posting degrees to a student's record. The Financial Aid Office relies on the Registrar's determination of the applicability of a course to a degree program and the completion of the undergraduate degree.

Graduate Classification

Once the undergraduate degree is conferred or the student has completed 144 units, a progressive degree student can no longer be considered an undergraduate for financial aid purposes. At that time, progressive degree students will be reclassified as graduate students. While classified as graduate students, they are assessed the graduate tuition rate, and their enrollment status and financial aid eligibility are determined by graduate standards. Graduate students are not eligible for federal, state or university need-based grants. Graduate-level progressive degree students are eligible to borrow Direct Unsubsidized Loans and Direct Graduate PLUS Loans, up to the maximum yearly amounts established for graduate students.

Students who receive a research assistant or teaching assistant award before completing 144 units or their undergraduate degree are classified as graduate students and are not eligible to receive undergraduate financial aid.

Financial Aid for Limited Status Enrollment

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

Financial Aid Consortium Agreements

Students admitted to a degree-seeking program at USC who enroll at least half-time at another eligible institution and whose courses are applicable to their USC degree may be eligible for limited federal financial aid if a Financial Aid Consortium Agreement is completed. Financial Aid Consortium Agreements are contingent upon the host school agreeing to participate. Financial Aid Consortium Agreements are not available for students participating in the Postbaccalaureate Premedical Program. For more information, visit the Special Programs section of the financial aid Website.

Financial Aid for Students Enrolled in Preparatory Course Work

Students enrolled at least half-time in undergraduate courses required for admission to a degree program may be eligible for limited Federal Direct Loan program funds. For more information, visit the Special Programs section of the financial aid Website.

Satisfactory Academic Progress (SAP) Policy

Purpose of Satisfactory Academic Progress Regulations

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

The following guidelines provide academic progress criteria for all undergraduate students receiving certain financial aid at USC. Although the requirements for students receiving such financial aid are somewhat more restrictive than for the general student population, they are based on reasonable expectations of academic progress toward a degree. Accordingly, these guidelines should not be a hindrance to any student in good academic standing.

Table 1
Programs Subject to Financial Aid SAP Policy

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

Table 2
Programs Not Subject to Financial Aid SAP Policy

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

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

Definition of Satisfactory Academic Progress (SAP)

At USC, to be eligible for financial aid, as identified above, you must maintain Satisfactory Academic Progress as defined by the following three criteria:

- Meeting a minimum cumulative grade point average requirement (GPA)
- Earning a minimum number of units for credit each semester to ensure timely progress toward degree completion (Pace of Progression)
- Completing the degree objective within a maximum number of semesters enrolled and a maximum number of units attempted (Maximum Time-Frame Allowance)

Students who do not meet one or more of the above criteria will be considered to be SAP ineligible or in a financial aid SAP Warning Period as described below. The following explains each of the three SAP evaluation criteria; SAP Ineligibility, Warning and Probation Periods; and the SAP Appeals Process in detail.

Grade Point Average Requirement

To maintain Satisfactory Academic Progress, undergraduate students must meet a minimum cumulative grade point average of 2.0 at each monitored interval and at the end of two academic years for programs lasting more than two years. Refer to Tables 3 and 4 below to understand how specific grades and course types affect students' cumulative grade point averages.

Table 3
Impact of Grades on Cumulative GPA Calculation

Grade Earned	Counted in Grade Point Average
A, B, C, D, F (+/-)	Yes
CR — Credit, P — Pass, IP — In Progress	No
NC — No Credit, NP — No Pass	No
IN — Incomplete	No
IX — Expired Incomplete	Yes
W — Withdrawal	No
UW — Unofficial Withdrawal	Yes
V — Audit	No
MG — Missing Grade	No

Table 4
Impact of Course Type on Cumulative GPA Calculation

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

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

Pace of Progression Requirement

To maintain satisfactory progress, undergraduate students must complete a minimum number of units each semester (Pace) to ensure completion of the degree within the maximum time frame. Full-time undergraduate students are encouraged to attempt at least 16 units per semester to ensure that degree objectives can be reached within the maximum time frame allowed. A lower number of units per semester is permitted if required by academic advisement.

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

To be eligible to receive federal, state and institutional financial assistance detailed above, a student is required to successfully complete a minimum of 67 percent of all attempted credits.

Pace of Progression ≥ 67% = SAP eligible for Pace

Review Tables 5 and 6 below to understand how grades and course types will affect students' Pace of Progression calculation:

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

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

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

Course Type	Pace of Progression		Counted Toward Maximum Time Frame
	Units Completed	Units Attempted	
All Undergraduate and Graduate Course Work Taken for a Letter Grade			
Undergraduate and graduate course work (course numbers 100 and above)	Yes	Yes	Yes
Remedial course work (course numbers below 100)	No	No	Yes
Repeated course work (previous passing grade)	Yes	Yes	Yes
Not Counted in the GPA			
Repeated course work (previous failing grade)	Yes	Yes	Yes
Transfer course work (pre- and post-matriculation)	Yes	Yes	Yes

Maximum Time-Frame Allowance

To demonstrate Satisfactory Academic Progress, students must complete their degree objective within a specified amount of time. The time frame will depend on the student's enrollment status and educational objective. Tables 5 and 6 above show how different grades and course types will be counted against the Maximum Time-Frame Allowance.

Maximum Units and Semesters

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

SAP Semesters

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

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

Please refer to the section on Undergraduate Financial Aid for Double Majors or Dual Degrees here. Students pursuing a double major or dual degree should keep in mind that once a student has completed the requirements for one major or degree, financial aid eligibility is limited.

Maximum Time-Frame Allowance for Students Pursuing a Second Bachelor's Degree

Students pursuing a second bachelor's degree are eligible for a limited number of financial aid programs. Refer to the section on Financial Aid for a Second Bachelor's Degree in this catalogue. Students seeking financial aid for a second bachelor's degree are monitored for maximum time frame based on the following:

- Students who have received their first bachelor's degree from another institution will be granted a maximum of 64 additional units or five semesters, whichever comes first, to complete their second bachelor's degree at USC.
- Students who have received their first bachelor's degree from USC will be granted a maximum of 44 additional units or four semesters, whichever comes first, to complete their second bachelor's degree at USC.

- The maximum unit and semester allowances for a second bachelor's degree may be reconsidered if additional units are required for completion of a specific program of study. The student, together with his or her academic adviser, must complete a Satisfactory Academic Progress Appeal form and submit it to the USC Financial Aid Office.
- All second bachelor's degree candidates must also meet previously stated GPA and Pace of Progression requirements.

How Satisfactory Academic Progress is Monitored

The Financial Aid Office monitors the Grade Point Average (GPA) requirement, Pace of Progression and the Maximum Time-Frame Allowance.

When Satisfactory Academic Progress is Monitored

Satisfactory Academic Progress is monitored for all undergraduate financial aid applicants at the end of each enrolled semester after grades have been made official by the Registrar.

Potential Delay of Disbursements Due to Monitoring of Satisfactory Academic Progress

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

Notification of Satisfactory Academic Progress Status

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

Failure to Maintain Satisfactory Academic Progress

Exceeding the Maximum Time-Frame Allowance and Academic Disqualification

Students who have reached the Maximum Time-Frame Allowance are ineligible for further financial aid without an approved, written SAP Appeal. Students who are academically disqualified from the university are ineligible for further financial aid. There is no financial aid SAP Warning Period in either of these instances.

Failing GPA and Pace of Progression Requirements

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

Financial Aid SAP Warning Period

Students who do not meet the Pace of Progression requirement or who are on academic probation for GPA will be placed on a one-time, one-semester financial aid SAP Warning Period. Students may continue to receive financial aid while in this one-semester warning period without a written appeal. Students who are placed on a financial aid SAP Warning Period are encouraged to seek both academic and financial aid advisement. By the end of the financial aid one-semester warning period, the student must meet all Satisfactory Academic Progress requirements.

Failure to Maintain Satisfactory Academic Progress

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

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

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

The one-semester financial aid SAP Warning is only available to students one time throughout their degree program. Students who regain eligibility by meeting SAP standards at the end of the warning period and subsequently fall below the standard will be considered ineligible for financial aid without another SAP Warning Period.

Regaining Financial Aid Eligibility

Regaining Financial Aid Eligibility with a Grade Change or Academic Improvement

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

Regaining Financial Aid Eligibility with a SAP Appeal for Maximum Time Frame

Students who need additional time to complete their degrees must meet with their academic adviser to complete a SAP Appeal Form. Students must also update their expected graduation date with the Degree Progress Office. The Financial Aid Office may increase the maximum time frame for students who have changed majors, are adding a major, or have experienced a one-time extenuating circumstance such as illness or injury that has since been resolved. However, the Financial Aid Office will not approve any appeal when the additional time required for completing the degree objective(s) extends beyond 150 percent of one undergraduate degree. In addition, the Financial Aid Office will make no adjustments for declared minors.

Regaining Financial Aid Eligibility with a SAP Appeal for GPA or Pace of Progression

Students may also appeal the determination that they are not meeting Satisfactory Academic Progress GPA and Pace of Progression requirements. The following can be considered: extended illness; one-time extenuating circumstances that have since been resolved; and enrollment limitations due to academic advisement.

SAP Appeal Form and Letter

The student and the academic adviser must submit an Undergraduate Satisfactory Academic Progress Appeal form with complete supporting documentation to the Financial Aid Office. The SAP Appeal Form must contain the specific academic plan for the student that the adviser has approved. For the appeal to be approved, the academic plan must lead to graduation within 150 percent of the published degree time. The student must also provide a written appeal letter that includes the following information/explanation: (a) What caused the work at USC to fall below acceptable standards? Students should think carefully and provide a specific explanation. (b) How have those conflicts been resolved? (c) How will the student maintain good academic standards and progress toward the degree if the appeal is granted?

When to Submit a SAP Appeal

Students should not submit SAP Appeals for GPA or Pace of Progression deficiencies when they are in a Financial Aid SAP Warning period. These pre-emptive appeals are unnecessary and will be withdrawn. Rather, students should wait until they have been notified by the Financial Aid Office that they are ineligible for financial aid because of a SAP deficiency. SAP Appeals for

Maximum Time-Frame Allowance may be submitted at any time, but students should first ensure that the Degree Progress Office has updated their expected graduation term.

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

Limitations on Approvals for SAP Appeals

The Financial Aid Office will never increase the Maximum Time-Frame Allowance past 150 percent of the published degree requirements for one undergraduate degree.

The Financial Aid Office will make no adjustments for students who declare minors. Minors must be completed within the same time frame as the student's major program(s) of study.

Students who are on SAP Probation (see below) as a result of an approved appeal will not receive funding for more than one undergraduate degree program. For these students, no exceptions will be made to maximum semesters or units to support the addition of a second major or a minor program of study.

Academic Disqualification and Activity Restrictions That Prevent Registration

Students who are academically disqualified or otherwise prevented from registering for future semesters may submit SAP Appeals. However, those appeals will not be evaluated until the activity restrictions have been resolved.

Notification of SAP Appeal Decisions

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

Financial Aid SAP Probation Period

Appeals for insufficient Pace of Progression and/or GPA are approved through the use of a semester-by-semester SAP Contract. Students placed on a SAP Contract are eligible for financial aid on a probationary basis, strictly according to the terms of the contract. While students are on SAP Probation, the Financial Aid Office will review their academic progress each semester to ensure they have met the specific terms of their contracts.

The SAP Contract

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

Submitting SAP Appeals after Failing SAP Probation

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

Financial Aid Application and SAP Appeal Deadlines

A student appealing his or her Satisfactory Academic Progress status must meet all financial aid application deadlines and other eligibility requirements. A SAP Appeal must be submitted before the end of the semester for which the aid is sought. **Financial aid cannot be reinstated retroactively for a past semester.** As with any type of financial aid appeal, Satisfactory Academic Progress Appeals are funded on a funds-available basis.

Withdrawal Implications for Recipients of Financial Aid

During the Drop/Add Period

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

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

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

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

After the Drop/Add Period

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

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

A student is required to immediately notify the Registrar when he or she stops attending classes. If the student fails to notify the Registrar's Office, it is possible that the 50 percent point in the term will be used to determine the student's last date of attendance, in accordance with federal regulations. If a student withdraws from all classes*, the Financial Aid Office will determine if that student's period of attendance resulted in the earning of all federal student aid awarded for that term. If it is determined that not all the scheduled federal aid has in fact been earned, then the Financial Aid Office will calculate the amount to be returned to the federal student aid programs. The Financial Aid Office will bill the student via his or her university account for the amount to be returned. It is the student's responsibility to contact the Cashier's Office to settle the bill.
**Note to students in modular programs: In a modular program, one or more of the student's enrolled courses do not span the length of the entire semester. Students in modular courses who withdraw from one or more courses, but are still registered for future courses within the term, will be required to confirm their future enrollment plans. For students who fail to confirm or fail to re-enroll, the Financial Aid Office will determine what portion of your financial aid has been earned based on your latest date of attendance. Refunds to the U.S. Treasury may be required. Students who have earned grades in early modular courses, but withdraw or fail to re-enroll for later courses, are still subject to these rules.*

Additional Responsibilities of Students Who Withdraw

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

Whenever a student's enrollment drops to less than half time or

the student withdraws completely, or if a student takes a leave of absence, he or she must notify the lender, holder or servicer of any loans. Student borrowers of federal or university loans must also satisfy exit loan counseling requirements at studentloans.gov.

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

Leave of Absence

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

Student Loan Repayment

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

Tuition Refund Insurance Plan

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

- A credit to his or her student account equal to 100 percent of charges for tuition and mandatory fees, if the withdrawal is the result of documented personal illness or accident; or
- A credit to his or her student account equal to 60 percent of the charges for tuition and mandatory fees, if the withdrawal is the result of a documented mental/nervous disorder.

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

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

Notes on Federal Policy

Title IV Federal Student Aid

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

Period of Enrollment

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

Measurement of Earned Title IV Federal Student Aid

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

Return of Title IV Federal Student Aid

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

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

Financial Aid Policy Regarding Falsification of Financial Aid Information

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

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

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

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

notification to the student or parent:

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

Course Work Taken Elsewhere

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

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

Accreditation

The University of Southern California affirms the practice of accreditation of American post-secondary academic institutions by the six regional accreditation agencies: the Middle States Association of Colleges and Schools, the North Central Association of Colleges and Schools, the New England Association of Schools and Colleges, the Northwest Association of Schools and Colleges, the Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges. Acceptance of course work and/or degrees completed by undergraduate and graduate students applying to the University of Southern California will be based on accreditation by these six agencies. Certain graduate schools, seminaries, conservatories and professional institutions of national renown that are not accredited by a regional agency may be considered for graduate transfer work by the Articulation Office in consultation with the USC department or professional school to which the student is applying.

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

Non-transferable Course Work

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

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

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

Course Work Requiring Review

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

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

Articulation Agreements

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

Credit for Military Education

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

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

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

USC will not grant credit for the following:

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

College Courses Taken During High School Enrollment

All undergraduate students entering USC may receive a combined maximum of 32 elective units for college courses taken before high school graduation and/or examinations (e.g., AP or IB) taken before matriculation at a two-year or four-year college. A maximum of 16 of these 32 units will be allowed for college courses taken before high school graduation. These courses must appear on the college transcript as part of the regular college curriculum and are expected to be taught on the college campus by college faculty and not used toward high school graduation. Students whose courses are taken at a college and were not used toward high school graduation may file an articulation petition to request more than 16 units. These courses (as well as AP and IB exams) will not receive course equivalence or credit toward writing or foreign language requirements, although they may fulfill general education categories where appropriate. However, departments may use them as a basis to waive prerequisites or specific course requirements on a case-by-case basis.

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

Besides earning elective units, some AP tests and international exams fulfill general education requirements. Finally, scores of 4 or 5 on AP tests in modern languages if taken in spring 2007 or later will satisfy the third semester foreign language requirement. Details will be reported on the student's transfer credit report.

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

Transfer Credit

Transfer Credit Report

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

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

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

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

Subject Credit and Degree Credit

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

Transfer Unit Limitations

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

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

Transfer Credit for Repeated Course Work

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

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

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

Permission to Register at Another Institution

Undergraduate Transfer Credit Limitations

As defined in the Residence Requirement, once students enroll at USC, only courses taken during a summer semester will be

considered for transfer credit. No transfer work may be used to satisfy any Core Literacy requirements or the writing requirement if those courses are taken after a student has enrolled at USC, but transfer work may be used to satisfy Global Perspectives requirements. In addition, transfer courses taken after enrollment at USC cannot be used to fulfill upper division requirements in the major without prior approval, using the request for exception to residence form available from the student's major adviser or, for undeclared students, from the Office of the Dornsife College of Letters, Arts and Sciences associate dean for academic programs. Transfer courses may not fulfill upper-division requirements in the minor under any circumstances.

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

Procedure

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

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

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

Students should request that a transcript be sent to the USC Registrar One Stop Center, 700 Childs Way, JHH 106, Los Angeles, CA 90089-0912. All transcripts must arrive in a sealed envelope from the issuing institution.

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

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

Leave of Absence

Interruptions of enrollment can cause problems in the continuity of course work within a student's program. Therefore, leaves of absence are generally discouraged. A student who must interrupt studies for compelling reasons may request a leave for a stated period. Students who find it necessary to be excused from registration in fall or spring semesters should request a leave of absence and withdraw from their classes by the last day to drop or add courses. Students should contact their academic adviser, ask for a *Leave of Absence Student Handbook* and complete the Leave of Absence form in the back of the handbook (also available at usc.edu/loa). Completed forms should be submitted to the student's academic adviser for review and approval. If, as a result of the leave, the student exceeds the time limits for completion of degree or general education requirements, he or she may not be allowed automatically to continue to follow the original catalogue of enrollment. Students who fail to apply for a leave of absence may encounter difficulties with residence requirements and financial aid when returning to USC. A leave of absence does not exempt students from the residence requirement described below.

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

Program Reactivation

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

Residence Requirement

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

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

In rare circumstances, permission may be granted in advance to take a course out of residence. This permission is documented on the Request for Exception to Residence form. The form, which is available from the student's major adviser or, for undeclared students, from the Office of the Dornsife College of Letters, Arts and Sciences associate dean for academic programs, is used to record major department approval to use the course toward the major. Questions about the residency policy may be addressed to the Degree Progress Department, (213) 740-7070.

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

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

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

Residence Requirement for a Second Bachelor's Degree

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

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

Requirements for Graduation

Catalogue Regulations, Policies and Procedures

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

Graduation Date

A student will be awarded the graduation date for the term in which degree requirements, including submission of supporting documents, have been met. Although course work may have been completed in a prior term, the degree will be awarded only for the term for which all academic and administrative requirements have been fulfilled. Students wishing to change the degree date from that indicated on the STARS Report should request an updated degree term at the Registrar One Stop Center, John Hubbard Hall (JHH 114) or onestop@usc.edu.

Discontinued Degree Programs

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

Closed Record

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

Degree Requirements

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

While there are no specific time limits for completing the bachelor's degree, over the years many departments change their major requirements in accordance with developments in the field and department. Occasionally, general education requirements are changed or a degree program is discontinued.

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

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

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

Grade Point Average Requirement

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

Unit Requirement

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

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

Pass/No Pass Graded Work

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

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

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

General Education Requirements

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

Diversity Requirement

The diversity requirement must be met by all students who began college at USC or elsewhere in fall 1993 or later. and prior to 2015. It can be met by passing any one course carrying the designation "m" for multiculturalism. Further details about meeting the diversity requirement are found in the General Education Requirements for Students Who Began College Before Fall 2015 section.

Gateway Course

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

Upper-division Major Course Work

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

Minor Programs

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

The following guidelines apply to minor programs:

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

Honors Programs

Departmental Honors

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

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

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

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

Renaissance Scholar Honors

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

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

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

Discovery Scholar Honors

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

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

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

Global Scholar Honors

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

his or her school, as well as a reflective essay. Faculty letters of recommendation may also be required.

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

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

Multimedia Scholarship Honors

See Honors in Multimedia Scholarship for a full description of this honors program.

Distinction in Liberal Arts Honors

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

Graduation with University Honors

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

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

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

An undergraduate student who is within 12 semester units of the bachelor's degree and has a cumulative grade point average of at least 3.0 may request to enroll in and reserve for graduate credit a limited amount of work at the 400 and 500 levels during the last semester as a senior, provided that the semester program does not exceed 16 semester units. A written request should be submitted to the Registrar One Stop Center, John Hubbard Hall (JHH 114), and should bear the endorsements of the chair of the student's major department and of the department in which the reserved work is to be taken. One Stop staff verify that the units being reserved are not needed to fulfill requirements for the bachelor's degree.

General Education

All students who begin college in fall 2015 or later at USC (or who begin elsewhere in fall 2015 and then transfer to USC) must satisfy the General Education Program that began in fall 2015, which includes six Core Literacy and two Global Perspectives requirements. Together these provide training in the liberal arts — the critical skills necessary for a free person to function effectively, thoughtfully and productively in a complex world. This General Education program has been designed to nurture habits of thought essential for professional success and personal development, and to establish a background for lifelong learning. No transfer work may be used to satisfy any Core Literacy requirements if those courses are taken after a student has enrolled at USC, but transfer work may be used to satisfy Global Perspectives requirements.

General Education Course Requirements

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

Core Literacies

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

GE-A. The Arts

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

GE-B. Humanistic Inquiry

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

GE-C. Social Analysis

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

GE-D. Life Sciences

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

by which scientists investigate and answer scientific questions and can articulate the basic principles used to explain natural phenomena.

GE-E. Physical Sciences

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

GE-F. Quantitative Reasoning

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

Global Perspectives

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

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

GE-G. Citizenship in a Diverse World

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

GE-H. Traditions and Historical Foundations

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

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

Writing Requirement

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

Lower-division requirement:

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

Upper-division requirement:

- WRIT 340 Advanced Writing Units: 3, 4

Note:

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

General Education Course Lists

Core Literacies

GE-A: The Arts

- AHIS 120gp Foundations of Western Art Units: 4
- AHIS 121gp Art and Society: Renaissance to Modern Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 240g Introduction to American Art Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4
- ART 141Lg Creating and Understanding Visuals Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CTAN 200g The Rise of Digital Hollywood Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTWR 211g The Television Writer: An Agent of Change Units: 4
- DANC 212g Dance in Popular Culture Units: 4
- DANC 280g Introduction to Dance as an Art Form Units: 4
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 363g Dancing on the Screen Units: 4
- DES 123Lg The Design Challenge: Exploring the Design Process Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4

- FREN 320g The French New Wave and its Legacy Units: 4
- GESM 110g Seminar in the Arts Units: 4
- GESM 111g Seminar in the Arts Units: 4
- HIST 260g Dramatizations of Korean History Units: 4
- ITAL 340g Italian and French Cinema and Society Units: 4
- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- THTR 195g Theatre on Film Units: 4
- THTR 196g Shakespeare on Film Units: 4
- THTR 197g Comedy and Performance Units: 4
- THTR 211g Theory and Practice of World Theatre II Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

Courses for Specific Students

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

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

GE-B: Humanistic Inquiry

- AHIS 100g Introduction to Visual Culture Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 201g Digging into the Past Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 201g LGBTQ America Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206mg The Politics and Culture of the 1960s Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 250g Cultures of Latin America Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 374gm Women Writers in Europe and America Units: 4
- COLT 382gw Zen and Taoism in Asian Literature Units: 4
- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4
- EALC 145g Introduction to Chinese Culture, Art and Literature Units: 4
- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- ENGL 170g The Monster and the Detective Units: 4
- ENGL 172g The Art of Poetry Units: 4
- ENGL 174g Reading the Heart: Emotional Intelligence and the Humanities Units: 4
- ENGL 176g Los Angeles: the City, the Novel, the Movie Units: 4
- ENGL 230g Shakespeare and His Times Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 280g Introduction to Narrative Medicine Units: 4
- ENGL 298g Introduction to the Genre of Fiction Units: 4
- ENGL 299g Introduction to the Genre of Poetry Units: 4
- ENGL 342g Women in English and American Literature after 1800 Units: 4
- ENGL 350g Literature of California Units: 4
- ENGL 352g Bookpacking Units: 4
- ENGL 355g Anglo-American Law and Literature Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 373g Literature and Society Units: 4
- ENGL 376g Comics and Graphic Novels Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- GERM 375g The German Exile Experience Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- GESM 121g Seminar in Humanistic Inquiry Units: 4
- HIST 100gm The American Experience Units: 4
- HIST 102gm Medieval People: Early Europe and Its Neighbors, 400–1500 Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4
- HIST 104gp Modern Europe Units: 4
- HIST 105g The Korean Past Units: 4
- HIST 106g Chinese Lives: An Introduction to Chinese History Units: 4
- HIST 107gp Introduction to the History of Japan Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 185g Introduction to Armenian Studies and Armenian History Units: 4
- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 240gp The History of California Units: 4
- HIST 255g The Evolution Debates Units: 4
- HIST 271g Telling Native American Stories Units: 4
- HIST 275g The Worlds of the Silk Road Units: 4
- HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World Units: 4
- ITAL 350g Italian Renaissance Literature in Translation Units: 4
- ITAL 382g Dante Units: 4
- JS 100gp Jewish History Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4

- LING 322g Language Contact and Language Acquisition Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 343g Modern Arab State and Society II: Culture and Literature Units: 4
- PHIL 100g Central Problems of Philosophy Units: 4
- PHIL 102gp Historical Introduction to Philosophy Units: 4
- PHIL 104g Ancient Foundations of Western Thought Units: 4
- PHIL 110g Modern Foundations of Western Thought Units: 4
- PHIL 130g The Physical World and Our Place In It Units: 4
- PHIL 138gp Introduction to the Philosophy of Religion Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 168g The Meaning of Life Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 236g Issues in Space and Time Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 256g Science, Religion, and the Making of the Modern Mind Units: 4
- PHIL 260gw Ethical Theory and Practice Units: 4
- PHIL 284gp Ideas on Trial Units: 4
- PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 134g Introduction to Buddhism Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- REL 138g Japanese Religions and Culture Units: 4
- REL 141g Global Religions in Los Angeles Units: 4
- REL 147g Religion, Media and Popular Culture Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 324g Sex and the Bible: Gender, Sexuality, and Scripture Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 342g Buddhist Modernism Units: 4
- REL 359g Culture in Diaspora: The Jews of Spain Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- SWMS 212gp Studies in Gender and Sexuality: An Introduction Units: 4
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4
- SWMS 301gm Feminist Theory: An Introduction Units: 4

Courses for Specific Students

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

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

GE-C: Social Analysis

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 111g Sex in America Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 204g Introduction to Native Studies Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 230g Introduction to African American Studies Units: 4
- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 201g Principles of Human Organization Units: 4
- ANTH 202g Archaeology: Our Human Past Units: 4
- ANTH 205g Introduction to Global Studies and Overseas Research Units: 4
- ANTH 235g The Changing Pacific: History, Culture, Politics Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 315g North American Indians Units: 4
- ANTH 316gmp North American Indians in American Public Life Units: 4
- ANTH 332g Anthropology and Narrative Medicine Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 357g Cultures of Genocide Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- EASC 150gp East Asian Societies Units: 4
- EASC 160gmp China and the World Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- GESM 131g Seminar in Social Analysis Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 225g Film, Power, and American History Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4
- HIST 268g Kings, Courts, and Clerics: Foundations of East Asian Political Culture Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 352gp The American Civil War Units: 4
- IR 101gxw International Relations Units: 4
- JS 180gp Introduction to Judaism Units: 4
- JS 211gw The Holocaust Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- LING 115gw Language and Society Units: 4
- MDES 301g The Global Middle East Units: 4

- MDES 342g Modern Arab State and Society I: Media and Intellectual Works Units: 4
- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 220g Critical Issues in American Politics: Presidential Election in Real Time Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 265gw Environmental Challenges Units: 4
- PSYC 353g Close Relationships Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 376g Religion and Human Rights Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 155gm Immigrant America Units: 4
- SOCI 169gm Changing Family Forms Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 210g Science, Technology, and Social Conflict Units: 4
- SOCI 215g Sociology of Wall Street Units: 4
- SOCI 220gm Questions of Intimacy Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 242g Sociology, Demography, and Health Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SOCI 255g Sociology of Globalization Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SWMS 210gmw Social Analysis of Gender Units: 4

Courses for Specific Students

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

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

GE-D: Life Sciences

- BISC 101Lgx Cellular and Molecular Biology Units: 4
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 103Lgx General Biology for the Environment and Life Units: 4
- BISC 104Lgx How the Body Works Units: 4
- BISC 110g Good Genes, Bad Genes Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 140 Our Blue Planet in a Changing Climate Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- BISC 180Lgx Evolution Units: 4
- BISC 230Lgx The Biology of the Brain: Current Topics in Neuroscience Units: 4
- CHEM 203Lgx AIDS Drug Discovery and Development Units: 4
- GEOL 126Lg The History of Life on Earth: A View from the Museum Units: 4
- GERO 315g A Journey into the Mind Units: 4
- GESM 140g Seminar in the Life Sciences Units: 4
- GESM 141g Seminar in the Life Sciences Units: 4
- HBIO 200Lg The Human Animal Units: 4
- HBIO 202Lg Nutrition for Life Units: 4
- HBIO 205Lgx The Science of Sport Units: 4
- HBIO 250g The Pharmacology of Performance Enhancing Drugs Units: 4
- LING 110Lg In a Word Units: 4
- LING 275Lg Language and Mind Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 165Lg Drugs, Behavior and Society Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

Courses for Specific Students

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

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- BISC 320L Molecular Biology Units: 4
- CHE 301g Introduction to Engineering Biology Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- CORE 103g The Process of Change in Science: Thematic Option Honors Program Units: 4

GE-E: Physical Sciences

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

Courses for Specific Students

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

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

GE-F: Quantitative Reasoning

- BUAD 310g Applied Business Statistics Units: 4
- COMM 301Lg Empirical Research in Communication Units: 4
- CSCI 100xg Explorations in Computing Units: 4
- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- GESM 160g Seminar in Quantitative Reasoning Units: 4
- GESM 161g Seminar in Quantitative Reasoning Units: 4
- HIST 393g Quantitative Historical Analysis Units: 4

- HP 340L Health Behavior Statistical Methods Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- IR 211g International Relations: Approaches to Research Units: 4
- LING 210g Introduction to Linguistics Units: 4
- LING 325g Language and Number Units: 4
- LING 385Lg Human Language as Computation Units: 4
- MATH 108g Contemporary Precalculus Units: 4
- MATH 114x Foundations of Statistics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4
- MEDS 300g Statistical Methods for Biomedical Research Units: 4
- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PSYC 240gx Scientific Inquiry and Reasoning in Health Care Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SSCI 135Lg Maps in the Digital World Units: 4

Courses for Specific Students

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

- ARCH 213a Building Structures and Seismic Design Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3
- PSYC 274Lg Statistics Units: 4

Global Perspectives

GE-G: Citizenship in a Diverse World

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- BUCO 333mw Communication in the Working World — Managing Diversity and Conflict Units: 4
- COLT 382gw Zen and Taoism in Asian Literature Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- DANC 312gw African American Dance Units: 4
- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- IR 101gxw International Relations Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- JOUR 200w The Power and Responsibility of the Press Units: 4
- JS 211gw The Holocaust Units: 4
- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 200w Law and Society Units: 4
- LING 115gw Language and Society Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- PHIL 174gw Freedom, Equality, and Social Justice Units: 4
- PHIL 178gw Moral Dilemmas in the Legal Domain Units: 4
- PHIL 260gw Ethical Theory and Practice Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 265gw Environmental Challenges Units: 4
- PUBD 369w Public Diplomacy and Global Citizenship Units: 4
- RXRS 412w Twenty-First Century Medical Issues and the Law Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SWMS 210gmw Social Analysis of Gender Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 488mw Theatre in the Community Units: 4

Courses for Specific Students

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

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

GE-H: Traditions and Historical Foundations

- AHIS 120gp Foundations of Western Art Units: 4
- AHIS 121gp Art and Society: Renaissance to Modern Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- ANTH 316gmp North American Indians in American Public Life Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 337gp Ancient Drama Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EASC 150gp East Asian Societies Units: 4
- EASC 160gmp China and the World Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 104gp Modern Europe Units: 4
- HIST 107gp Introduction to the History of Japan Units: 4
- HIST 240gp The History of California Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4
- HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World Units: 4
- HIST 352gp The American Civil War Units: 4
- JS 100gp Jewish History Units: 4
- JS 180gp Introduction to Judaism Units: 4

- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 345p Sovereignty in the Middle East Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- PHIL 102gp Historical Introduction to Philosophy Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 254gp Science, Knowledge and Objectivity Units: 4
- PHIL 284gp Ideas on Trial Units: 4
- PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy Units: 4
- REL 125gp Introduction to Christianity Units: 4
- REL 326gp Historical Jesus Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SWMS 212gp Studies in Gender and Sexuality: An Introduction Units: 4
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4

Courses for Specific Students

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

- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4

General Education Requirements for Students Who Began College Before Fall 2015

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

Undergraduate Degree Programs

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

In practice, the organization becomes more complex. Certain areas of study are based on broad areas of knowledge which need to draw faculty from several departments. The following list of undergraduate degrees provides a guide to the organization of USC. The index includes all degrees offered, and the school that administers the degree.

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

Area of Emphasis

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

Combined Program

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

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

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

Other Double Majors

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

Progressive Degree Programs

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

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

Second Bachelor's Degree

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

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

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

Minor Programs

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

International Study Options

International Study Programs

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

Argentina

Spring Semester in Buenos Aires

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

Australia

Semester or Year in Brisbane

The University of Queensland (UQ) is one of Australia's premier higher education institutions. Brisbane, with more than one million residents, is Australia's third-largest and fastest-growing city. USC undergraduates enroll in regular university courses in a wide variety of subjects. Courses are available in the humanities, social sciences, science and engineering. Psychology majors with a GPA of 3.75 or higher may participate in faculty-guided research for major credit. Students may choose to live on or off campus.

Semester or Year in Canberra

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

Semester or Year in Melbourne

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

Semester at the University of New South Wales, Sydney

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

Semester in Yungaburra

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

Botswana

Semester or Year in Gaborone

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

Brazil

Fall or Spring Semester in Rio de Janeiro

The semester program offers students the opportunity to learn about Brazilian culture through an intensive presemester Portuguese-language course* and through civic engagement projects that benefit the local communities in Rio de Janeiro. Through the Council on International Educational Exchange (CIEE), USC students enroll in 18-20 USC units in courses offered by CIEE and at the Escola Superior de Propaganda e Marketing, Brazil's top communication and journalism school. The program is open to communication, journalism and public relations majors. Visit the Annenberg International Programs Website for more information on language and other prerequisites. A minimum USC cumulative GPA of 3.0 is required for this program. For further information, contact the Annenberg School for Communication and Journalism, ASC 140, call (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

**This course does not count for a USC language requirement.*

Semester or Year in Salvador da Bahia

Students may spend a semester or year in Salvador da Bahia in northeastern Brazil through the Council on International Educational Exchange (CIEE). Salvador da Bahia, a city of 2.1 million, was once the capital of Brazil and is now considered the center of Afro-Brazilian culture. The semester and year programs begin with several weeks of intensive Portuguese language training before the start of regular university courses. During the semester, students take one Portuguese language class, one or more CIEE courses and several courses alongside Brazilian students at the Universidade Católica do Salvador. All courses are taught in Portuguese. Courses are available in such areas as anthropology, Afro-Brazilian studies, art history, history, Latin American studies, literature, religion, sociology and theatre. Students live with Brazilian host families. Students who have completed four semesters of college-level Spanish or three semesters of Portuguese are eligible to apply.

Semester or Year in São Paulo

Students may spend a semester or year in São Paulo, Brazil, a city of approximately 16 million inhabitants, through the Council on International Educational Exchange (CIEE). The program begins with several weeks of intensive Portuguese language training prior to the start of regular university courses. During the semester students take one Portuguese class and several courses alongside Brazilian students at the Pontificia Universidade Católica de São Paulo. All courses are taught in Portuguese. Courses are available in such disciplines as anthropology, archaeology, communications, economics, history, geography, international relations, linguistics, literature, philosophy, political science and sociology. Students live with Brazilian host families. Students who have completed four semesters of Spanish or three semesters of Portuguese are eligible to apply.

Chile

Semester or Year in Santiago

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

China

Semester or Year in Beijing

The program at Peking University in Beijing, offered through CIEE, provides students with the opportunity to study at China's most prestigious liberal arts institution and to improve their Mandarin Chinese in a city where the standard dialect is used. The focus of the program is intensive language learning, with instruction available at many levels of ability. Students may take one English-taught area studies course. Students who have a very advanced level of Chinese and attend the program in the spring semester may take regular Peking University courses alongside Chinese students. Students live in an off-campus international student dorm or in a homestay with a Chinese family. Students must have completed three semesters of Mandarin or the equivalent to be eligible for the program.

Fall or Spring Semester in Hong Kong

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

Semester or Year in Hong Kong (Psychology and Cognitive Science Majors Only)

Undergraduate psychology and cognitive science majors may spend a semester at the Chinese University of Hong Kong (CUHK), where they take at least two courses in the Department of Psychology. The language of instruction for CUHK psychology courses is English. Students are strongly encouraged to also take Cantonese, Mandarin or a course directly related to Hong Kong. Students live in student dorms with CUHK roommates. Students in the Social Sciences, Emphasis in Psychology (SSPY) major, the Psychology minor, the Psychology and Law minor, and the Consumer Behavior minor are welcome to apply but have lower priority in admission.

Semester or Year in Nanjing

Students may spend a semester or year through CIEE in Nanjing, China, a city of more than three million people set along the banks of the Yangtze River. Nanjing University is well-regarded for its liberal arts and social sciences education. Students with two to five semesters of Mandarin take 12 units of Mandarin and a 3-unit elective. Advanced language students may take courses in Chinese at Nanjing University's Institute for International Students. In the fall semester there is an extended field trip to southwest China, and in the spring semester the extended field trip is to northwest China. Each student shares a double dorm room with a Chinese student. Students may also choose to live with a host family. Students must have taken at least two semesters of Mandarin or the equivalent to be eligible for this program.

Semester or Year in Shanghai

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

East Asia: Japan, South Korea, and Hong Kong

Spring and Summer in Tokyo, Seoul and Hong Kong

Students who have completed two semesters of college-level Korean have the opportunity to spend the spring and summer semester on the specially designed Three-Campus Program in

Comparative East Asian Studies. The program begins in Tokyo at Keio University with an intensive introductory course in Japanese culture, society, government, politics and business, followed by the full spring semester at Yonsei University in Seoul. At Yonsei students take Korean language, a program-required social sciences seminar and three elective courses taught in English. Yonsei offers a wide variety of options in anthropology, art history, business, economics, history, international relations, literature, philosophy, politics, religion and sociology. After the spring term at Yonsei, students go directly to the University of Hong Kong, where they take a two-week course on the Political Economy of Global Asia. The program ends with a six-week internship placement in a local NGO in Hong Kong. Students live in the host university housing in all three countries. The program runs from late January to mid-August.

England

Semester or Year at the University of Sussex in Brighton

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

Semester or Year at Queen Mary, University of London (Cinematic Arts, Engineering, English, History, International Relations, Narrative Studies, Political Science and Theatre Majors Only)

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

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

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

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

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

Fall or Spring Semester in London (Annenberg Majors Only)

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

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

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

Semester or Year in London (Theatre/Acting)

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

France

Year in Paris

USC is a member of the Sweet Briar Junior Year in France Consortium, which enables USC undergraduates to spend an academic year in Paris, taking courses at the University of Paris and other institutions in the Parisian system of higher education. Courses are offered in most areas of the social sciences, the humanities and the arts. Internship opportunities are available in the second semester. To apply, students must have completed at least four semesters of college French or the equivalent.

Semester or Year in Paris

USC students can study for a semester or year on the USC Paris program. In addition to French language courses at the Sorbonne, the program offers USC upper-division French courses and English-taught USC courses in art history and international relations.

Students at an advanced level of French may take one or two courses alongside French university students at the Institut Catholique, where courses are available in the following areas: art history, economics, history, international relations and sociology. The program also offers weekend trips to regions such as Normandy and Provence, and day trips to sites of cultural importance near Paris. Students live with French host families. Students must have completed at least two semesters of college-level French.

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

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

Germany

Semester or Year in Berlin

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

Spring Semester or Year in Dresden

Students may spend the spring semester or full year with Boston University's Dresden German Studies Program at Technische Universität Dresden (TUD). Students spend six weeks in an intensive German course prior to the start of the TUD semester. Students who have completed two or three semesters of college-level German are placed in the Level 1 program. Level 1 students take courses in the TUD Department of German as Foreign Language, where courses include German for the Humanities and Social Sciences, German for the Technical and Natural Sciences, Business German, Speaking Practice and intensive multi-skills German courses. Students who have completed four or more semesters of college-level German are placed into the Level 2 program, where they take regular TUD courses. Areas of study available include art history, economics, German literature, history, international relations, philosophy, political science and sociology. Students live in university housing.

Greece

Semester or Year in Athens

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

Ireland

Semester or Year in Dublin (Economics, English, History and Philosophy Majors Only)

USC Dornsife economics, English, history and philosophy majors may spend the semester or academic year studying at Trinity College Dublin, one of the top-ranked universities in Europe and the premier research university in Ireland. A wide range of courses is offered in the major fields, and students may take a complementary elective course. USC students will live with and study alongside Irish students. To be eligible for this highly selective program, students need a 3.5 USC GPA, junior standing, and a minimum of three major courses completed at the time of application.

Spring Semester in Dublin

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

Semester or Year in Galway

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

Israel

Semester or Year in Jerusalem

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

Italy

Semester in Cortona (Fine Arts Majors Only)

USC fine arts majors (BA or BFA) may participate in a semester-length intensive studio arts program in the Tuscan hill town of Cortona, Italy with the University of Georgia's Studies Abroad Program. Cortona is located on top of Mont S. Egidio and offers students a rich artistic and historical environment, which includes Etruscan, Roman, Medieval and Renaissance art and architecture.

Students must have completed one semester of college-level Italian or the equivalent and several foundation courses in art before attending this program. In Cortona, students study painting, drawing, ceramics, printmaking and sculpture. Mandatory weekend excursions to places of historical and artistic interest in the surrounding area complement the studio classes. Accommodation is provided in a renovated 15th-century monastery in Cortona.

Semester or Year in Florence

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

Spring Semester in Rome (Annenberg Majors Only)

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

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

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

Semester or Year in Milan

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

Semester in Rome (Classics and Archaeology Majors Only)

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

Japan

Semester or Year in Nagoya

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

Year at Waseda University in Tokyo

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

Spring or Year at Sophia University in Tokyo

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

Semester or Year at Tokyo International University near Tokyo

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

Jordan

Semester or Year in Amman (Language and Culture Program)

Students may study for a semester or year at the CIEE Study

Center in Amman. This program provides a challenging academic course combined with in-country cultural experience and intensive Arabic study. Students gain a better understanding of the Middle East, with specific emphasis on the Jordanian perspective and experience. All participants take language courses in modern standard and colloquial Jordanian Arabic. In addition, students take two area studies courses taught in English. Fields of study include archaeology, economics, history, international relations, literature, religion, and sociology. Students choose to live with a Jordanian host family or in an apartment with other students. Two semesters of college-level Arabic or the equivalent are required to participate in this program.

Semester or Year in Amman (Advanced Arabic Language Program)

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

Morocco

Semester or Year in Rabat

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

The Netherlands

Semester or Year in Maastricht

USC Dornsife students may spend the semester or academic year studying at Maastricht University, the most international and fully bilingual (Dutch and English) university in the Netherlands. Students directly enroll in courses with local and international students and have access to hundreds of courses taught in English. Students will be enrolled in one of five academic clusters focused on Europe: Economics in Europe; European Politics, Law and International Relations; Public Health and Medicine in Europe; Psychology and Neuroscience in Europe; and European History, Culture and Arts. All students take a course in basic Dutch. Students must have a major in Dornsife and take course work for major credit in Maastricht to be eligible for this program.

New Zealand

Semester or Year in Auckland

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

Spring Semester in Auckland

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

Semester or Year in Dunedin

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

Nicaragua

Semester in Managua

USC students may participate in the Rewriting Nicaragua: Literacies, Rights, and Social Change program run by the School for International Training (SIT). Through the interdisciplinary course work in this program, students will critically examine youth culture, advocacy, social change, and expression across generations, using the successful literacy campaigns of the Sandinista Revolution as a key reference point. The program includes both short site visits and longer excursions, including a trip to Cuba. An independent research project (ISP), conducted in the final month of the program, offers students the opportunity to conduct field research on a topic of their choice and serves as the capstone project for the program.

Poland

Semester in Krakow

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

Russia

Semester or Year in St. Petersburg

USC offers undergraduates a semester or yearlong opportunity to study at St. Petersburg State University through CIEE. Students with two or more semesters of Russian can participate in the Russian Area Studies Program, which is ideal for students of history, international relations and political science. The Russian Language Program is for students with four or more semesters of Russian and focuses on language, literature and Russian culture. Students have their own room with a Russian family in a private apartment. The program

includes many day trips to important sites and overnight excursions to locations such as Moscow, Novgorod, the Pskov region and Tallinn (Estonia).

Scotland

Semester or Year in Edinburgh

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

Semester in Edinburgh (Political Internship)

The University of Edinburgh offers qualified undergraduates the opportunity to serve as interns to Members of the Scottish Parliament (MSPs). During the first five weeks of the program, students enroll in courses that provide a background in British and Scottish politics and government. Following completion of the course work, students will be assigned to an MSP, under whose direction they complete a 10-week internship and research project. This program is highly competitive; strong candidates should have taken at least two political science or international relations courses and have internship experience, preferably in politics. Students can earn 13.5 USC units on this program.

South Africa

Semester or Year in Cape Town

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

Fall or Spring in Durban

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

South Korea

Semester or Year in Seoul

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

Spain

Semester or Year in Bilbao

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

Semester or Year in Madrid

USC students can study for a semester or year in the USC Madrid program. The program offers SPAN 260, USC upper-division Spanish courses, and an English-taught art history course. Students may take one or more Spanish-taught or English-taught courses alongside Spanish university students at the Universidad Carlos III de Madrid. The program offers several excursions to different regions of Spain and day trips to sites near Madrid in addition to outings to cultural events in Madrid. Students live in a homestay with Spanish hosts.

Taiwan

Semester or Year in Taipei

USC students may spend a semester or year studying at National Chengchi University in Taipei, Taiwan, through the Council on International Educational Exchange. Students study Mandarin intensively and take one Englishtaught interdisciplinary core course about Taiwan or an additional Chinese course. Students live in dormitories with Chengchi University students or in a homestay. The program offers one of the best opportunities to understand the contemporary economic, political and cultural issues facing this dynamic Pacific Rim island.

Tanzania

Semester Near Arusha

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

Other Programs

Units other than Dornsife that offer semester and year international study programs for undergraduates include the Annenberg School for Communication and Journalism, the School of Architecture, the Marshall School of Business and the Viterbi School of Engineering. These schools and Dornsife also offer short-term international programs. Dornsife, for example, offers Maymester courses, departmental summer programs and faculty-led Problems Without Passports research-based courses abroad. More information on Dornsife short-term programs can be found at dornsife.usc.edu/dgp/short-term-programs.

Non-USC Programs

Students who wish to participate in a non-USC approved semester or year overseas study program and receive credit transferable to USC must initiate a Request for Exception to Residence in their academic department or school. Students who wish to earn credit in transfer from a non-USC overseas summer program must request pre-approval of transfer course work on the form available at arr.usc.edu/forms/Summer_PreApproval.pdf.

Graduate and Professional Education

Financial Aid for Graduate Students

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

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

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

Financial Support Through Graduate Fellowships and Assistantships

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

Acceptance of Offers of Financial Assistance

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

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

Teaching and Research Assistantships, and Graduate Assistant Lectureships

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

Application Procedures and Eligibility Requirements for Federal Financial Aid

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

Federal Work-Study

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

Federal Loans

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

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

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

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

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

Private Financing Programs

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

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

USC does not participate in the TEACH program.

Financial Aid for Enrollment in a Progressive Degree Program

Progressive degree students are classified as undergraduate students until their undergraduate degree is conferred or they complete 144 units, whichever comes first. If a transfer student's course work is not accepted for credit toward the degree, he or she may appeal to request that those units not count toward the 144 units.

Undergraduate Classification

While classified as undergraduates, students are assessed the undergraduate tuition rate, and their enrollment status and financial aid eligibility are determined by undergraduate standards. Undergraduate-level progressive degree students maintain their eligibility for Federal Pell Grants, Federal SEOG Grants, Cal Grants, Federal Direct Subsidized and Unsubsidized Stafford Loans, Federal Direct Parent PLUS Loans and any applicable eligibility for USC Merit Scholarships or USC University Grants, as long as they are enrolled in courses that are required for, or that can be applied as an eligible elective credit toward, their undergraduate degree. The Registrar's Office determines when a student has completed his or her undergraduate degree and manages the process of posting degrees to a student's record. The Financial Aid Office relies on the Registrar's determination of the applicability of a course to a degree program and the completion of the undergraduate degree.

Graduate Classification

Once the undergraduate degree is conferred or the student has completed 144 units, a progressive degree student can no longer be considered an undergraduate for financial aid purposes. At that time, progressive degree students will be reclassified as graduate students. While classified as graduate students, they are assessed the graduate tuition rate, and their enrollment status and financial aid eligibility are determined by graduate standards. Graduate students are not eligible for federal, state or university need-based grants. Graduate-level progressive degree students are eligible to borrow Federal Direct Unsubsidized Stafford Loans and Federal Direct Graduate PLUS Loans, up to the maximum yearly amounts established for graduate students.

Students who receive a research assistant or teaching assistant award before completing 144 units or their undergraduate degree are classified as graduate students and are not eligible to receive undergraduate financial aid.

Financial Aid for Enrollment in a Certificate Program

Students enrolled at least half time in a graduate certificate program may be eligible for the Direct Unsubsidized Loan and Direct Graduate PLUS Loan if the program has been determined to be eligible for federal financial aid. Contact your academic department or program or the Financial Aid Office for information about whether your program qualifies for financial aid.

Financial Aid for Limited Status Enrollment

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

Financial Aid Consortium Agreements

Students admitted to degree-seeking or eligible certificate programs at USC who enroll at another eligible institution in courses applicable to their USC degrees or certificates may have those courses considered in USC's determination of their eligibility for limited federal financial aid. The student's total USC and/or non-USC enrollment must be at least half-time and a Financial Aid Consortium Agreement must be completed. Financial Aid Consortium Agreements are contingent upon the host school agreeing to participate. For more information, visit the Special Programs section of the financial aid Website.

Financial Aid for Students Enrolled in Preparatory Course Work

Students enrolled at least half-time in undergraduate courses required for admission to a degree program may be eligible for limited Direct Unsubsidized Loan funds. For more information, visit the Special Programs section of the financial aid Website.

Withdrawal Implications for Recipients of Financial Aid

During the Drop/Add Period

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

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

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

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

After the Drop/Add Period

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

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

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

**Note to students in modular programs: In a modular program, one or more of the student's enrolled courses do not span the length of the entire semester. Students in modular courses who withdraw from one or more courses, but are still registered for future courses within the term, will be required to confirm their future enrollment plans. For students who fail to confirm or fail to re-enroll, the Financial Aid Office will determine what portion of your financial aid has been earned based on your latest date of attendance. Refunds to the U.S.*

Treasury may be required. Students who have earned grades in early modular courses, but withdraw or fail to re-enroll for later courses, are still subject to these rules.

Additional Responsibilities of Students Who Withdraw

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

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

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

Leave of Absence

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

Student Loan Repayment

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

Tuition Refund Insurance Plan

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

- A credit to his or her student account equal to 100 percent of charges for tuition and mandatory fees for the term, if the withdrawal is the result of documented personal illness or accident; or
- A credit to his or her student account equal to 60 percent of the charges for tuition and mandatory fees for the term, if the withdrawal is the result of a documented mental/nervous disorder.

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

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

Notes on Federal Policy

Title IV Federal Student Aid

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

Period of Enrollment

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

Measurement of Earned Title IV Federal Student Aid

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

Return of Title IV Federal Student Aid

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

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

Financial Aid Policy Regarding Falsification of Financial Aid Information

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

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

The integrity of the documents and the honesty of the information

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

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

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

Satisfactory Academic Progress (SAP) Policy

Purpose of Satisfactory Academic Progress Regulations

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

The following guidelines provide academic progress criteria for all graduate and professional students receiving certain financial aid at USC. Although the requirements for students receiving such financial aid are somewhat more restrictive than for the general student population, they are based on reasonable expectations of academic progress toward a degree. Accordingly, these guidelines should not be a hindrance to any student in good academic standing.

Table 1
Programs Subject to Financial Aid SAP Policy

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

Table 2
Programs Not Subject to Financial Aid SAP Policy

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

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

Definition of Satisfactory Academic Progress (SAP)

At USC, to be eligible for financial aid as identified above, you must maintain Satisfactory Academic Progress as defined by all of the following three criteria:

- Meeting a minimum cumulative grade point average requirement (GPA)
- Earning a minimum number of units for credit per semester (Pace of Progression)
- Completing the degree objective within a maximum number of semesters enrolled and a maximum number of units attempted (Maximum Time-Frame Allowance)

Students who do not meet one or more of the above criteria will be considered to be SAP ineligible for financial aid without an approved, written SAP Appeal. The following will explain each of the three SAP evaluation criteria; SAP Ineligibility and Probation Periods; and the SAP Appeals process in detail.

Grade Point Average Requirement

To maintain Satisfactory Academic Progress, graduate and professional students must maintain a minimum cumulative grade point average of 3.0. In some cases, the University Committee on Curriculum has approved different GPA requirements for professional schools as detailed in Table 3:

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

Degree Program	Program of Study	GPA Requirement
Doctor of Dental Surgery — DDS	414	2.0
Doctor of Dental Surgery — Advanced Standing Program for International Dentists — DDS	428	2.0
Doctor of Physical Therapy — DPT	979	2.75
Juris Doctor — JD	379	2.7
Master of Laws — LLM	394	2.7
Graduate Certificate in Financial Analysis and Valuation — GCRT	1340	3.6

Students with No Graduate GPA

Students enrolled in progressive degree programs whose undergraduate degrees have not yet been conferred must maintain a minimum cumulative undergraduate GPA of 2.0.

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

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

Table 4
Impact of Grades on Graduate Cumulative SAP GPA

Grade Earned	Counted in Grade Point Average
A, B, C, D, F (+/-)	Yes
CR — Credit, P — Pass, IP — In Progress	No
NC — No Credit, NP — No Pass	No
IN — Incomplete	No
IX — Expired Incomplete	Yes
W — Withdrawal	No
UW — Unofficial Withdrawal	Yes
V — Audit	No
MG — Missing Grade	No

Table 5
Impact of Course Type on Graduate Cumulative GPA

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

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

Pace of Progression Requirement

To maintain satisfactory progress, graduate students must complete a minimum number of units each semester (Pace) to ensure completion of the degree within the maximum time frame.

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

To be eligible to receive the federal, state and institutional financial assistance detailed in this section, a student is required to successfully complete a minimum of 67 percent of all attempted credits.

Pace of Progression ≥ 67% = SAP eligible for Pace

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

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

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

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

Course Type	Pace of Progression		Counted Toward Maximum Time Frame
	Units Completed	Units Attempted	
Graduate-level course work	Yes	Yes	Yes
Preparatory and remedial course work (including all undergraduate course work regardless of course level, taken for credit or no-credit)	Yes	Yes	Yes
Repeated course work (previous passing grade)	Yes	Yes	Yes
Repeated course work (previous failing grade)	Yes	Yes	Yes
Transfer course work (pre- and post-matriculation)	Yes	Yes	Yes

Maximum Time-Frame Allowance

To demonstrate Satisfactory Academic Progress, students must complete their degree objective within a specified amount of time. The time frame will depend on the student's enrollment status and educational objective.

Maximum Units and Semesters

Each program of study has a maximum time frame established in both units and semesters attempted, based on the requirements of the degree program. Students are eligible to receive financial aid until the maximum units or maximum full-time semesters are reached, whichever comes first. All enrolled periods are considered regardless of whether the student has received financial aid.

Transfer Course Work and Advanced Standing

Course work transferred to the university in partial fulfillment of the degree requirements will be subtracted from the maximum unit and semester allowance.

If students have been admitted to a graduate program of study with advanced standing (based on undergraduate or graduate course work successfully completed at USC or another university), their maximum time frame for financial aid will be reduced to reflect the lower number of units required for graduation under advanced standing admission.

Changing Graduate Programs of Study at USC

Previous course work completed at USC as part of a successfully finished program of study will be excluded from the maximum unit and semester allowance. However, if such course work can also be accepted toward the new program of study, the course work will be subtracted from the maximum unit and semester allowance as pre-matriculation units.

Previous course work completed at USC as part of an unfinished prior program of study will be subtracted from the maximum unit and semester allowance for the new program of study.

Students in authorized dual-degree programs of generally longer duration than single-degree programs will be granted an increase in the unit and semester allowances commensurate with the additional program requirements.

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

SAP Semesters for Doctoral Students

Each semester in which a doctoral student attempts 3 to 5 units is counted as a half (0.5) SAP semester. Each semester in which a doctoral student attempts 6 or more units is counted as a full (1.0) SAP semester. Semesters in which a doctoral student attempts fewer than 3 units that are not full-time exception courses are not counted as SAP semesters (see Table 8).

SAP Semesters for Master's Degree and Graduate Certificate Students

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

Full-Time Exception Courses

Other than the number of units attempted, there are additional circumstances that confer full-time enrollment status. These include enrollment in 594 Master's Thesis, 794 Doctoral Dissertation, GRSC 800 Studies for the Qualifying Examination and GRSC 810 Studies for Master's Examination, as well as other courses and programs as determined by the Dean of Academic Records and Registrar. Any semester in which a student attempts a full-time exception course will be counted as 1.0 SAP semester, regardless of the number of units enrolled or concurrent course work.

Maximum Unit Allowance

Students pursuing graduate and professional degrees can apply for financial aid for up to the maximum number of units of course work required for the particular program of study, plus the equivalent units for one full-time semester course load (see Table 8).

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

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

For certain programs, the full-time course load may vary from 14 to 22 units, based on the average enrollment levels for the program. These programs generally enroll students at the flat rate for tuition.

Maximum Semester Allowance

To determine the maximum number of full-time semesters of aid available for a graduate or professional program of study, divide the number of units required for the particular program by the full-time semester course load for that program according to Table 8.

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

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

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

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

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

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

How Satisfactory Academic Progress is Monitored

The Financial Aid Office monitors the Grade Point Average (GPA) requirement, Pace of Progression and the Maximum Time-Frame Allowance.

When Satisfactory Academic Progress is Monitored

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

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

Potential Delay of Disbursements Due to Monitoring of Satisfactory Academic Progress

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

Notification of Satisfactory Academic Progress Status

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

Failure to Maintain Satisfactory Academic Progress

There are no Financial Aid SAP Warning Periods for graduate/professional students who are evaluated annually.

Students who fail to meet GPA or Pace of Progression standards will be ineligible for financial aid without an approved, written SAP Appeal.

Students who exceed the maximum unit or semester allowance are ineligible for financial aid without an approved, written SAP Appeal.

Students who are academically disqualified from the university are ineligible for further financial aid without readmission to the university and an approved, written SAP Appeal. Students on financial aid SAP Probation who fail to meet the terms of their SAP Contracts are ineligible for financial aid without a second written and approved SAP Appeal.

Regaining Financial Aid Eligibility

Regaining Financial Aid Eligibility with a Grade Change

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

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

Students who need additional time to complete their degrees must meet with their academic adviser to complete an SAP Appeal form. Students must also update their expected graduation date with the Office of Degree Progress. The Financial Aid Office may increase the maximum time frame for students who have changed programs, are adding a program or have experienced a one-time extenuating circumstance such as illness or injury that has since been resolved. Students requesting an extension of the maximum time frame as a result of a changed or added program of study, must submit the following with their appeal:

1. A clear statement of education purpose that explains their educational and professional goals, and acknowledges that federal student loans borrowed in pursuit of those goals must be repaid.
2. A statement from their academic adviser that supports the change or addition of the program of study.

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

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

SAP Appeal Form and Letter

The student and adviser must submit a graduate and professional Satisfactory Academic Progress appeal form with complete supporting documentation to the Financial Aid Office. The SAP Appeal form must contain the specific academic plan for the student that the adviser has approved. For the appeal to be approved, the academic plan must lead to graduation within 150 percent of the published degree time. The student must also provide a written appeal letter that includes the following information/explanation: (a) What caused the work at USC to fall below acceptable standards? Students should think carefully and provide a specific explanation. (b) How have those conflicts been resolved? (c) How will the student maintain good academic standards and progress towards the degree if the appeal is granted?

When to Submit an SAP Appeal

Students may wait until they have been notified by the Financial Aid Office that they are ineligible for financial aid because of an SAP deficiency. SAP Appeals for Maximum Time-Frame Allowance may be submitted at any time, but students should first ensure that the Office of Degree Progress has updated their expected graduation term.

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

Limitations on Approvals for SAP Appeals

The Financial Aid Office will never increase the Maximum Time-Frame Allowance past 150 percent of the published degree requirements for one graduate/professional degree.

Academic Disqualification and Activity Restrictions that Prevent Registration

Students who are academically disqualified or otherwise prevented from registering for future semesters may submit SAP Appeals. However, those appeals will not be evaluated until the activity restrictions have been resolved.

Notification of SAP Appeal Decisions

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

Financial Aid SAP Probation

Appeals for insufficient Pace of Progression and GPA are approved through the use of a semester-by-semester SAP Contract. Students placed on a SAP Contract are eligible for financial aid on a probationary basis, strictly according to the terms of the contract. While on SAP Probation, the Financial Aid Office will review a student's academic progress each semester to ensure they have met the specific terms of their contract.

The SAP Contract

The SAP contract is an agreement between the student, the academic adviser and the Financial Aid Office in which the student commits to following a specific academic plan that leads to graduation. Reinstated eligibility through a contract may alter the type and amount of the financial aid for which a student is eligible. Terms of the SAP Contract may be stricter than the standard SAP regulations cited in this section.

Acceptance of the approved SAP Contract supersedes all other SAP regulations. Any deviation by the student from the terms of the contract will result in the forfeiture of future financial aid eligibility.

Submitting SAP Appeals After Failing SAP Probation

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

Financial Aid Application and SAP Appeal Deadlines

Any student who is appealing his or her Satisfactory Academic Progress status must meet all financial aid application deadlines and other eligibility requirements. An SAP Appeal must be submitted before the end of the semester for which the aid is sought. Financial aid cannot be reinstated retroactively for a past semester. As with any type of financial aid appeal, Satisfactory Academic Progress appeals are funded on a funds-available basis.

Course Work Taken Elsewhere

Admitted students receive a transfer credit report showing unit and subject credit granted for graduate courses.

For course work taken at universities within the United States, the Degree Progress Department will prepare the transfer credit report. For course work taken at universities outside the United States, the Graduate Admissions Office will review the academic credentials and the academic department or program will determine subject credit granted.

Accreditation

The University of Southern California affirms the practice of accreditation of American post-secondary academic institutions by the six regional accreditation agencies: the Middle States Association of Colleges and Schools, the North Central Association of Colleges and Schools, the New England Association of Schools and Colleges, the Northwest Association of Schools and Colleges, the Southern Association of Colleges and Schools, and the Western Association of Schools and Colleges. Acceptance of course work and/or degrees completed by undergraduate and graduate students applying to the University of Southern California will generally be based on accreditation by these six agencies. Certain graduate schools, seminaries, conservatories and professional institutions of national renown that are not accredited by a regional agency may be considered for graduate transfer work by the Articulation Office in consultation with the USC department, program or professional school to which the student is applying.

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

Proof of Prior Degree

Students applying for graduate degrees conferred by the Graduate School must hold a baccalaureate degree or its equivalent from an accredited college or university comparable in standard to that awarded at USC. Students who have earned a master's degree from an accredited U.S. institution with a GPA of 3.0 or higher may have the baccalaureate degree requirement waived after review. Diplomas granted for a preponderance of life experience, portfolio or equivalency examinations are not considered appropriate preparation for acceptance into USC's graduate degree programs and are not the equivalent of USC's undergraduate degrees. Verification of a completed undergraduate degree must be provided before enrollment in a second semester at USC.

Transfer Credit

Transfer of Course Work

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. Faculty of the student's degree program determine whether such credit is applicable toward a specific graduate degree, subject to approval by the dean of the degree-conferring unit. The faculty's decision should be made no later than the end of the first year in a master's program or the second year in a doctoral program.

Credit will only be allowed for courses (1) from an accredited graduate school, (2) of a quality of at least 3.0 on a 4.0 grading scale, (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and (4) logically fitting into the program for the degree. The university also evaluates courses completed through the armed services and may grant credit for such courses as detailed in the subsequent Credit for Military Education section (see below). Transfer course work is applied as credit (CR) toward the degree and is not included in the calculation of a minimum grade point average for graduation.

Graduate transfer credit will not be granted for life experience, credit by examination, extension courses not accepted toward a degree by the offering institution, correspondence courses or thesis supervision. Graduate transfer credit will not be granted for course work taken elsewhere after a student has been admitted and enrolled at USC unless the student receives prior written approval from the department. Students may not take courses elsewhere as a substitute for courses in which they have received grades that fail to meet departmental or university requirements.

Transfer work must have been completed within seven years of admission to a USC master's degree program (or 10 years for a doctoral program) to be applied toward that degree. Departments have the option of reevaluating transfer work when a student is readmitted to a USC graduate degree program. Requests for exceptions should be directed to the dean of the degree program for approval.

The faculty of a degree program may establish limits on the number of transfer credits stricter than those of the university, which follow:

1. Courses used toward a degree completed elsewhere may not be applied toward a master's degree at USC. If courses were not used toward a completed degree, the maximum number of transfer credits that may be applied toward a master's degree, subject to departmental approval, is no more than 25 percent of the minimum units required for the program. Except in formally designated dual degree programs, the same limits apply if a student wishes to transfer credits from any advanced degree previously completed at USC toward a master's degree.
2. A maximum of 30 units of transfer credit may be applied toward a doctoral degree.
3. It is not permitted to apply more than 6 units of transfer credit toward a doctoral degree with Advanced Standing. Admission with Advanced Standing is based upon a completed graduate degree. The only course work available for transfer credit is course work taken after completion of that degree. No exceptions are allowed.
4. A maximum of 4 units of transfer credit may be applied toward an approved dual degree program.

The University Committee on Curriculum (UCOC) must approve policies and procedures for considering individual exceptions within any specific program of study. Program exceptions to the transfer of course work policies require the approval of the UCOC and are listed in the departmental sections of this catalogue. Departments establishing lower maximum limits may waive their own policy (within the university's limits) by approval of the dean of the degree-conferring unit.

Credit for Military Education

Academic credit will be awarded for graduate level course work taken at a regionally accredited U.S. Military institute/college upon receipt of official transcripts.

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

- Students must provide official Joint Services (JST) or Coast Guard Institute (CGI) transcripts to Degree Progress.
- Course work must be evaluated by ACE as graduate credit.
- Students must submit an articulation petition for each course in which credit is requested. Each petition must include a statement of faculty support.

USC will not grant credit for the following:

- DD-214 or DD-295.
- Course work not offered in an area of study taught at USC.
- Course work/experience not evaluated by ACE.
- DSST and CLEP exam scores.
- Other Learning Experiences (OLE's).

Application of Previous USC Course Work to a Current Degree

USC course work taken prior to matriculation to a current USC degree program must have been completed within seven years of admission or readmission to a master's degree program (or 10 years for a doctoral program) to be applied toward that degree. Exceptions require approval from the vice provost for graduate programs.

Credit Evaluation

The purpose of the evaluation is to verify all previously earned degrees and may list graduate course work completed at other institutions which is available for consideration toward the USC degree. Students who intend to apply transfer course work toward a USC degree program can request a comprehensive credit evaluation through the Degree Progress Department. Only courses with a grade of B (3.0) and above are available for transfer. These courses do not apply toward a specific USC degree unless approved by the student's major department or program and school.

Concurrent Enrollment

If a student in a graduate degree program is simultaneously enrolled elsewhere, he or she may not seek to transfer credits to USC for those studies without advance permission from the dean of the degree program (except for concurrent enrollment at UCLA. See the Academic and University Policies section for details). Failure to secure such permission will result in invalidation of course work taken during periods of unauthorized concurrent enrollment.

Requirements for Graduation

Catalogue Regulations, Policies and Procedures

In addition to degree requirements outlined below, undergraduate and graduate students are also subject to current catalogue regulations, policies and procedures. Examples include, but are not limited to, the policies on the grades of incomplete (IN), missing grade (MG) and continuous enrollment for graduate students. Unlike degree requirements, changes in regulations, policies and procedures are immediate and supersede those in any prior catalogue.

Graduation Date

A student will be awarded the graduation date for the term in which degree requirements, including submission of supporting documents, have been met. Although course work may have been completed in a prior term, the degree will be awarded only for the term for which all academic and administrative requirements have been fulfilled. Application for the degree is a requirement for all graduate degrees. Students wishing to change the degree date from that indicated on the STARS Report should request an updated degree term at the Registrar One Stop Center, John Hubbard Hall (JHH 114) or onestop@usc.edu. Degrees are not awarded retroactively.

Discontinued Degree Programs

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

Closed Record

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

Degree Requirements

All graduate students must meet both university degree requirements and those degree requirements specific to their program of study to receive an advanced degree. University degree requirements consist of grade point averages, unit, residence and time limit requirements. Degree requirements specific to a student's program of study consist of course, examination and research requirements. University degree requirements and degree requirements specific to the program of study are collectively defined as degree requirements. Graduate students may elect to follow (a) the degree requirements in the catalogue current for the semester of their admission to the degree program or (b) degree requirements in subsequent catalogues as long as they are continuously enrolled (see Continuous Enrollment). However, they may not mix catalogues. Graduate students who discontinue their enrollment without a leave of absence approved by the dean of the degree program (see Leave of Absence) will be subject to the degree requirements in effect for the semester of their readmission to the program. Students requesting exceptions to the catalogue year should petition the dean of the degree program.

Time Limit for Degree Completion

Students must maintain satisfactory progress toward their stated degree objective at all times. Progress is measured from the beginning of the first course at USC applied toward a specified degree, and all requirements for that degree must be completed within a specified time. The maximum time limit allowed for each degree is considerably greater than what is needed to complete all requirements. Departments may set more stringent time limits than those specified in this section.

The time limit for completing the master's degree is five years. The time limit for completing the doctoral degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the doctoral degree is six years from the date of admission to the doctoral program. An academic department or program may grant an extension of one semester at a time, up to a maximum of two years. For PhD students all extensions must also have the approval of the dean of the degree program.

In unusual cases, a student's committee and the department chair or program director may petition the Graduate School for further extensions.

Students who have exceeded the time limit for completing their degree program will not be permitted any further registrations. If granted an extension of time, the dean of the degree-conferring unit will permit registration for the specified period of extension. Approved leaves of absence (up to a total of two years or four semesters) are not counted in the time allowed for completion of degree requirements.

The time limits apply unless otherwise designated by the faculty and previously approved by the University Committee on Curriculum for a particular degree program.

Progressive Degree Programs

Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (AP units, IB units and course work taken prior to high school graduation are excluded.) Applicants must submit their application before completing 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. Applicants do not have to submit GRE scores but are expected to have at least a 3.0 GPA at the time of application.

The Application for Admission to a Progressive Master's Program must be approved by the deans of the bachelor's and the master's degree-granting schools at USC and submitted to the Degree Progress Department. An approved course plan proposal and letters of recommendation from two USC faculty members must be submitted with the application, with at least one of the recommendations coming from a faculty member in the student's bachelor's degree major department.

Progressive degree program students must fulfill all the requirements for both the bachelor's degree and the master's degree. The total number of units for the master's degree, however, may be reduced by a maximum of one-third. A minimum of two-thirds of the units required for the master's degree must be at or above the 500 level. Students will be subject to undergraduate academic progress standards while in undergraduate status and master's academic progress standards while in graduate status. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree. The time limit for completing a progressive degree program is 12 semesters.

In most cases, students will be classified as undergraduate students for the first eight semesters of college enrollment. In the ninth semester, students will be changed to graduate status. While classified as an undergraduate, students will be assessed the undergraduate tuition rate and the enrollment status will be determined by undergraduate standards. While classified as graduate students, students will be assessed the graduate tuition rate appropriate for their master's degree program and the enrollment status will be determined by graduate standards.

Students are immediately classified as graduate students and are ineligible for undergraduate financial aid once the undergraduate degree posts, even if they have completed fewer than eight semesters. Financial aid applicants may wish to postpone the posting of the undergraduate degree until they have exhausted their undergraduate financial aid eligibility.

Students who receive a research assistant or a teaching assistant award before completing eight semesters will be changed to graduate status and will be ineligible to receive undergraduate financial aid. Students must have completed 128 units to be eligible for a research assistant or teaching assistant award. (AP, IB and transfer units may be used in the 128 unit total.)

Detailed information about specific progressive degree programs is listed in the corresponding school section.

Dual Degree Programs

Dual degree programs offer graduate students the opportunity to concurrently complete requirements for two degrees. Students enrolled in dual degree programs must complete all requirements for the dual degree program and then will be awarded both diplomas at the same time. The academic units that offer these programs frequently adjust the requirements for each degree to take into account the correlations between required course work. Students who have completed all the requirements for one of the degree programs and who decide to withdraw from the dual degree program may receive the appropriate single diploma. Students who have withdrawn from the dual degree program to receive the appropriate single diploma and later decide to complete the second degree must apply for admission, be admitted and then fulfill all requirements for the second degree. Detailed information regarding dual degree programs is listed in the appropriate school section.

Grade Point Average Requirement

At no time should the overall GPA drop below 3.0. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any master's or doctoral program. An overall grade point average of at least 3.0 on all units attempted at USC while a graduate student is required for graduation, whether or not all such units are applied toward the degree. In some cases, the University Committee on Curriculum has approved different GPA requirements for professional schools. The university will not deviate from

policies governing the calculation of the grade point average through inclusion or exclusion of course work.

Unit Requirement

The course of study for the master's degree must include at least 24 units in required and elective courses. In addition, students in a program requiring a thesis must register for four units of 594ab Master's Thesis. The minimum unit requirement for a master's degree is established at the time the program is approved and may not be waived. At least 20 of these units must be completed at USC. The minimum number of units for a doctoral degree is 60, at least 24 of which (exclusive of Doctoral Dissertation 794) must be completed at USC. In addition, at least one-half of the total number of units applied toward a graduate degree must be completed at USC. The minimum number of units for a doctoral degree with Advanced Standing upon entrance is 36. No exceptions are allowed.

A department or school which has a graduate program approved by the university requiring a higher minimum may not waive that requirement. The unit requirement for a dual degree program is established at the time the program is approved by the university and may not be waived.

Regardless of the number of units specified in the university catalogue as required for a graduate degree, at least two-thirds of the units applied toward the degree (including transfer work and not including 594 or 794) must be at the 500 level or higher. Students with Advanced Standing in doctoral programs may not apply additional 400-level course work toward that degree; individual exceptions will not be allowed. Some degree programs, where designated by the faculty and approved by the University Committee on Curriculum, permit a higher maximum number of 400-level units.

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

Residence Requirements

A minimum of 20 graduate units of USC course work is required for the master's degree; 24 units for the doctoral degree. Course work must be completed in residence at USC.

Each degree-conferring unit may establish a school residence policy. School residence requirements as presented in the *USC Catalogue* are approved by the University Committee on Curriculum and are to be interpreted consistent with university policies on continuous enrollment, leaves of absence, transfer of credit and time limits for completion of graduate degrees. Individual exceptions must be approved by the vice provost for graduate programs.

Pass/No Pass Graded Work

Graduate students may elect to enroll in courses on a pass/no pass basis with department or program approval. Course work taken on a pass/no pass basis cannot be applied toward a graduate degree. If a student later requires the course for a degree program (because of a change in degree objective or a decision to obtain an additional degree), the degree-granting unit can decide to allow subject credit for the course and require a substitute course for the unit credit. Individual departments may have placed further restrictions on whether a course taken on a pass/no pass basis can be used to fulfill specific requirements.

All students should consult their academic advisers before enrolling in any course on a pass/no pass basis.

Waiver and Substitution of Course Requirements

Students admitted to graduate degree programs are expected to complete the degree requirements listed in the *USC Catalogue*. A maximum of 25 percent of the stated degree course requirements (exclusive of 594 Master's Thesis and 794 Doctoral Dissertation) may be approved for waiver or substitution by other USC course work, directed research or transfer course work. Substitution of courses with the same prefix are exempted from this limit, as are transfer courses in the same discipline and graduate degree programs with three or fewer specified required courses as part of the entire degree program.

Individual academic programs/departments may approve substitutions and waivers within this limit for their programs. In rare instances, the program or department can request approval of additional substitutions from the dean of the degree program. Waivers or substitutions of over 25 percent should be very rare and will be periodically reviewed by the vice provost for graduate programs.

The very exceptional case of waivers or substitutions over 50 percent must be approved by the vice provost for graduate programs.

Programs establishing a lower maximum substitution limit may waive their own policy by approval of the dean of the academic school. Waiver or substitution of course requirements does not reduce the minimum number of units required for the degree.

Second Master's Degree

A "second master's degree" is any master's degree pursued after a first master's degree is earned at USC. The maximum number of units which may be applied toward the second master's degree for course work taken from a first master's degree at USC is no more than 25 percent of the minimum units required for the program. Second master's degrees are not allowed in the same program of study for students who earned their first master's degree at USC.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree. Subject credit could be awarded if approved through a petition process to the dean of the degree program. Program exceptions require approval of the University Committee on Curriculum and are listed in the departmental sections of this catalogue. No individual exceptions are allowed.

Enrollment Status

To be considered full time, a master's level student must be enrolled in a minimum of 8 units of 400- and 500-level course work, and a doctoral level student must be enrolled in a minimum of 6 units of 500-level and above course work. All graduate assistants are classified as full-time students during the semester(s) of their appointments as long as they are enrolled for the minimum units required for their assistantship. In order to make normal progress toward the timely completion of course work for a graduate degree, most students will be enrolled for 12 units; 16 units will constitute a maximum load. Students wishing to carry more than 16 units must have prior permission from the degree-conferring unit; such permission will be granted only in exceptional circumstances.

A student who has completed all course work for the master's degree will be considered full time when properly enrolled in either 594 Master's Thesis or GRSC 810 Studies for Master's Examination.

A student who has completed all course work for the doctoral degree (except dissertation registration) will be considered full time during the semester in which the student is preparing for the doctoral qualifying examination, provided the Appointment or Change of Qualifying Exam or Dissertation Committee form has been submitted and approved for that semester and the student is enrolled in the course GRSC 800 Studies for the Qualifying Examination. Students should not enroll in more than three semesters of GRSC 800. Doctoral students who have been advanced to candidacy, that is, who have completed all course work and have passed the qualifying examination, will be considered full time when properly enrolled in 794 Doctoral Dissertation. In addition to GRSC 800/GRSC 810 and 594 Master's Thesis and 794 Doctoral Dissertation, there are several other courses and programs as determined by the Dean of Academic Records and Registrar for which enrollment confers full-time status. Students should consult their academic unit for this information.

International students on student visas must be enrolled as full-time students or must receive authorization from the Office of International Services to enroll in fewer than the minimum units. Such students are not eligible to be considered students without formal registration and are in violation of immigration laws when not

properly enrolled. Any international student having questions about his or her registration should consult the Office for International Services.

Continuous Enrollment

Students are considered to be pursuing advanced degrees only when they are formally enrolled. Students admitted to a graduate degree objective are required to be enrolled at USC for fall and spring semesters each year until all degree requirements have been satisfactorily completed within the time limit. Enrollment in graduate-level course work is necessary to meet this requirement. Graduate students who fail to register are no longer considered to be enrolled in a graduate degree program. After an unauthorized absence, formal readmission is required. Students who have been granted a leave of absence do not need to apply for readmission following the approved leave. Where appropriate to the design of a given academic program, the faculty of the program may obtain the permission of the University Committee on Curriculum for a different definition of continuous enrollment.

A master's candidate who is writing a thesis and has completed all course work for the degree must enroll in the appropriate thesis registration until the thesis has been approved. A doctoral candidate who has passed the qualifying examination must enroll each fall and spring semester in 794 Doctoral Dissertation until the dissertation has been approved. It is expected that students will enroll in no more than eight semesters of 794 Doctoral Dissertation. Please note that some courses with no academic credit require payment of tuition. Most classes with course numbers ending in z (e.g., 594z and 794z) require payment of 2 units of tuition.

Exceptions to continuous enrollment are subject to policies governing leaves of absence and readmission.

Leave of Absence

Interruptions of enrollment can cause problems in the continuity of course work within a student's graduate program and, therefore, leaves of absence are generally discouraged.

A student in good standing and making satisfactory progress toward a degree who must interrupt studies for compelling reasons (e.g., approved study abroad, sustained ill health) may petition for a leave for a stated period, usually one semester. Students who find it necessary to be excused from registration must request a leave of absence by the last day to drop or add courses. The request should include a plan for academic progress upon return. A leave must be requested before the drop-add deadline and approved by the dean of the degree program, the committee chair and the department chair or program director, if applicable. During the period of leave, a student is not entitled to assistance from the faculty or use of university facilities. If granted, the leave is recorded on the student's transcript and the period of leave is not counted in the time allowed for the completion of degree requirements. Within the degree time limit, a leave of absence may be allowed for one semester at a time, up to a maximum of four semesters. A student who does not return to enrolled status at the end of an approved period of leave is no longer considered to be pursuing an advanced degree. Students who fail to apply for a leave of absence or for whom a leave has been denied (or has expired) are subject to policies governing continuous enrollment and readmission.

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

Readmission

A student who leaves the university without obtaining a formal leave of absence from graduate study is not automatically readmitted. A student wishing to apply for readmission to a graduate degree program must first get the recommendation of the department chair or program director and submit an Application for Readmission to the dean of the degree program. However, if the cumulative GPA is below 3.0, or if readmission is sought after more than two years of an unapproved absence, the Application for Readmission must be sent to the Graduate School for approval. The readmission approval process must be completed by the first day of classes for the term in which resumption of graduate studies is sought. Approvals are to be based on the academic merits of the student's request. If readmitted, the student will be subject to all of the current University Catalogue requirements for the degree in effect at the time of readmission. Individual exceptions to the *Catalogue* year require the approval of the dean of the degree program. Students seeking readmission after an absence of more than 10 years may be required to re-apply to the university.

A student may not be readmitted into a program of study that has been terminated. The student must either be subject to retroactive enrollment or admission to the new program of study with the corresponding catalogue requirements.

Comprehensive and Qualifying Examinations

In graduate degree programs that require a comprehensive examination and for all doctoral qualifying examinations, a student who fails the examination may be permitted, at the discretion of the faculty, to take it a second time. For time limits on retaking the comprehensive examinations, consult the individual school's policy. For more information on the PhD qualifying examination, consult The Graduate School section of the Catalogue.

Requests for exception must be approved by the department chair or program director.

A student may not take the comprehensive or qualifying examination more than twice and must be appropriately enrolled at USC during the semester in which any such examination is taken or retaken. A student who fails the comprehensive or qualifying examination a second time may not continue in the degree program after the end of the semester in which the second examination was taken. No exceptions are allowed.

Application for Graduate Degrees

Application for the degree is required for all graduate degrees. Application for the master's degree should be made in the student's academic unit in the semester preceding the one in which the student hopes to graduate and prior to enrolling in 594a. Application for the PhD should be made when the student has passed the qualifying exam and been admitted to candidacy. At least one semester prior to expected graduation, the student must contact his or her academic adviser and have the application submitted online. When the application is received by the Degree Progress office, a STARS report will be issued to the student. The degree cannot be conferred if no application has been submitted.

Theses and Dissertations

See the Theses and Dissertation section in The Graduate School section.

International Study

Graduate Study Abroad

The Graduate School provides referral to information sources about nationally competitive fellowships, grants, awards and opportunities for graduate study abroad.

Any non-USC administered overseas study programs or any courses taken abroad by currently enrolled USC students must be reviewed and pre-approved by the Office of Admission and Degree Progress prior to enrollment.

School Programs

Many schools and departments offer international study opportunities and internships. Refer to the school sections of the *Catalogue* for specific information.

Special Study Options

Center for Excellence in Teaching
Grace Ford Salvatori, Suite 211
(213) 740-9040
FAX: (213) 821-2474
Email: usccet@usc.edu
usc.edu/cet
Director: Ginger Clark, PhD
Program Manager: Dana Coyle
Faculty Fellows: David Albertson, *Religion;* Jay Bartroff, *Mathematics*; Peter Crookes, *Surgery-Keck;* Karla Heidelberg, *Marine Environmental Biology;* Jean-Michel Maarek, *Biomedical Engineering* and Marion Philadelphia, *Center for Management Communication*
Distinguished Faculty Fellows: Tatiana Akishina, *Slavic Languages and Literature;* Sarah Banet-Weiser, *Communication;* Nelson Eugene (Gene) Bickers, *Physics;* Eyal Ben-Issac, *Clinical Pediatrics;* Gail Peter Borden, *Architecture;* Sharon M. Carnicke, *Dramatic Arts;* Steven Chen, *Pharmacy;* Ruth Chung, *Education;* Frank Corsetti, *Earth Sciences;* Gerald C. Davison, *Psychology;* William Deverell, *History;* Donna Elliott, *Pediatrics;* Edward Finegan, *Linguistics and Law;* Steven Finkel, *Molecular Biology;* Judy Garner, *Cell and Neurobiology*; Wayne Glass, *International Relations*; Brenda Goodman, *Cinematic Arts;* Thomas Goodnight, *Communication*; Stephan Haas, *Physics and Astronomy;* Heather James, *English;* James Kincaid, *English;* Paul W. Knoll, *History;* Steven L. Lamy, *International Relations;* Nancy Lutkehaus, *Anthropology;* Debbie MacInnis, *Business;* Frank Manis, *Psychology;* Win May, *Medical Education;* Doe Mayer, *Cinematic Arts;* Oliver Mayer, *Dramatic Arts;* William O. McClure, *Biological Sciences;* Charles McKenna, *Chemistry;* Tara McPherson, *Cinematic Arts;* Najm Meshkati, *Civil and Environmental Engineering;* Beth Meyerowitz, *Psychology;* Geoffrey Middlebrook, *Writing Program;* Danielle Mihram, *French and Italian;* Erin Moore, *Anthropology*; Krishna Nayak, *Electrical Engineering;* Sally Pratt, *Slavic Languages and Literature;* Michael W. Quick, *Biological Sciences;* Nandini Rajagopalan, *Management and Organization;* Mark Redekopp, *Electrical Engineering;* Alison Dundes Renteln, *Political Science;* Margaret Rosenthal, *French and Italian;* Steven Ross, *History;* Sam Safadi, *Aerospace and Mechanical Engineering;* Joel E. Schechter, *Cell and Neurobiology;* Wendy Smith, *Social Work;* Geoffrey Spedding, *Aerospace and Mechanical Engineering;* Craig B. Stanford, *Anthropology;* Peter Starr, *French and Comparative Literature*; Karen Sternheimer, *Sociology*; Katherine Sullivan, *Biokinesiology and Physical Therapy;* Armand R. Tanguay, Jr., *Engineering*; Rachel Walker, *Linguistics;* John Walsh, *Gerontology;* Travis Williams, *Chemistry;* Michael Wincor, *Pharmacy*; Theresa Woehrle, *Family Medicine*; S. Mark Young, *Accounting* and Bruce E. Zuckerman, *Religion*

CET's mission is to provide shared vision, support and leadership across the University of Southern California in the development and advancement of learner-centered education. The center promotes evidence-based teaching practices that align with well-established principles of learning and motivation, and promotes a culture of excellence in teaching across the university. It fosters professional development and enrichment of pedagogical practice through a model of context-specific peer consultation and TA training within each school. CET hosts an annual teaching conference in which innovative and highly impactful teaching practices are shared among the USC community.

CET strives to encourage the full integration of the university's research mission into teaching, both in and outside of the classroom. Excellence in research requires commitment to the development of superior communication and instructional skills in all fields, as well as in the training of our students for their future in academia. The scholarly activities of the faculty may lead directly to opportunities to foster university-wide discourse on the commitment to excellence in teaching.

CET trains new teaching assistants at the beginning of each semester and assists in the creation and operation of teaching assistant training programs within each school. The center is also asked to develop better ways to evaluate teaching effectiveness and student learning. In its capacity as principal advocate for and promoter of an excellent teaching and learning environment on campus, CET provides recognition and awards for excellent teachers and mentors nominated and selected by faculty and students.

Each year CET solicits nominations for and selects the winners of several university-wide awards and grants for teaching excellence:

The Associates Award for Excellence in Teaching is the highest honor the university faculty can bestow on its members for outstanding teaching. It recognizes career achievements in teaching with emphasis on concrete accomplishments and proven results; it is not intended as a "teacher of the year" award. A maximum of two awards of $3,500 each are presented each year at the Academic Honors Convocation in April to emphasize the university's recognition of the significant role that teaching plays in its mission.

The *University Outstanding Teaching Assistant Awards* of $1,000 are presented each year at the Academic Honors Convocation to three graduate teaching assistants who have exhibited consistent excellence in the classroom and symbolizes the university's dedication to the education of scholar-teachers.

CET also arranges consultations, symposia, institutes, conferences, demonstrations and other kinds of programmatic activities to support excellence in teaching and learning on behalf of the university.

Office of Postdoctoral Affairs
Grace Ford Salvatori Hall (GFS) 227
3601 Watt Way
Los Angeles, CA 90089-1691
(213) 740-5485
Email: postdocs@usc.edu
postdocs.usc.edu
Vice Provost of Academic and Faculty Affairs: Elizabeth Graddy, PhD
Senior Manager for Postdoctoral Affairs: Dan Carino

The Office of Postdoctoral Affairs is the central postdoctoral scholar resource on campus. It serves as a liaison between the Office of the Provost, postdoctoral scholars, faculty and staff to disseminate university initiatives and policies. The office works closely with academic units to help recruit and train a diverse cadre of the best junior scholars to the university, preparing postdoctoral scholars for careers as independent researchers, academics and leaders of their chosen fields.

The office manages the following Provost's signature programs for postdoctoral scholars: Provost's Postdoctoral Scholars in the Humanities, USC Society of Fellows in the Humanities, USC-CONACYT Postdoctoral Scholars Program, Provost's Postdoctoral Scholars Program for Faculty, the Taiwan-USC Postdoctoral Scholars Program, Provost's Postdoctoral Scholars Program for Clinical Residents and Fellows, and the Provost's Postdoctoral Scholar Research Grants.

The Office of Postdoctoral Affairs facilitates the full integration of postdoctoral scholars at USC, encouraging all postdocs to take advantage of the many opportunities to engage and connect with other members of the Trojan Family.

For more information, visit the Website at postdocs.usc.edu.

Graduate Degree Programs

The basic graduate degrees are the Master of Arts, Master of Science, the Doctor of Philosophy and the professional doctoral degree.

The Master of Arts degree is normally given for study in the humanities and social sciences. The Master of Science degree is normally given for study in the natural sciences and engineering. Other master's degrees are granted by USC for proficiency in professional fields. Master's degree programs are subject to the policies of the Graduate School.

All Doctor of Philosophy degrees must meet the standards of

scholarship and other regulations established by the Graduate School. With the exception of Doctor of Dental Surgery, Juris Doctor and Doctor of Medicine, all professional doctoral programs are subject to the policies of the Graduate School.

University Certificates

In addition, the university also offers a number of graduate certificate programs. Graduate credit certificate programs must be approved by the University Committee on Curriculum and meet the following requirements: (1) a minimum of 12 units is required; the maximum number of units may vary; (2) for certificate programs of 16 units or fewer, all course work must be at the 500 level or above. For programs of more than 16 units, not more than 25 percent of the total units for the program may be at the 400 level; (3) for completion, a minimum cumulative USC grade point average of 3.0 must be achieved on all course work applied to the certificate; (4) all course work must be earned at USC, except for programs of more than 16 units, in which case not more than 25 percent of the course work may be transfer credit.

Area of Emphasis

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

Dual Degree

A dual degree program joins two distinct graduate degree programs under a single, new program and POST (program of study) code. (Applicants to dual degree programs must apply separately to each degree and be admitted to both programs. After admission to both degree programs, the student is assigned the single, dual degree POST code.) Upon completion of the dual degree program, two degrees (and two diplomas) are awarded. Both degrees in a dual degree program must be awarded with the same conferral date.

Progressive Degree Programs

A progressive degree program enables a USC undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The degree may be in the same or different departments but should be in a similar field of study. Students in a progressive degree program must fulfill all requirements for both the bachelor's degree and the master's degree except for the combined total number of units for the degrees. The master's degree may be awarded simultaneously with but not before the bachelor's degree is awarded.

Online Programs and Courses

The university does not distinguish online programs and courses from those offered on campus. Requests to provide information about which programs and courses are offered online will be denied.

The Graduate School

The USC Graduate School is responsible for those academic and professional affairs of the university that relate to the degree programs offered through the Graduate School. The Graduate School also participates in general university affairs relating to graduate and professional education and research.

Administration

Sarah Pratt, PhD, *Vice Provost for Graduate Programs*
Meredith Drake-Reitan, PhD, *Associate Dean*
Laura Yoneda, *Associate Dean*

History

Graduate studies had their formal beginnings at the University of Southern California in 1910, and 1923 marked the official constitution of the Graduate School of the university.

Mission

The mission of the Graduate School is to promote a distinguished educational experience at the graduate level for an outstanding and diverse student body, to support and celebrate graduate student achievements, and to provide leadership in the establishment and communication of policies, standards, and processes related to graduate education.

The Graduate School awards fellowships to incoming PhD students who show outstanding promise, and provides advanced fellowships on a competitive basis to students who have done outstanding work in their programs at USC.

The Vice Provost for Graduate Programs has academic oversight responsibility for all graduate programs at the university. Excellence in graduate and professional education is critically dependent on the exchange of scholarly ideas across a diverse community of faculty and students. The values that characterize these interactions include dedication to excellence, mutual respect, fairness, collegiality, honesty and integrity.

Graduate School Policies and Requirements

Admission

Admission to degree or certificate programs in the Graduate School is processed through the USC Office of Graduate Admission, which receives and processes all applications, evaluates credentials and issues notification letters. With the exception of a few professional and online programs, only a letter from the office of Graduate Admission grants official admission to a graduate degree objective in the university. The Graduate School establishes and monitors the standards under which students are admitted for study in degree programs under its jurisdiction. The following are the basic requirements: (1) a bachelor's degree or its equivalent from a regionally accredited college or university, comparable in standard to that awarded at USC; (2) satisfactory scores on the Graduate Record Examinations (GRE); (3) for international applicants, a valid score on the Test of English as a Foreign Language (TOEFL), Pearson Test of English (PTE), or International English Language Testing System (IELTS); (4) intellectual promise, including evaluation of grade point averages (GPA) that indicates an ability to do acceptable graduate work; (5) and strong personal qualifications. Credentials for admission must include a complete set of records of all previous college or university work. Admission to the university, under the standards of the Graduate School, is determined by the appropriate academic department or program.

Admission documents are reviewed by the applicant's prospective department or program. Applicants are advised that individual departments and programs may establish additional admission standards, such as requiring the submission of the appropriate GRE Subject Test or the submission of academic letters of recommendation directly to the department or program at USC. The applicant should contact the department or program of interest for information on additional required supplementary documents. See the departmental sections of this catalogue or visit the department or program Website.

Graduate Record Examinations

As a supplement to other evidence of an applicant's preparation for successful graduate study, the General Test of the Graduate Record Examinations (GRE) is an integral part of the admission procedure. Individual departments and programs may also require the appropriate Subject Test.

Test scores on the GRE that are more than five years old at the start of the intended first term at USC are not accepted. Students are advised to repeat the GRE if they have not taken the test within five

years.

It is important to note that some programs may require other standardized test scores, such as the GMAT. They may also accept alternate test scores appropriate to the area of study, such as the MCAT. This will be advertised on the program's admissions requirement page.

Test of English as a Foreign Language, Pearson Test of English and International English Language Testing System

Graduate applicants at all levels are expected to demonstrate their English proficiency as part of the application process. International graduate applicants are required to submit scores from the TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or IELTS (International English Language Testing System). There are no minimum TOEFL, PTE or IELTS scores required for admission. However, meeting the standards the university sets for placement standard will allow admitted international students to be exempt from taking the ISE examination. Please see the Graduate Admission section for more details. Official scores must be received from the testing service, and tests must be taken no earlier than two years (24 months) prior to the start of the student's first term at USC.

Deadlines and Notification

The completed application for admission and all required supporting documents should be submitted to the Office of Graduate Admission based on the published deadline for the program of interest.

Some departments and programs only admit graduate students to begin study in the fall semester. Departmental and program deadlines are listed on the department or program Websites. Unless an academic program advertises a different deadline, priority consideration for PhD student funding will be given to those applicants who submit all application materials by December 1. The university will continue to accept and consider graduate applications submitted after December 1.

The Office of Graduate Admission now issues all decisions electronically. Only a letter from the Office of Graduate Admission grants official admission to a degree objective in the university. Correspondence with department chairpersons, program directors or individual faculty members does not constitute admission.

Acceptance with a Degree Objective

Students will be admitted with a specified degree objective. Admission to a degree objective and permission to enroll does not imply that the student is or will be automatically guaranteed the right to continue in a degree program or to be a candidate for an advanced degree.

Classification of Admission Status

Full Graduate Standing

Students who have been accepted for admission, have met all the basic admission requirements and filed all relevant documents with the Office of Graduate Admission are considered admitted to full graduate standing. Occasionally, applicants for admission may lack one of the qualifications listed above or may have difficulty producing appropriate documentation; such students may be conditionally admitted.

Continuing Registration Requirement

Students admitted with continuing registration requirements have not yet met all requirements for admission to full graduate status or have not filed all relevant documents with the Office of Graduate Admission. See the Graduate and Professional Education section for policies governing enrollment as a student with continuing registration requirements. Full graduate student standing is not granted until all registration requirements have been met within the time limit given.

Limited Status Students

Some students may wish to enroll in graduate-level courses for personal satisfaction or professional enhancement without currently seeking a graduate degree. Students may be permitted to enroll with permission from the department or program. Such students should obtain a special Limited Status form from the Office of Academic Records and Registrar at the time of registration. This will permit them to register in the classification limited status. See the Academic Policies section for policies governing limited status enrollment. Limited status enrollment is not to be construed as admission.

Doctoral Admission with Advanced Standing

Students can be admitted with Advanced Standing (entry with an appropriate completed graduate degree from an accredited institution) to all programs in which the PhD degree is conferred by the Graduate School at USC with approval from the Vice Provost for Graduate Programs. See the Transfer of Course Work section under Graduate and Professional Education for more information.

Advancement to Candidacy

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

General Requirements for Graduate Degrees

The foundation for the master's degree or for the PhD degree is a baccalaureate degree or its equivalent comparable in standard to that awarded at USC from a regionally accredited college or university. Many doctoral students, of course, will already have received a master's degree. In fact, select doctoral programs at USC may require students to have a master's degree as an admission criteria.

University policies governing unit, grade point average and time limit requirements are stated in the Academic Policies section of this catalogue. Graduate students should also consult this section for policies on transfer of credit, concurrent enrollment, continuous enrollment, leaves of absence, readmission, and waiver and substitution of course requirements.

Unit Requirements

The course of study for the master's degree must include at least 24 units in required and elective courses. In addition, students in a program requiring a thesis must register for four units of 594ab Master's Thesis.

A minimum of 60 units of course work beyond the baccalaureate is required for the PhD degree, including research courses and four units of 794ab Doctoral Dissertation. No more than 8 units of 794 may be received or applied toward the degree.

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

Residence

Residence is a period of intensive study completed at USC. For the master's degree a minimum of 20 units of course work applicable toward the degree must be completed on the University Park and/or Health Sciences Campuses and/or at one of the university's approved off-campus study centers.

For the PhD degree a minimum of 24 units applicable toward the degree, exclusive of 794 Doctoral Dissertation, must be completed on the University Park and/or Health Sciences Campuses. Internships, fieldwork and other off-campus experiences do not count toward residency.

It is not intended that the PhD degree be conferred as a certificate of residence, however faithful or extended, or as a certificate of the satisfaction of unit requirements, which are to be regarded as largely preliminary. It has been found that the scholastic requirements for the degree cannot be completed in less than the equivalent of three full years of work devoted wholly to graduate study and research with appropriate facilities and under university supervision.

Exception to Graduate School Policy

Exceptions to certain policies and procedures governing Graduate

School degree programs will be considered by the Vice Provost for Graduate Programs upon the submission of a specific request supported by adequate reasons, information and documentation, if needed. The signatures and recommendation of the faculty adviser or committee chair, the department chair or program director, and, in some cases, the dean of the degree program, are required. Requests must be initiated and submitted on behalf of the student by the department's or program's staff adviser. After training on the Graduate School's online request system, advisers may access the necessary forms through the Graduate School's Website.

General Requirements for Progressive Degree Programs

A progressive degree program enables a USC undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The degree may be in the same or different department or program but should be in a similar field of study. See the Graduate and Professional Education section for detailed information.

Departmental Requirements

The requirements and regulations set forth in this portion of the catalogue are to be construed only as minimal requirements established by the Graduate School. In addition, the student is obligated to meet all the requirements established by the individual department or program as described in the departmental sections.

Advisement and Program of Study

Academic advisement of entering graduate students will be provided by a designated faculty member in the student's home department or program. Ideally, during the first semester of graduate enrollment a formal program of study should be developed and agreed upon in writing. This academic plan should include: (1) the sequence of required and elective courses, with a diversity of faculty instruction and a reasonable balance between course work and directed research appropriate for the degree; (2) evaluation of available transfer credit for application toward the degree; and (3) the schedule and procedures for departmental or program evaluation of the student. The program of study should be on file in the student's department or program and may be modified in keeping with the student's progress toward the degree objective. This should become the responsibility of the student's qualifying exam committee when it has been established.

Foreign Language/Research Tool Requirements

Although the Graduate School does not require a foreign language examination, some departments and programs do have specific language requirements for their graduate programs.

The foreign language requirement is determined by the individual departments, programs or schools, subject to approval by the University Committee on Curriculum. For the PhD student, these requirements should be met well in advance of the qualifying examination.

When proficiency in a foreign language or a research tool is required, the evidence attesting to proficiency may not be more than five years old. This regulation applies regardless of the form of the evidence.

For specific information, see Foreign Language/Research Tool Requirement under the appropriate department and program sections of this catalogue.

Academic Warning and Dismissal

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

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

Theses and Dissertations

Submission of Theses and Dissertations

Required documentation is electronically submitted to the Graduate School through Thesis Center on the Graduate School's Website by the deadline date and time. It is then reviewed by the thesis coordinator. When the documentation is determined to be complete, the candidate is cleared to electronically submit the dissertation manuscript.

Required documentation for doctoral students includes the electronic Approval to Submit Defended and Final Copy of Doctoral Work form, the most recent Appointment or Change of Qualifying Exam or Dissertation Committee form, and for PhD students only, the electronic receipt confirming completion of the Survey of Earned Doctorates. For master's students, required documentation includes the Approval to Submit Final Copy of Master's Thesis form and the most recent Appointment or Change of Master's Committee form. The Appointment or Change of Qualifying Exam or Dissertation Committee form, the electronic receipt confirming completion of the Survey of Earned Doctorates are submitted as PDFs. The Approval to Submit Defended and Final Copy of Doctoral Work form is electronically available through Thesis Center, the Graduate School's online thesis and dissertation processing system.

Manuscripts are reviewed and required documentation is processed in the order received. Students have three months from the date the committee chair signs the Approval to Submit form to complete the necessary corrections to the formatting of the manuscript.

Early Submission Option: Students who submit the necessary documentation a week or more before the add/drop deadline and who also upload the manuscript to the Graduate School by the add/drop deadline in a given term are exempted from the requirement to register in 594 or 794 in that semester. Otherwise, students register for 594, 794 or the equivalent in order to maintain continuous enrollment. International students considering the Early Submission Option should check with the Office of International Services to be sure the lack of course registration will not affect their visa status.

Acceptance by the University

The university must accept all theses and dissertations in an approved, final, and electronic form before the degree can be conferred. The student's committee must have approved all documents before submission to the Graduate School. The student remains in contact with the Graduate School during the corrections process. Thesis manuscripts must be submitted to the Graduate School through Thesis Center on the Graduate School's Website.

At the time of submission, all manuscripts should be formatted and edited according to the style determined by the student's department or program. The thesis coordinator does not function as a proofreader or copy editor.

If the formatting of the manuscript requires corrections, the student makes the corrections and uploads a new PDF of the manuscript in the time allotted by the thesis coordinator. A manuscript that has been electronically submitted for further review is also processed in the order in which it is received.

After a manuscript has been approved by the thesis coordinator, the student uploads an identical copy of the final PDF of the manuscript to the USC Libraries.

Schedule of Deadlines

The Graduate School provides a schedule of specific dates for completing the thesis or dissertation submission for the student to qualify for graduation in the corresponding semester. These dates are published on the Graduate School's Website. Regardless of the date of submission, students must submit complete documentation and finish all corrections to the manuscript before the degree can be conferred. Upon completion of all requirements, the official USC

transcript will serve as evidence of the degree until the diploma is received.

Publication

All theses and dissertations will be made available via the USC Libraries.

Thesis/Dissertation Fees

The doctoral candidate's fee of $115 covers USC Libraries and Graduate School processing fees. The master's candidate's fee of $105 covers USC Libraries and Graduate School processing fees. The fees are assessed by the thesis coordinator after the required documentation has been submitted, and the charges appear on the student's account.

General Requirements for the Master's Degree

Course Requirements

The Graduate School confers the master's degree upon the satisfactory completion of a carefully planned curriculum. A comprehensive examination or summative experience may replace a thesis in certain departments and programs. A student must enroll in GRSC 810 during the semester in which the comprehensive examination is to be taken if not otherwise enrolled. Consult the appropriate departmental section of this catalogue for specific course requirements.

For those master's degrees not conferred by the Graduate School, the degree-conferring school determines if a thesis, comprehensive exam or other summative experience is required.

When the summative experience is not a thesis or comprehensive examination, the nature of the summative experience needs to be explicitly defined including the method by which the student's performance will be assessed and how the results of that assessment will be recorded. The summative experience requirement will often be satisfied by passing a course designed specifically for this purpose.

See Transfer of Course Work for the maximum number of units of transferred course work that may be applied toward a master's degree. Except in formally designated dual degree programs, this same policy regulates the number of credits that may be applied toward a master's degree from an advanced degree previously completed at USC.

Master's Committee

The student's master's committee directs the student's program of study and thesis and/or comprehensive examination. The master's committee consists of at least three and no more than five members. The committee chair and at least one additional member must have an appointment in the student's program. At least one member of the committee must be tenured or tenure-track, or a research professor at the associate or full professor level. Faculty eligible to serve as committee chairs and members include tenured and tenure-track faculty, and non-tenure-track faculty (including research faculty) of outstanding stature who have a documented record of exceptional expertise and superior achievement in a field relevant to the exam and have been approved by the dean of the school.

Application for the Master's Degree

At least one semester preceding the one in which the student expects to receive the degree and prior to registration in 594a Master's Thesis, the student should ask the academic department or program to request an online degree check from Degree Progress. Application is made online by the academic department or program and then transmitted to the Degree Progress Department following approval of the program of studies by the student's home department. Degree Progress will prepare a Degree Audit Report (STARS Report) reflecting course work and requirements completed and those remaining to be met. A copy of the Credit Summary is sent to the student and the home department or program.

Master's Examinations

A student who fails the master's examination may be permitted, at the discretion of the faculty, to take it a second time. The retaking of a failed master's examination must be completed before the end of the second consecutive semester (excluding summer session) following the first examination. Requests for exception must be approved by the department chair or program director. A student may not take the master's examination more than twice and must be appropriately enrolled at USC during the semester in which such an examination is taken or retaken. A student who fails the master's examination a second time may not continue in the degree program after the end of the semester in which the second examination was taken. No exceptions are allowed.

Master's Thesis

The thesis is supervised throughout its preparation by the student's master's committee. It is desirable for the student to have a conference with each committee member promptly following the approval of the topic. Thereafter, thesis work is normally under the immediate supervision of the committee chair. *Final acceptance is based upon the unanimous recommendation of all members of the committee.*

A student who is required to write a thesis must submit a satisfactory outline and comprehensive bibliography for the proposed thesis and demonstrate a mastery of the subject satisfactory to the master's committee. The student's thesis or master's committee is responsible for the content, adherence to departmental formatting requirements, and bibliographical consistency of the thesis.

During the five-year time limit allowed for completion of the degree and following the completion of all course work, the student must enroll in 594 Master's Thesis for two consecutive semesters and for each semester thereafter, until the thesis has been approved and the approval of the master's thesis form has been signed by the student's master's committee. Registration for the thesis in two semesters is the minimum requirement entitling the student to thesis supervision by the master's committee. No more than 4 units of credit in 594 may be received regardless of the number of semesters the student may be required to be enrolled. Students may not register for more than two units of 594 during a given semester; individual exceptions require the approval of the dean of the degree program.

Leave of Absence

Students who find it necessary to be excused from registration in 594 for a semester must request a leave of absence by petition to the dean of the degree program prior to the beginning of the semester. See Leave of Absence. Approval of the committee chair, department chair or program director, and dean of the degree program are required. During a leave of absence students will not be entitled to assistance from the master's committee or to the use of university facilities. Considerations for approving a leave of absence include the student's progress to date in meeting the time schedules for the completion of degree requirements.

Final Approval of the Thesis

If a thesis defense is required: After the thesis defense has been completed and after the committee determines that no further changes are required of the thesis manuscript, each committee member electronically certifies on the Approval to Submit Defended and Final Copy of Master's Thesis form that: (1) the defense was appropriately rigorous; (2) the student's thesis is original and represents advanced scholarly work in keeping with the standards of the given field; and (3) the thesis defense process was fair and in keeping with USC's academic and ethical standards. This includes adherence to departmental formatting requirements. No changes can be made to the manuscript's content after the Approval to Submit form is complete. The Approval to Submit form is electronically available through Thesis Center, the Graduate School's online thesis and dissertation processing system.

Master's Thesis Submission

Master's thesis manuscripts must be submitted to Thesis Center on the Graduate School Website. Please refer to the Theses and Dissertations section for information on the submission process.

General Requirements for the Doctor of Philosophy Degree

Qualified students will be received as applicants for candidacy for the Doctor of Philosophy degree with a major in departments and programs which are adequately equipped with staff, library and laboratory facilities to furnish the necessary training and opportunities for original research.

Screening Procedures

A screening examination or other procedure designated by the department or program is to be administered before the student has taken more than 24 units (including research courses). Passing this procedure is prerequisite to continuation in the doctoral program. Students who fail the screening procedure will be advised that they are not recommended to continue in the PhD program and that any additional work may not be counted toward the degree. Failure to undertake the screening procedure before completion of 24 units of course work may jeopardize additional units. Ideally, a faculty member will be appointed to serve as the student's administrative adviser until the student establishes an approved qualifying exam committee.

Course Requirements

The subject or field of concentration is called a major. The major is usually a departmental major, although several interdepartmental majors have been authorized.

Undergraduate prerequisite and graduate course work will be required in accordance with the regulations of the major department or program and the recommendation of the student's qualifying exam committee. Consult the appropriate departmental section of this catalogue for specific course requirements.

Appointment of the Qualifying Exam Committee

The qualifying exam committee is responsible for supervising the student's preparation for the exam and for the fair and timely administration and evaluation of the written and oral parts of the examination. The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School Website, is used to establish the qualifying exam committee. The form requires the signature of each member of the committee, the department chair or program director, and the dean or dean's designate. The completed form is filed in the student's home department or program.

Qualifying Exam Committee

The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have an appointment in the student's program. The committee chair and at least two additional members must be affiliated with the student's program. Visiting faculty may not serve on qualifying exam committees. The Vice Provost for Graduate Programs is an ex officio member of all qualifying exam committees.

Faculty Qualifications for Service on PhD Qualifying Exam Committees: Because the goal of USC PhD programs is to create scholars who will shape their fields in a wide range of settings, the university encourages PhD students to take advantage of the full array of faculty expertise available at USC. This includes the expertise of tenured, tenure track, research, teaching, practitioner and clinical faculty.

A faculty member who serves on PhD dissertation and qualifying exam committees must have a professional profile that demonstrates academic impact on the field in significant, measurable ways. The judgment about these qualifications will be made by the dean of the school housing the PhD program on the basis of hard evidence: for example, peer-reviewed publications in major journals and presses, grant funding, and exceptionally influential practice in a given field, taking into account the person's total career, current stage of career and any changes in performance in a more recent period. Faculty who are evaluated on the basis of criteria other than those noted above will not normally be considered appropriate members of PhD and qualifying exam committees, except by explicit permission of the vice provost for graduate programs acting on the advice of the dean of the school.

Individual schools and programs may require the inclusion on the qualifying exam committee of a member from outside the student's program. If an outside member is required, it must be specified in the departments', programs' or schools' sections in the Catalogue.

Changes in Qualifying Exam Committees

The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School Website, must be completed whenever a change is made in a qualifying exam committee. All such changes must be made in advance of the qualifying examinations. Informal substitutions for either the written or oral parts of the qualifying examination are not permitted. Changes in a qualifying exam committee are not permitted between the written and oral portions of the examination. The examinations must be scheduled at times when it is possible for all members of the committee, including the outside member, to participate. Changes made without the prior approval of the dean of the degree program are not recognized and may result in the invalidation of the examination.

A student may not change committee members after failing the qualifying examination the first time. The student must be reexamined by the same faculty on the same subject matter. If a faculty member is unable to serve on the committee (for example, due to serious illness, retirement, or transfer to another institution), the dean of the degree program must be notified in writing in advance of the rescheduled exam in order to approve the change. The faculty replacement must be approved by the dean of the degree program and the student must file a change of committee form well in advance of the exam.

Qualifying Examination

The examination qualifying a student for candidacy for the PhD degree is designed to test the student's fitness to undertake independent research. It is comprehensive in nature and includes both written and oral parts.

Prior to taking the qualifying examination, the student must have met all of the university's and program's requirements for the PhD degree, except the dissertation and successful qualifying exam. The student must have a GPA of at least 3.0 on all USC course work available for graduate credit and the approval of his or her qualifying exam committee to proceed to the exam. Students with a master's degree in the same or similar field may be approved to take the qualifying examination after the completion of 12 units and successful passage through the screening process. The GPA and qualifying exam committee approval requirements are the same as for students without a prior master's degree in the field of study. If not otherwise enrolled, a student must enroll in GRSC 800 during the semester in which the qualifying examination is to be taken. Students are allowed to enroll in GRSC 800 a maximum of three times before approval from the university is needed.

The oral portion of the examination must be completed within 60 days of the submission of the completed written portion to the qualifying exam committee. If the student's written examination is satisfactory, the student may proceed to the oral portion of the exam. If additional material is to be covered in the oral portion, the student should be notified of the content expectations in advance. The oral examination is also administered on campus. Remote participation of a committee member requires approval from the Vice Provost for Graduate Programs in advance of the exam date. If the oral exam is delayed beyond the 60-day limit, the student will need to retake the written exam unless an exception is approved by the Vice Provost for Graduate Programs.

There are three possible results of a qualifying exam:

- Pass, and proceed to candidacy based on a positive vote by members of the committee.
- Fail, with the option to retake either specific sections of the exam or the whole exam, at the discretion of the committee. The student may not be required to repeat parts of the qualifying examination that were passed on the first administration. The retaking of a failed qualifying examination

or any portion of a qualifying examination must take place between one and six months from the date of the first examination. If not otherwise enrolled, the student must be enrolled in GRSC 800 in the term in which any portion of the exam is repeated.

- Fail, with the result of dismissal from the program.

If the committee concludes that the written portion of the exam is so weak that the oral portion cannot counterbalance the poor performance, the student does not proceed to the oral and the exam is failed. The committee may provide the option of a retake, but is not required to do so. If the committee decides that a retake is not warranted, the student is dismissed from the program.

A student who fails the qualifying exam a second time is automatically dismissed from the program.

Report on the PhD Qualifying Exam

At the conclusion of the qualifying exam, each member of the committee is asked to certify on the Report on the PhD Qualifying Examination that: (1) the exam was appropriately rigorous; (2) the student's performance on the exam was at the doctoral level; and (3) the entire qualifying examination process was fair and in keeping with USC's academic and ethical standards. The Report on the PhD Qualifying Examination is available to graduate advisers on the Graduate School Website in myGradSchool.

Advancement to Candidacy

Graduate students are officially advanced to candidacy for the PhD degree when they have completed the residency requirement and passed the written and oral portions of the PhD qualifying examination upon the favorable recommendation of the qualifying exam committee to the Graduate School. All PhD candidates are required to engage in original research.

Application for the PhD

After being advanced to candidacy, students must contact their academic department or program to initiate an online degree check that is transmitted to the Degree Progress Department. Degree Progress counselors prepare a Degree Audit Report (STARS Report) for each student listing any remaining requirements. The requirements will not be checked or the degree conferred if the student has not applied.

Dissertation Committee

The dissertation committee is appointed as soon as possible after the examination has been passed and a dissertation topic approved. The committee should be appointed at least one month before the dissertation defense. The Appointment or Change of Qualifying Exam or Dissertation Committee form, available on the Graduate School Website, is used to establish the dissertation committee. The form requires the signatures of each member of the committee, the department chair or program director, and dean or dean's designate. The completed form is filed in the student's home department or program, and a signed copy provided to the student.

The dissertation committee is composed of at least three and no more than five members. The committee chair and at least one additional member must have an appointment in the student's program. Two committee members must be from the home program. Visiting faculty may not serve on dissertation committees. The Vice Provost for Graduate Programs is an ex officio member of all dissertation committees.

Faculty Qualifications for Service on PhD Dissertation Committees: Because the goal of USC PhD programs is to create scholars who will shape their fields in a wide range of settings, the university encourages PhD students to take advantage of the full array of faculty expertise available at USC. This includes the expertise of tenured, tenure track, research, teaching, practitioner, and clinical faculty.

A faculty member who serves on PhD dissertation and qualifying exam committees must have a professional profile that demonstrates academic impact on the field in significant, measurable ways. The judgment about these qualifications will be made by the dean of the school housing the PhD program on the basis of hard evidence: for example, peer-reviewed publications in major journals and presses, grant funding, and exceptionally influential practice in a given field, taking into account the person's total career, current stage of career, and any changes in performance in a more recent period. Faculty who are evaluated on the basis of criteria other than those noted above will not normally be considered appropriate members of PhD and qualifying exam committees, except by explicit permission of the vice provost for graduate programs acting on the advice of the dean of the school.

Individual schools and programs may require the inclusion on the dissertation committee of a member from outside the student's program. If an outside member is required, it must be specified in the departments' or programs' and schools' sections in the Catalogue.

Final Approval of the Dissertation

After the dissertation defense has been completed and after the committee determines that no further changes are required of the dissertation manuscript, each member electronically certifies on the Approval to Submit Defended and Final Copy of Doctoral Dissertation that: (1) the defense was appropriately rigorous; (2) the student's dissertation makes an original and substantial contribution to its field of study; and (3) the defense process was fair and in keeping with USC's academic and ethical standards. This includes adherence to departmental formatting requirements No changes can be made to the manuscript's content after the Approval to Submit form is complete. The Approval to Submit form is electronically available through Thesis Center, the Graduate School's online thesis and dissertation processing system.

The committee must unanimously agree in order for the student to pass the defense.

Doctoral Dissertation

A dissertation is an original contribution to current knowledge in the field and a demonstration that the PhD candidate has achieved sufficient mastery in the field to pursue independent research and scholarship. A dissertation represents the individual candidate's research and writing. In fields where collaborative research has become the norm, the candidate is the sole author of the dissertation and specifies his or her contribution to the research and also delineates colleagues' contributions.

Dissertations are expected to be written in English. Exceptions require the approval of the vice provost for graduate programs or her nominee prior to beginning the work and will be granted only when there is strong scholarly justification.

The student is expected to be enrolled in 794 Doctoral Dissertation each semester, except summer sessions, after admission to candidacy until all degree requirements are completed. Registration for 794 for the two semesters (excluding summer sessions) immediately following admission to candidacy is the minimum requirement entitling the candidate to dissertation supervision by the dissertation committee. Enrollment in 794 prior to admission to candidacy is not permitted and such registration is invalid. If the dissertation is not completed and accepted within two semesters the candidate must continue to register for 794 each semester thereafter until the dissertation has been approved and the approval of the PhD dissertation has been signed by the dissertation committee. Students are expected to complete and defend their dissertation before they have enrolled in no more than five semesters of 794. Students may enroll in 794 during one summer session but may not register for more than two units of 794 during a given semester; individual exceptions require the approval of the dean of the degree program. No more than eight units of credit in 794 may be received, regardless of the number of semesters in which the candidate may be required to enroll. Department or program approval is required for registration in 794.

Leave of Absence

A candidate who finds it necessary to be excused from registration in 794 for a semester must request a leave of absence by petition to the dean of the program of study prior to the beginning of the semester. See Leave of Absence. Endorsements from the dissertation committee chair and department chair or program director are

required. During a leave of absence the candidate will not be entitled to assistance from the dissertation committee or to the use of university facilities. Considerations for approving a leave of absence include the student's progress to date in meeting the time schedules for the completion of degree requirements.

Defense of the Dissertation

After passing all required courses and the qualifying examination, and after meeting all other requirements, the candidate must write and defend the dissertation. The doctoral dissertation must be an original contribution to scholarship or scientific knowledge and must exemplify the high degree of scholarly advancement and power of investigation demanded by the university for final recommendation to the doctorate. The dissertation defense is the culminating activity in the assessment of whether this standard has been met.

While the oral examination is open to the general university community, only the members of the dissertation committee have the authority to recommend acceptance of the dissertation. During the oral defense, all members of the dissertation committee must be present and must give a judgment on the student's defense. The recommendation must be unanimous.

If the defense is satisfactory, the committee then signs the electronic Approval to Submit Defended and Final Copy of Dissertation form. If additional work is required, the electronic form must be signed only on full completion. Departments and programs differ concerning the time of the defense of the dissertation. The student's dissertation committee is responsible for the content, adherence to departmental formatting requirements, and bibliographical consistency of the dissertation.

Dissertation Submission

Doctoral dissertation manuscripts must be submitted to Thesis Center on the Graduate School website. Refer to the Theses and Dissertations section for more information on the submission process.

Programs, Minors and Certificates

Bachelor's Degree

- Accounting (BS)
- Acting for the Stage, Screen and New Media (BFA)
- Aerospace Engineering (BS)
- American Popular Culture
- American Studies and Ethnicity (African American Studies) (BA)
- American Studies and Ethnicity (Asian American Studies) (BA)
- American Studies and Ethnicity (BA)
- American Studies and Ethnicity (Chicano/Latino Studies) (BA)
- Animation and Digital Arts (BA)
- Anthropology (BA)
- Anthropology (Visual Anthropology) (BA)
- Applied and Computational Mathematics (BA)
- Applied and Computational Mathematics (BS)
- Applied Mechanics (BS)
- Archaeology (BA)
- Architectural Studies (BS)
- Architecture (BArch)
- Art (BA)
- Art History (BA)
- Arts, Technology and the Business of Innovation (BS)
- Astronautical Engineering (BS)
- Astronomy (BA)
- Astronomy (BS)
- Biochemistry (BS)
- Biological Sciences (BA)
- Biological Sciences (BS)
- Biomedical Engineering (BS)
- Biomedical Engineering, Biochemical Engineering Emphasis, (BS)
- Biomedical Engineering, Electrical Engineering Emphasis, (BS)
- Biomedical Engineering, Mechanical Engineering Emphasis, (BS)
- Biophysics (BS)
- Business Administration (BS)
- Business Administration (Cinematic Arts) (BS)
- Business Administration (International Relations) (BS)
- Business Administration (Real Estate Finance) (BS)
- Business Administration (World Program) (BS)
- Central European Studies (BA)
- Chemical Engineering (BS)
- Chemical Engineering, Biochemical Engineering Emphasis, (BS)
- Chemical Engineering, Environmental Engineering Emphasis, (BS)
- Chemical Engineering, Nanotechnology Emphasis, (BS)
- Chemical Engineering, Petroleum Engineering Emphasis, (BS)
- Chemical Engineering, Polymer/Materials Science Emphasis, (BS)
- Chemical Engineering, Sustainable Energy Emphasis (BS)
- Chemistry (BA)
- Chemistry (BS)
- Chemistry (Chemical Biology) (BS)
- Chemistry (Chemical Nanoscience) (BS)
- Chemistry (Research) (BS)
- Choral Music (BA)
- Cinema and Media Studies (BA)
- Cinematic Arts, Film and Television Production (BA)
- Cinematic Arts, Film and Television Production (BFA)
- Civil Engineering (BS)
- Civil Engineering, Building Science Emphasis (BS)
- Civil Engineering, Environmental Engineering Emphasis (BS)
- Civil Engineering, Structural Engineering Emphasis (BS)
- Classics (BA)
- Cognitive Science (BA)
- Communication (BA)
- Comparative Literature (BA)
- Composition (BM)
- Computational Linguistics (BS)
- Computational Neuroscience (BS)
- Computer Engineering and Computer Science (BS)
- Computer Science (BS)
- Computer Science (Games) (BS)
- Computer Science/Business Administration (BS)
- Contemporary Latino and Latin American Studies
- Dance (BFA)
- Design (BFA)
- Earth Sciences (BA)
- East Asian Area Studies (BA)
- East Asian Languages and Cultures (BA)
- Economics (BA)
- Economics/Mathematics (BS)
- Electrical Engineering (BS)
- English (BA)
- Environmental Engineering (BS)
- Environmental Science and Health (BA)
- Environmental Science and Health (BS)
- Environmental Studies, Climate, Earth and Environment Concentration (BA)
- Environmental Studies, Climate, Earth and Environment Concentration (BS)
- Environmental Studies, Environmental Public Policy Concentration (BA)
- Environmental Studies, Environmental Public Policy Concentration (BS)
- Environmental Studies, Oceans, Life and People Concentration (BA)
- Environmental Studies, Oceans, Life and People Concentration (BS)
- Environmental Studies, Sustainability, Energy and Society Concentration (BA)

- Environmental Studies, Sustainability, Energy and Society Concentration (BS)
- Fine Arts (BFA)
- French (BA)
- Gender Studies (BA)
- GeoDesign (BS)
- Geological Sciences (BS)
- Global Health Studies (BS)
- Global Studies (BA)
- Health and Human Sciences (BA)
- Health and Humanity (BA)
- Health Promotion and Disease Prevention Studies (BS)
- History (BA)
- History and Social Science Education (BA)
- Human Biology (BA)
- Human Biology (BS)
- Human Development and Aging (BS)
- Human Development and Aging, Health Science Track, (BS)
- Human Development and Aging, Honors Programs, (BS)
- Industrial and Systems Engineering (BS)
- Informatics (BA)
- Interactive Entertainment (BA)
- International Relations (BA)
- International Relations (Global Business) (BA)
- International Relations and the Global Economy
- Italian (BA)
- Jazz Studies (BM)
- Jewish Studies (BA)
- Journalism (BA)
- Latin American and Iberian Cultures, Media and Politics
- Lifespan Health (BS)
- Linguistics (BA)
- Linguistics and Cognitive Science (BA)
- Mathematics (BA)
- Mathematics (BS)
- Mechanical Engineering (BS)
- Mechanical Engineering, Petroleum Engineering (BS)
- Media Arts and Practice (BA)
- Middle East Studies (BA)
- Music (BA)
- Music Industry (BM)
- Music Industry (BS)
- Music Production (BM)
- Narrative Studies (BA)
- Neuroscience (BA)
- Neuroscience (BS)
- Non-Governmental Organizations and Social Change (BA)
- Occupational Therapy (BS)
- Performance (Classical Guitar) (BM)
- Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (BM)
- Performance (Organ) (BM)
- Performance (Piano) (BM)
- Performance (Popular Music) (BM)
- Performance (Studio Guitar) (BM)
- Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (BM)
- Performance (Vocal Arts) (BM)
- Pharmacology and Drug Development (BS)
- Philosophy (BA)
- Philosophy, Politics and Law (BA)
- Physical Sciences (BS)
- Physical Sciences (BS)
- Physics (BA)
- Physics (BS)
- Physics/Computer Science (BS)
- Political Economy (BA)
- Political Science (BA)
- Psychology (BA)
- Public Policy (BS)
- Public Relations (BA)
- Quantitative Biology (BS)
- Real Estate Development (BS)
- Religion (BA)
- Russian (BA)
- Social Sciences, with an Emphasis in Economics (BA)
- Social Sciences, with an Emphasis in Psychology (BA)
- Sociology (BA)
- Spanish (BA)
- Theatre (BA)
- Theatre, Acting Emphasis, (BA)
- Theatre, Design Emphasis, (BA)
- Theatre, Design Emphasis, (BFA)
- Theatre, Sound Design Emphasis, (BFA)
- Theatre, Stage Management Emphasis, (BFA)
- Theatre, Technical Direction Emphasis, (BFA)
- Urban Studies and Planning (BS)
- Visual and Performing Arts Studies (BA)
- Writing for Screen and Television (BFA)

Combined Major

- Law, History, and Culture (BA)
- Linguistics and East Asian Languages and Cultures (BA)
- Linguistics and Philosophy (BA)
- Linguistics and Psychology (BA)
- Mathematics/Economics (BS)

Undergraduate Certificate

- Food Industry Management Program

Honors

- Honors in Multimedia Scholarship

Minor

- 2-D Art for Games Minor
- 3-D Animation in Cinematic Arts Minor
- 3-D Art for Games Minor
- 3-Dimensional Design Minor
- 3D Computer Graphics and Modeling
- Accounting Minor
- Advertising Minor
- American Popular Culture Minor
- American Studies and Ethnicity Minor
- Animation and Digital Arts Minor
- Applied Analytics Minor
- Applied Computer Security Minor
- Applied Theatre Arts Minor
- Arabic Minor
- Archaeology Minor
- Archaeology of California Minor
- Architecture Minor
- Art History Minor
- Astronautical Engineering Minor
- Astronomy Minor
- Behavioral Economics Minor
- Biotechnology Minor
- Business Economics Minor
- Business Finance Minor
- Business Law Minor
- Business Minor
- Business Technology Fusion Minor
- Ceramics Minor
- Chemistry Minor
- Chinese for the Professions
- Cinema-Television for the Health Professions Minor
- Cinematic Arts Minor
- Classical Greek Minor
- Classical Perspectives Minor
- Classics Minor
- Comedy (Performance) Minor
- Comedy Minor
- Communication Design Minor

- Communication Policy and Law Minor
- Communication Technology Practices and Platforms Minor
- Comparative Literature Minor
- Computational Biology and Bioinformatics Minor
- Computer and Digital Forensics Minor
- Computer Programming Minor
- Computer Science Minor
- Construction Planning and Management Minor
- Construction Planning and Management Minor (Public Policy)
- Consumer Behavior Interdisciplinary Minor
- Consumer Behavior Minor
- Craniofacial and Dental Technology Minor
- Critical Approaches to Leadership Minor
- Cultural Anthropology Minor
- Cultural Competence in Medicine Minor
- Cultural Studies Minor
- Culture, Media and Entertainment Minor
- Cultures and Politics of the Pacific Rim Minor
- Dance in Entertainment Minor
- Dance Minor
- Digital Studies Minor
- Digital Studio Minor
- Drawing Minor
- Early Modern Studies Interdisciplinary Minor
- Earth Sciences Minor: Climate Change, Stewardship and Resiliency
- East Asian Area Studies Minor
- East Asian Languages and Cultures Minor
- Economics Minor
- Education and Society Minor
- Engineering Management Minor
- English Minor
- Enterprise Information Systems Minor
- Entertainment Industry Minor
- Entrepreneurship Minor
- Environmental Chemistry and Sustainability Minor
- Environmental Engineering Minor
- Environmental Health Minor
- Environmental Studies Minor
- Ethics and Moral Philosophy Minor
- Folklore and Popular Culture Minor
- Forensics and Criminality Minor
- French Minor
- Future Cinema Minor
- Game Animation Minor
- Game Audio Minor
- Game Design Minor
- Game Entrepreneurism Minor
- Game Studies Minor
- Game User Research Minor
- Gender and Social Justice Minor
- Gender Studies Minor
- Geobiology Minor
- Geohazards Minor
- German Minor
- Global Communication Minor
- Global Health Minor
- Health Administration Minor
- Health Care Studies Minor
- Health Communication Minor
- Health Policy Minor
- Hip Hop, Street and Social Dance Forms Minor
- History and Culture of Business Minor
- History Minor
- Human Movement Sciences Minor
- Human Resource Management Minor
- Human Rights Minor
- Human Security and Geospatial Intelligence Minor
- Immersive Media Minor
- Individuals, Societies and Aging Minor
- Innovation: The Digital Entrepreneur Minor
- International Health, Development, and Social Justice Interdisciplinary Minor
- International Policy and Management Minor
- International Relations Minor
- Iranian Studies Minor
- Italian Minor
- Jazz Studies Minor
- Jewish American Studies Minor (American Studies)
- Jewish American Studies Minor (Jewish Studies)
- Jewish Studies Minor
- Judaic Studies Minor
- Justice, Voice, and Advocacy Minor
- Korean Studies Minor
- Landscape Architecture Minor
- Latin American Studies Minor
- Latin Minor
- Law and Public Policy Minor
- Law and Society Minor
- LGBTQ Studies Minor
- Linguistics Minor
- Luso-Brazilian Studies Minor
- Management Consulting Minor
- Managing Human Relations Minor
- Marine Biology Minor
- Marketing Minor
- Mathematical Finance Minor
- Mathematics Minor
- Media and Social Change Minor
- Media Economics and Entrepreneurship Minor
- Medical Anthropology Minor
- Middle East Studies Minor
- Mobile App Development Minor
- Music Industry Minor
- Music Production Minor
- Music Recording Minor
- Musical Studies Minor
- Musical Theatre Minor
- Nanotechnology Minor
- Native American Studies Minor
- Natural Science Minor
- Neuroscience Minor
- News Media and Society Minor
- Nonprofits, Philanthropy and Volunteerism Interdisciplinary Minor
- Nonprofits, Philanthropy and Volunteerism Minor
- Nutrition and Health Promotion Minor
- Occupational Science Minor
- Operations and Supply Chain Management Minor
- Organizational Leadership and Management Minor
- Painting Minor
- Performance Science Minor
- Performing Arts Studies Minor
- Petroleum Engineering Minor
- Philosophy for Business, Law, and the Professions Minor
- Philosophy Minor
- Photography and Social Change Minor
- Photography Minor
- Physics Minor
- Playwriting Minor
- Political Organizing in the Digital Age Minor
- Political Science Minor
- Popular Music Studies Minor
- Practical Politics Minor
- Professional and Managerial Communication Minor
- Psychology and Law Minor
- Psychology Minor
- Public Health Minor
- Public Relations Minor
- Race, Ethnicity and Politics Minor
- Real Estate Development Minor
- Real Estate Finance Minor

- Religion Minor
- Russian Area Studies Minor
- Russian Minor
- Science and Management of Biomedical Therapeutics Minor
- Science Visualization Minor
- Science, Health and Aging Minor
- Screenwriting Minor
- Sculpture Minor
- Social Entrepreneurship Minor
- Sociology Minor
- Songwriting Minor
- Southeast Asia and its People Minor
- Spanish Minor
- Spatial Studies Minor
- Sports Media Industries Minor
- Sports Media Studies Minor
- Statistics Minor
- Substance Abuse Prevention Minor
- Teaching English to Speakers of Other Languages (TESOL) Minor
- Technology Commercialization Minor
- The Dynamics of Early Childhood Minor
- Theatre Minor
- Thematic Approaches to Humanities and Society Minor
- Themed Entertainment Minor
- Theories of Art Minor
- Two-Dimensional Studies Minor
- Urban Sustainable Planning Minor
- User Experience Minor
- Video Game Design and Management Minor
- Video Game Programming Minor
- Visual Culture Minor
- Web Technologies and Applications Minor

Interdisciplinary Minors

- Narrative Structure Interdisciplinary Minor
- Resistance to Genocide Interdisciplinary Minor

Joint Degree

- Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China

Diploma

- Artist Diploma Program

Master of Business Administration

- Executive MBA Program
- Full-time MBA Program
- Global Executive MBA Program
- International MBA Program
- MBA Program for Professionals and Managers
- Online MBA Program

MBA Dual Degree Programs

- Juris Doctor/Master of Business Administration (JD/MBA)
- Master of Business Administration/Doctor of Education (MBA/EdD)
- Master of Business Administration/Doctor of Medicine (MBA/MD)
- Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)
- Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)
- Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)
- Master of Business Administration/Master of Planning (MBA/MPl)
- Master of Business Administration/Master of Real Estate Development (MBA/MRED)
- Master of Business Administration/Master of Science in Gerontology (MBA/MS)
- Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)
- Master of Business Administration/Master of Social Work (MBA/MSW)

Master's Degree

- Academic Medicine (MACM)
- Accounting (Data and Analytics) (MAcc)
- Accounting (MAcc)
- Advanced Architectural Studies (MAAS)
- Advanced Orofacial Pain and Oral Medicine (MS)
- Advanced Placement Gerontology (MS)
- Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics) (MS)
- Aerospace and Mechanical Engineering (Dynamics and Control) (MS)
- Aerospace Engineering (MS)
- Aerospace Engineering/Engineering Management (MS)
- Aging Services Management (MASM)
- Alternative Certification Master of Arts in Teaching, Multiple Subject
- Alternative Certification Master of Arts in Teaching, Single Subject
- Analytics (MS)
- Animation and Digital Arts (MFA)
- Anthropology (MA)
- Applied Behavior Analysis (MS)
- Applied Biostatistics/Epidemiology (MS)
- Applied Mathematics (MA)
- Applied Mathematics (MS)
- Applied Psychology (MS)
- Applied Theatre Arts (MA)
- Architecture (MArch)
- Art History (MA)
- Arts Leadership (MS)
- Astronautical Engineering (MS)
- Biochemistry and Molecular Medicine (MS)
- Biokinesiology (MS)
- Biology (MS)
- Biomedical Engineering (Medical Imaging and Imaging Informatics) (MS)
- Biomedical Engineering (MS)
- Biostatistics (MS)
- Building Science (MBS)
- Business Administration (MS)
- Business Analytics (MS)
- Business for Veterans (MBV)
- Business Research (MS)
- Business Taxation (MBT)
- Business Taxation for Working Professionals (MBT)
- Cell and Neurobiology (MS)
- Chemical Engineering (MS)
- Choral Music (MM)
- Cinema and Media Studies (MA)
- Cinematic Arts (Media Arts, Games and Health) (MA)
- Cinematic Arts, Film and Television Production (MFA)
- Civil Engineering (MS)
- Civil Engineering (Transportation Systems) (MS)
- Civil Engineering (Water and Waste Management) (MS)
- Classics (MA)
- Clinical, Biomedical and Translational Investigations (MS)
- Communication (MA)
- Communication Informatics (MCI)
- Communication Management (MCG)
- Community Music (MM)
- Comparative Studies in Literature and Culture (Comparative Literature) (MA)
- Comparative Studies in Literature and Culture (Comparative Media and Culture) (MA)
- Comparative Studies in Literature and Culture (French and Francophone Studies) (MA)

- Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (MA)
- Composition (MM)
- Computational Molecular Biology (MS)
- Computer Engineering (MS)
- Computer Science (Computer Networks) (MS)
- Computer Science (Computer Security) (MS)
- Computer Science (Data Science) (MS)
- Computer Science (Game Development) (MS)
- Computer Science (High Performance Computing and Simulations) (MS)
- Computer Science (Intelligent Robotics) (MS)
- Computer Science (MS)
- Computer Science (Multimedia and Creative Technologies) (MS)
- Computer Science (Scientists and Engineers) (MS)
- Computer Science (Software Engineering) (MS)
- Conducting (MM)
- Construction Management (MCM)
- Contemporary Teaching Practice (MM)
- Craniofacial Biology (MS)
- Curatorial Practices and the Public Sphere (MA)
- Cyber Security Engineering (MS)
- Data Informatics (MS)
- Dental Hygiene (MS)
- Design (MFA)
- Digital Social Media (MS)
- Dispute Resolution (MDR)
- Dollinger Master in Real Estate Development (MRED)
- Early Music Performance Emphasis (MA)
- East Asian Area Studies (MA)
- East Asian Languages and Cultures (MA)
- Economic Developmental Programming (MA)
- Economics (MA)
- Educational Counseling (MEd)
- Electrical Engineering (Computer Networks) (MS)
- Electrical Engineering (Electric Power) (MS)
- Electrical Engineering (MS)
- Electrical Engineering (Multimedia and Creative Technologies) (MS)
- Electrical Engineering (VLSI Design) (MS)
- Electrical Engineering (Wireless Health Technology) (MS)
- Electrical Engineering (Wireless Networks) (MS)
- Engineering Management (MS)
- English (MA)
- Entrepreneurship and Innovation (MS)
- Environmental Engineering (MS)
- Environmental Risk Analysis (MS)
- Environmental Studies (MA)
- Experimental and Molecular Pathology (MS)
- Finance (MS)
- Financial Engineering (MS)
- Fine Arts (MFA)
- Geographic Information Science and Technology (MS)
- Geological Sciences (MS)
- Geriatric Dentistry (MS)
- Gerontology (MA)
- Gerontology (MS)
- Global Communication (MA)
- Global Medicine (MS)
- Global Supply Chain Management (On-Campus/Residential) (MS)
- Global Supply Chain Management for Executives (MS) (Online)
- Green Technologies (MS)
- Health Administration (Executive MHA)
- Health Administration (MHA)
- Healthcare Decision Analysis (MS)
- Heritage Conservation (MHC)
- History (MA)
- Human Resource Management (MS)
- Industrial and Systems Engineering (MS)
- Integrated Design, Business and Technology (MS)
- Interactive Media (Games and Health) (MFA)
- Interactive Media (MFA)
- International Public Policy and Management (IPPM)
- International Relations (MA)
- Jazz Studies (MM)
- Journalism (MS)
- Landscape Architecture (MLArch)
- Leadership (Executive ML)
- Learning Design and Technology (MEd)
- Liberal Studies (MLS)
- Library and Information Science (MMLIS)
- Linguistics (MA)
- Literary Editing and Publishing (MA)
- Long Term Care Administration (MLTCA)
- Management of Drug Development (MS)
- Management Studies (MMS)
- Manufacturing Engineering (MS)
- Marine and Environmental Biology (MS)
- Marketing (MS)
- Marriage and Family Therapy (MMFT)
- Master of Global Public Policy
- Master of Laws (LLM) in Alternative Dispute Resolution
- Master of Studies in Law (MSL) Program
- Materials Science (MS)
- Mathematical Finance (MS)
- Mathematics (MA)
- Mechanical Engineering (Energy Conversion) (MS)
- Mechanical Engineering (MS)
- Mechanical Engineering (Nuclear Power) (MS)
- Mechanical Engineering/Engineering Management (MS)
- Medical Biophysics (MS)
- Medical Device and Diagnostic Engineering (MS)
- Medical Management (MMM)
- Medical Physiology (MS)
- Medical Product Quality (MS)
- Molecular and Computational Biology (MS)
- Molecular Epidemiology (MS)
- Molecular Genetics and Biochemistry (MS)
- Molecular Microbiology and Immunology (MS)
- Molecular Pharmacology and Toxicology (MS)
- Multiple Subject (MAT)
- Music History and Literature Emphasis (MA)
- Music Industry (MS)
- Neuroimaging and Informatics (MS)
- Neuroscience (MS)
- Nonprofit Leadership and Management (MNLM)
- Nurse Anesthesia (MS)
- Nursing (MSN)
- Nutrition, Healthspan and Longevity (MS)
- Occupational Therapy (MA)
- Ocean Sciences (MS)
- Online MA in Occupational Science and Occupational Therapy
- Operations Research Engineering (MS)
- Pain Medicine (MPM)
- Performance (Classical Guitar) (MM)
- Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (MM)
- Performance (Keyboard Collaborative Arts) (MM)
- Performance (Organ) (MM)
- Performance (Piano) (MM)
- Performance (Studio Guitar) (MM)
- Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (MM)
- Performance (Vocal Arts) (MM)
- Petroleum Engineering (Geoscience Technologies) (MS)
- Petroleum Engineering (MS)
- Petroleum Engineering (Smart Oilfield Technologies) (MS)
- Pharmaceutical Economics and Policy (MS)

- Pharmaceutical Sciences (MS)
- Philosophy (MA)
- Philosophy and Law (MA)
- Physician Assistant Practice (MPAP)
- Physics (MA)
- Physics (MS)
- Planning (MPl)
- Planning and Development Studies (MPDS)
- Political Science and International Relations (MA)
- Postsecondary Administration and Student Affairs (MEd)
- Producing for Film, Television, and New Media (MFA)
- Product Development Engineering (MS)
- Professional Writing (MPW)
- Psychology (MA)
- Public Administration (MPA)
- Public Diplomacy (MPD)
- Public Diplomacy (Practitioner and Mid-Career Professional) (MPD)
- Public Health (MPH)
- Public Policy (MPP)
- Quantitative Economics (MS)
- Regulatory Science (MS)
- Sacred Music (MM)
- School Counseling (MEd)
- School Leadership (MEd)
- Screen Scoring (MM)
- Single Subject (MAT)
- Single Subject (Music Education) (MAT)
- Social Entrepreneurship (MS)
- Social Work (MSW)
- Spatial Informatics (MS)
- Specialized Journalism (MA)
- Specialized Journalism (The Arts) (MA)
- Statistics (MS)
- Stem Cell Biology and Regenerative Medicine (MS)
- Strategic Public Relations (MA)
- Systems Architecting and Engineering (MS)
- Teacher Leadership (MEd)
- Teaching and Learning (MM)
- Teaching English to Speakers of Other Languages (World Masters in Language Teaching) (MAT)
- Teaching, Teaching English to Speakers of Other Languages (MAT)
- Theatre (MFA)
- Translational Biomedical Informatics (MS)
- Translational Biotechnology (MS)
- Visual Anthropology (MVA)
- Writing for Screen and Television (MFA)

University Certificate

- Academic Medicine Certificate
- Advanced Endodontics Certificate
- Advanced Operative and Adhesive Dentistry Certificate
- Advanced Operative and Adhesive Dentistry Certificate/MS, Craniofacial Biology
- Advanced Oral and Maxillofacial Surgery
- Advanced Oral Medicine Certificate
- Advanced Orofacial Pain Certificate
- Advanced Orthodontics Certificate
- Advanced Pediatric Dentistry Certificate
- Advanced Periodontology Certificate
- Advanced Prosthodontics Certificate
- Alternative Dispute Resolution Certificate
- Arts Leadership Graduate Certificate
- Astronautical Engineering Certificate
- Big Data Fundamentals Certificate
- Business Law Certificate (Online)
- Business of Entertainment Graduate Certificate
- Certificate in U.S. Legal Studies
- Cinematic Arts Archiving and Preservation Graduate Certificate
- City/County Management Certificate
- Clinical Research Design and Management Certificate
- Clinical, Biomedical and Translational Investigations Certificate
- Craniofacial Biology Certificate
- Digital Media and Culture Graduate Certificate
- East Asian Area Studies Graduate Certificate
- Entertainment Law (Residential) Certificate
- Food Safety Certificate
- Gender Studies Graduate Certificate
- General Practice Residency
- Geographic Information Science and Technology Graduate Certificate
- Geospatial Intelligence Graduate Certificate
- Geospatial Leadership Graduate Certificate
- Gerontology Graduate Level Certificate
- Gerontology Online Graduate Level Certificate
- Global Medicine Graduate Certificate
- Health Communication Management Graduate Certificate
- Health Management and Policy Programs Certificate
- Health Systems Operations Graduate Certificate
- Health, Technology and Engineering Graduate Certificate
- Health, Technology and Engineering Graduate Certificate
- Healthcare Decision Analysis Certificate
- Homeland Security and Public Policy Certificate
- Integrated MD Degree/Oral and Maxillofacial Surgery Certificate Program
- International and Intercultural Communication Management Graduate Certificate
- International Policy and Planning Certificate
- Journalism Certificate
- Lifestyle Redesign® Graduate Certificate (online)
- Marketing Communication Management Graduate Certificate
- Media and Entertainment Management Graduate Certificate
- Medical Product Quality Graduate Certificate
- Network Centric Systems Graduate Certificate
- New Communication Technologies Graduate Certificate
- Nonprofit Management and Policy Certificate
- Patient and Product Safety Certificate
- Performance Graduate Certificate
- Preclinical Drug Development Certificate
- Public Interest Certificate
- Public Management Certificate
- Public Policy Advocacy Graduate Certificate
- Real Estate Development Certificate
- Regulatory and Clinical Affairs Certificate
- Smart Oilfield Technologies Certificate
- Social Justice Certificate
- Software Architecture Graduate Certificate
- Spatial Analytics Graduate Certificate
- Stem Cell Biology and Regenerative Medicine Certificate
- Strategic Corporate and Organizational Communication Management Graduate Certificate
- Sustainable Policy and Planning Certificate
- Systems Architecting and Engineering Graduate Certificate
- Technology and Entrepreneurship Law Certificate
- Transportation Systems Certificate
- Transportation Systems Graduate Certificate
- Visual Anthropology Certificate
- Writing for Screen and Television Certificate

Graduate Certificate

- Architecture Certificate
- Building Science Certificate
- Business Analytics Graduate Certificate
- Business Fundamentals Graduate Certificate
- Business Law Certificate (Residential)
- Compliance Certificate
- Entertainment Law and Industry Certificate
- Financial Analysis and Valuation Graduate Certificate
- Geriatric Dentistry Graduate Certificate

- Gifted Education Certificate
- Heritage Conservation Certificate
- History of Collecting and Display Certificate
- Landscape Architecture Certificate
- Library and Information Management Graduate Certificate
- Management Studies Graduate Certificate
- Marketing Graduate Certificate
- Optimization and Supply Chain Management Graduate Certificate
- Oral Pathology and Radiology Certificate
- Orofacial Pain Certificate
- Pain Medicine Certificate
- Political Management Certificate
- Public Financial Management Certificate
- Public Policy Certificate
- Religious Studies Certificate
- School Counseling Certificate
- Social Innovation Certificate
- Special Education Certificate
- STEM Education Certificate
- Strategy and Management Consulting Graduate Certificate
- Sustainability and Business Graduate Certificate
- Sustainable Design Graduate Certificate
- Technology Commercialization Graduate Certificate
- Transnational Law and Business Certificate
- Unconventional Resources in Petroleum Engineering
- Visual Studies Graduate Certificate

Dual Degree

- Advanced Periodontology Certificate/Master of Science, Craniofacial Biology
- Doctor of Education/Master of Business Administration (EdD/MBA)
- Doctor of Medicine/Master of Business Administration (MD/MBA)
- Doctor of Medicine/Master of Public Health (MD/MPH)
- Doctor of Medicine/Master of Science, Global Medicine
- Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD)
- Doctor of Pharmacy/Juris Doctor (PharmD/JD)
- Doctor of Pharmacy/Master of Business Administration (PharmD/MBA)
- Doctor of Pharmacy/Master of Public Health (PharmD/MPH)
- Doctor of Pharmacy/Master of Science, Gerontology
- Doctor of Pharmacy/Master of Science, Global Medicine
- Doctor of Pharmacy/Master of Science, Regulatory Science
- Doctor of Philosophy in Political Science and International Relations/Juris Doctor (JD/PhD)
- Doctor of Philosophy in Psychology (Clinical) and Master of Public Health (Health Promotion) (PhD/MPH)
- Doctor of Physical Therapy/Master of Public Health (DPT/MPH)
- Electrical Engineering/Engineering Management (MS)
- Healthcare Decision Analysis (PharmD/MS)
- Juris Doctor/Doctor of Pharmacy (JD/PharmD)
- Juris Doctor/Doctor of Philosophy in Political Science and International Relations (JD/PhD)
- Juris Doctor/Master of Arts in Economics (JD/MA)
- Juris Doctor/Master of Arts, International Relations (JD/MA)
- Juris Doctor/Master of Arts, Philosophy (JD/MA)
- Juris Doctor/Master of Arts, Political Science (JD/MA)
- Juris Doctor/Master of Business Taxation (JD/MBT)
- Juris Doctor/Master of Communication Management (JD/MCG)
- Juris Doctor/Master of Public Administration (JD/MPA)
- Juris Doctor/Master of Public Policy (JD/MPP)
- Juris Doctor/Master of Real Estate Development (JD/MRED)
- Juris Doctor/Master of Science in Gerontology (JD/MS)
- Juris Doctor/Master of Social Work (JD/MSW)
- Master of Advanced Architectural Studies/Master of Planning (MAAS/MPl)
- Master of Arts, East Asian Area Studies/Master of Business Administration (MA/MBA)
- Master of Arts, Economics/Juris Doctor (MA/JD)
- Master of Arts, Economics/Master of Planning (MA/MPl)
- Master of Arts, International Relations/Juris Doctor (MA/JD)
- Master of Arts, Philosophy/Juris Doctor (MA/JD)
- Master of Communication Management/Juris Doctor (MCG/JD)
- Master of Communication Management/Master of Arts, Jewish Nonprofit Management (MCG/MA)
- Master of Health Administration/Master of Science in Gerontology (MHA/MS)
- Master of Heritage Conservation/Master of Planning (MHC/MPl)
- Master of Landscape Architecture/Master of Planning (MLArch/MPl)
- Master of Planning/Master of Arts, Curatorial Practices and the Public Sphere (MPl/MA)
- Master of Planning/Master of Arts, Economics (MPl/MA)
- Master of Planning/Master of Public Administration (MPl/MPA)
- Master of Planning/Master of Public Health (MPl/MPH)
- Master of Planning/Master of Real Estate Development (MPl/MRED)
- Master of Planning/Master of Science, Gerontology (MPl/MS)
- Master of Planning/Master of Social Work (MPl/MSW)
- Master of Public Administration with Seoul National University
- Master of Public Administration/Master of Arts, Jewish Nonprofit Management (MPA/MA)
- Master of Public Administration/Master of Science in Gerontology (MPA/MS)
- Master of Public Administration/Master of Social Work (MPA/MSW)
- Master of Public Health/Doctor of Pharmacy (MPH/PharmD)
- Master of Public Health/Master of Planning (MPH/MPl)
- Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)
- Master of Public Health/Master of Social Work (MPH/MSW)
- Master of Public Policy/Juris Doctor (MPP/JD)
- Master of Public Policy/Master of Planning (MPP/MPl)
- Master of Real Estate Development/Juris Doctor (MRED/JD)
- Master of Real Estate Development/Master of Business Administration (MRED/MBA)
- Master of Science, Gerontology/Doctor of Pharmacy (PharmD/MS)
- Master of Science, Gerontology/Juris Doctor (MS/JD)
- Master of Science, Gerontology/Master of Business Administration (MS/MBA)
- Master of Science, Gerontology/Master of Health Administration (MS/MHA)
- Master of Science, Gerontology/Master of Planning (MS/MPl)
- Master of Science, Gerontology/Master of Public Administration (MS/MPA)
- Master of Science, Gerontology/Master of Social Work (MS/MSW)
- Master of Science, Global Medicine/Doctor of Pharmacy (PharmD/MS)
- Master of Science, Industrial and Systems Engineering/Master of Business Administration (MS/MBA)
- Master of Science, Petroleum Engineering/Master of Science, Engineering Management (MS/MS))
- Master of Social Work/Doctor of Philosophy (MSW/PhD)
- Master of Social Work/Juris Doctor, Law (MSW/JD)
- Master of Social Work/Master of Arts, Jewish Nonprofit Management (MSW/MA)
- Master of Social Work/Master of Business Administration (MSW/MBA)
- Master of Social Work/Master of Planning (MSW/MPl)
- Master of Social Work/Master of Public Administration (MSW/MPA)

- Master of Social Work/Master of Public Health (MSW/MPH)
- Master of Social Work/Master of Science, Gerontology (MSW/MS)
- Medicine (MD/PhD)

Doctoral Degree

- American Studies and Ethnicity (PhD)
- Anthropology (PhD)
- Applied Mathematics (PhD)
- Architecture (PhD)
- Art History (PhD)
- Astronautical Engineering (PhD)
- Biokinesiology (PhD)
- Biology of Aging (PhD)
- Biomedical Engineering (PhD)
- Biostatistics (PhD)
- Business Administration (PhD)
- Cancer Biology and Genomics (PhD)
- Chemical Engineering (PhD)
- Chemistry (Chemical Physics) (PhD)
- Chemistry (PhD)
- Choral Music (DMA)
- Cinema and Media Studies (PhD)
- Cinematic Arts (Critical Studies) (PhD)
- Cinematic Arts (Media Arts and Practice) (PhD)
- Civil Engineering (PhD)
- Classics (PhD)
- Clinical and Experimental Therapeutics (PhD)
- Communication (PhD)
- Comparative Studies in Literature and Culture (Comparative Literature) (PhD)
- Comparative Studies in Literature and Culture (Comparative Media and Culture) (PhD)
- Comparative Studies in Literature and Culture (French and Francophone Studies) (PhD)
- Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (PhD)
- Composition (DMA)
- Computational Biology and Bioinformatics (PhD)
- Computer Engineering (PhD)
- Computer Science (PhD)
- Craniofacial Biology (PhD)
- Dental Surgery (DDS)
- Development, Stem Cells, and Regenerative Medicine (PhD)
- Doctor of Education (EdD)
- Doctor of Nurse Anesthesia Practice
- East Asian Languages and Cultures (PhD)
- Economics (PhD)
- Electrical Engineering (PhD)
- Engineering (Environmental Engineering) (PhD)
- English and American Literature (PhD)
- Epidemiology (PhD)
- Geological Sciences (PhD)
- Gerontology (PhD)
- Global Executive (EdD)
- Health Economics (PhD)
- History (PhD)
- Industrial and Systems Engineering (PhD)
- Integrative and Evolutionary Biology (PhD)
- Jazz Studies (DMA)
- Law (JD)
- Linguistics (PhD)
- Linguistics (Specialization in East Asian Linguistics) (PhD)
- Linguistics (Specialization in Slavic Linguistics) (PhD)
- Literature and Creative Writing (PhD)
- Marine Biology and Biological Oceanography (PhD)
- Materials Science (PhD)
- Mathematics (PhD)
- Medical Biology (PhD)
- Medical Biophysics (PhD)
- Medicine (MD)
- Molecular Biology (PhD)
- Molecular Pharmacology and Toxicology (PhD)
- Music, Historical Musicology Emphasis, (PhD)
- Neuroscience (PhD)
- Occupational Science (PhD)
- Occupational Therapy (OTD)
- Ocean Sciences (PhD)
- Organizational Change and Leadership (EdD)
- Performance - Organ, Percussion, Strings, Vocal Arts, or Winds (DMA)
- Performance — Classical Guitar (DMA)
- Performance — Early Music (DMA)
- Performance — Keyboard Collaborative Arts (DMA)
- Performance — Piano (DMA)
- Performance — Studio Guitar (DMA)
- Petroleum Engineering (PhD)
- Pharmaceutical Economics and Policy (PhD)
- Pharmaceutical Sciences (PhD)
- Pharmacy (PharmD)
- Philosophy (PhD)
- Physics (PhD)
- Policy, Planning, and Development (DPPD)
- Political Science and International Relations (PhD)
- Population, Health and Place (PhD)
- Preventive Medicine (Health Behavior Research) (PhD)
- Professional Entry-Level Doctor of Physical Therapy Program (DPT)
- Psychology (PhD)
- Public Policy and Management (PhD)
- Regulatory Science (DRSc)
- Religion (PhD)
- Sacred Music (DMA)
- Slavic Languages and Literatures (PhD)
- Social Work (DSW)
- Social Work (PhD)
- Sociology (PhD)
- Teaching and Learning (DMA)
- Urban Education Policy (PhD)
- Urban Planning and Development (PhD)

Other Programs

- General Education

The Schools and Academic Units

- Office of the Provost
- USC Iovine and Young Academy
- USC Leventhal School of Accounting
- USC School of Architecture
- USC Roski School of Art and Design
- USC Marshall School of Business
- USC School of Cinematic Arts
- USC Bovard College
- USC Dornsife College of Letters, Arts and Sciences
- USC Annenberg School for Communication and Journalism
- USC Kaufman School of Dance
- Herman Ostrow School of Dentistry of USC
- USC School of Dramatic Arts
- USC Rossier School of Education
- USC Viterbi School of Engineering
- USC Davis School of Gerontology
- USC Independent Health Professions at the Herman Ostrow School of Dentistry
- USC Gould School of Law
- Keck School of Medicine of USC
- USC Thornton School of Music
- USC School of Pharmacy
- USC Price School of Public Policy
- USC Suzanne Dworak-Peck School of Social Work

Office of the Provost

International Student Programs

- American Language Institute
- USC International Academy

English Language Requirements

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

Admitted international students whose first language is not English are normally required to take the International Student English Examination (ISE Exam) at the beginning of the first term of study. The examination results determine whether students must take additional English for academic purposes course work.

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

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

American Language Institute

Any student not demonstrating adequate English proficiency will be required to enroll in courses at the American Language Institute (ALI) at USC. The ALI provides courses designed to improve an international student's oral and written communication skills in English. The extent to which a student may be required to take courses at the ALI is determined by his or her performance on the International Student English Examination (ISE Exam) or, in the case of potential teaching assistants, the ITA Exam.

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

Teaching Assistantships

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

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

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

USC International Academy

The USC International Academy offers three avenues of study to prepare international students for admission to USC and other U.S. universities through intensive English instruction, test preparation, and maximum academic support. Qualified students may also apply for admission with continuing registration requirements to select USC master's programs through the academy's Pre-Master's Program. For further information about admissions, courses and program dates, visit the USC International Academy's Website at international.usc.edu or email info-international@usc.edu.

American Language Institute

PSD 106
(213) 740-0079
FAX: (213) 740-8549
Email: aliusc@usc.edu
usc.edu/ali
Director: James Valentine, PhD
Assistant Professors (Teaching): Lucienne Aarsen, MA; Reka Clausen, MA; Zsuzsu Londe, PhD; James Polk, PhD
Master Lecturers: Barry Griner, MA; Eric H. Roth, MA; Anastassia Tzoytzoyrakos, MA
Senior Lecturers: Kimberley Briesch-Sumner, MA; Victoria Byczkiewicz, MA; Nina Kang, EdD, MLS; Juli Ann Kirkpatrick, MA; Mary Ann Murphy, MA
Lecturers: Tracy Levin, PhD; Olivia Martinez, MA

Purpose of the Program

The American Language Institute provides instruction in English as a Second Language for international students who need or desire to improve their English language skills in order to participate successfully in their degree programs. Before beginning studies with ALI, all students must be admitted to the university in a degree program. The institute also provides student advisement.

Placement in the Program

Most international students entering USC must take the International Student English Examination (ISE Exam). The examination is offered immediately prior to the beginning of classes each semester. The purpose of this examination is to evaluate the level of a student's proficiency in English and to determine how well prepared the student is to undertake his or her degree studies in English. On the basis of the scores achieved, students are placed at the appropriate levels of instruction or are exempted from having to receive English language instruction.

Elective Credit

Undergraduates may earn up to 12 units of credit toward their degree for ALI courses numbered 100 or above. Some departmental restrictions may apply.

Limitation on Enrollment

International students placed into ALI classes must commence their ALI course work in their first semester at USC and must register in ALI courses each fall and spring semester until their ALI requirements are satisfied. Students must successfully complete their ALI required courses within four semesters in order to remain academically eligible to pursue a degree program. Students who receive a final grade of "No Credit" more than once in any of their ALI required classes will not be allowed to continue to complete their ALI requirement.

Students not meeting the ALI requirement will not be allowed to continue at USC. The Committee on Academic Policies and Procedures will consider appeals if submitted within 10 working days of being dropped from ALI. Contact the Academic Review Department at acadrev@usc.edu for details.

Neuroscience – Graduate Program

ngp.usc.edu
Director: Pat Levitt, PhD

Application deadline: December 1

Breadth of interests and training are major features of the graduate program in neuroscience. Wide and varied skills in many research areas characterize the faculty of the program. Close contact between faculty and students is considered of major importance in this highly interdisciplinary field.

Training is given in several areas of specialization: behavioral and systems neuroscience, cellular and molecular neurobiology, cognitive neuroscience, computational neuroscience, neuroengineering, brain diseases, and neuroscience of aging and development.

Applicants should normally have defined an interest in one or two specializations. A final choice of the specialization will be made during the first year through laboratory rotations.

Admission Requirements

A baccalaureate degree in a field relevant to the student's graduate goals is required.

Appropriate fields would include neuroscience, biology, chemistry, computer science, linguistics, psychology and many areas of engineering. Undergraduate study should provide evidence of substantive research experience, and proficiency in mathematics, including statistics. Students planning to enter the specialization in computational and mathematical neuroscience should have taken course work in calculus and, where possible, linear algebra and computer programming. Applicants who are accepted with minor deficiencies are expected to correct these during the first year.

Master's Degree

Neuroscience (MS)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

The MS degree program in Neuroscience is a terminal degree for students admitted into the Neuroscience PhD program who cannot complete the PhD program for personal or medical reasons. Enrollment of graduate students as master's degree candidates is not encouraged and is reserved for special circumstances that must be approved by the Executive Committee of the Neuroscience Graduate Program. The master's curriculum includes all course work required of PhD students for a minimum of 24 units and successful completion of both the written and oral portions of the qualifying examination. Students may opt for a thesis or non-thesis master's degree. The thesis master's degree requires presentation of a written thesis based on original research to a Neuroscience thesis committee and submission of the thesis to the Graduate School for publication. The nonthesis master's degree requires a formal research paper that is approved by three members of the Neuroscience Graduate Program faculty. The qualifying examination will serve as the comprehensive master's examination for non-thesis master's degrees. Students must also satisfy residency and other requirements of the Graduate School.

Doctoral Degree

Neuroscience (PhD)

Coordinator: Pat Levitt, PhD
Application deadline: December 15

Breadth of interests and training are major features of the graduate program in neuroscience. Wide and varied skills in many research areas characterize the faculty of the program. Close contact between faculty and students is considered of major importance in this highly interdisciplinary field.

Training is given in several areas of specialization: behavioral and systems neuroscience, cellular and molecular neurobiology, cognitive neuroscience, computational neuroscience, neuroengineering and neuroscience of aging and development.

Applicants should normally have defined an interest in one or two specializations. A final choice of the specialization will be made during the first year.

Admission Requirements

A baccalaureate degree in a field relevant to the student's graduate goals is required.

Appropriate fields would include neuroscience, biology,

chemistry, computer science, linguistics, psychology and many areas of engineering. Undergraduate study should provide evidence of proficiency in mathematics, including statistics. Students planning to enter the specialization in computational and mathematical neuroscience should have taken course work in calculus and, where possible, linear algebra and computer programming. Applicants who are accepted with minor deficiencies are expected to correct these during the first year.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Advisory Committee

The student will be advised during the first year by the Graduate Advisement Committee. As soon as the student has selected a specialization, an Advisory Committee of appropriate faculty will be appointed. This committee will be chaired by the thesis adviser, when chosen. The purpose of the Advisory Committee is to help the student in the selection of courses and research; to monitor the student's progress; to insure preparation for the qualifying examination; and to administer that examination.

Course Requirements

A minimum of 60 units is required, consisting of formal courses, seminars and research credits. At least 24 of the 60 units are to be formal graduate course work (lecture or seminar courses). During the first year the student is expected to complete the core courses in neuroscience (NSCI 524 and NSCI 525), one key course, INTD 500 Responsible Conduct of Research, and two semesters of NSCI 539. Other courses in the area of specialization may also be taken in the first year and will be taken in subsequent years.

Core Courses: NSCI 524 and NSCI 525 Advanced Overview of Neuroscience (8 units), will be taken by all students in the fall and spring of their first year to provide an integrated multilevel view of neuroscience. To take the core course, students should have mastered the material currently taught in BISC 421. (Students will be expected to review a detailed syllabus and reading list for BISC 421 to identify their level of knowledge prior to their arrival at USC and will receive advice at Orientation on whether to take BISC 421 or read recommended material to remedy their deficiencies.)

Key Courses: All students will be required to complement their thesis-directed studies with a "breadth with depth" requirement by taking two key courses, one each from two different tracks listed below. Each key course will be for 3 or 4 units. (At least one of these courses will serve to advance thesis-related study as well.)

CELLULAR, MOLECULAR AND DEVELOPMENTAL NEUROSCIENCE TRACK
COGNITIVE NEUROSCIENCE TRACK
COMPUTATIONAL NEUROSCIENCE AND NEUROENGINEERING TRACK
SYSTEMS AND BEHAVIORAL NEUROSCIENCE TRACK

All students are required to take INTD 500 Responsible Conduct of Research (1 unit), as well as a 4-unit approved statistics course (PM 510, PSYC 501 or equivalent).

Students may request permission to have non-NSCI advanced courses satisfy the track requirements.

It is required that all neuroscience PhD students demonstrate competence in statistics in fulfillment of their PhD requirements.

Qualifying Examination

The qualifying examination concentrates on the student's ability to demonstrate a grasp of the major area of interest chosen and its relation to other areas of training offered in the program. The examination is partly written and partly oral and is designed to test the student's ability to meet the demands of the profession.

Dissertation

An acceptable dissertation based on completion of an original investigation is required. The candidate must defend an approved draft of the dissertation in an oral examination.

USC Iovine and Young Academy

With a visionary gift from entrepreneurs Jimmy Iovine and Andre Young, the University of Southern California established an academy to nurture unbridled creativity at the intersection of four essential areas: art and design; engineering and computer science; business and venture management; and communication.

Conceived as a collaborative environment that brings multidisciplinary students, instructors and professional mentors together, the USC Jimmy Iovine and Andre Young Academy for Arts, Technology and the Business of Innovation has become a transformational presence on one of the nation's most dynamic university campuses.

The focus of the program's course of study is on creativity and critical thinking, as empowered by the languages and methodologies of the arts, technology and business. It draws on the talents and influence of faculty and leaders from multiple disciplines and industries to empower the next generation of disruptors and professional thought leaders who will ply their skills in a global arena. USC's strategic location in Los Angeles, widely viewed as the creative and media capital of the world, provides an unrivaled opportunity for students to learn in a living laboratory in which media and the visual arts are deeply intertwined. In addition, the university's proximity to the city's burgeoning "Silicon Beach" as well as Northern California's Silicon Valley provides access to the world's premiere technology companies from which students can learn and draw inspiration.

The Academy enrolled its inaugural class of students in Fall 2014, and will graduate its first class of seniors in May 2018. Students who complete a course of study in the Academy will graduate with a Bachelor of Science in Arts, Technology and the Business of Innovation, and possess an unprecedented combination of knowledge and skill. Crafted via a unique and groundbreaking integration of its core disciplines, the degree facilitates each individual's ability to engage differently and successfully with a dramatically changing, tech-driven global marketplace, and to address some of the world's most intractable problems.

Academy majors fine-tune their ideas and complete working models, systems or prototypes in the Garage, the Academy's collaborative creation space. Located on the top floor of USC's Steven and Kathryn Sample Hall, adjacent to the Ronald Tutor Campus Center, the Garage contains state-of-the art learning and networking spaces, maker and fabrication studios with 3D scanning and printing capabilities, high-powered computer work stations, and spaces for individual and group work or even down time. Students working in the Garage are grouped into self-directed teams and guided by faculty and industry mentors that may include artists, designers, technology visionaries, business and public policy leaders, philanthropists, global entrepreneurs and more.

Hazel and Stanley Hall 101
(213) 821-6140
FAX: (213) 821-1440
Email: iovine-young@usc.edu
iovine-young.usc.edu

Administration

Erica Muhl, DMA, *Dean and Founding Executive Director*

Academic Affairs
Brian Shepard, DMA, *Associate Dean for Academic Affairs*

Admission and Student Services
Jessica Vernon, MEd, *Assistant Dean for Admission and Student Affairs*

Technology and Engineering
Patrick Dent, MS, *Chair*

Business and Entrepreneurship
Steve Barth, MBA, *Chair*

Communication
Douglas Thomas, PhD, *Interim Chair*

Art and Design
Haven Lin Kirk, MFA, *Interim Chair*

Faculty

Professor: Erica Muhl, DMA, Art and Design and Composition *(USC Roski School of Art and Design, USC Thornton School of Music)*
Associate Professor: Douglas Thomas, PhD, Communication *(USC Annenberg School for Communication and Journalism)*
Professors of Practice: Haven Lin Kirk, MFA, Design *(USC Roski School of Art and Design)*; Brian Shepard, DMA, Audio Design
Associate Professors of Practice: Michael Crowley, PhD, Engineering *(USC Viterbi School of Engineering)*; Patrick Dent, MS, Technology and Engineering
Assistant Professors of Practice: Steve Barth, MBA, Business and Entrepreneurship; Steve Child, MFA, Design *(USC Roski School of Art and Design)*
Adjunct Professor: Zal Phiroz, MBA, Data Science and Operations *(USC Marshall School of Business)*
Lecturers: Rita Blaik, PhD, Technology and Engineering, Materials Science; Jason Ellenburg, MFA, Design; Jaime Levy, MPS, User Interface/User Experience; Robert Parke, MS, Technology and Engineering *(USC Viterbi School of Engineering)*; Aaron Siegel, MFA, Design, User Interface/User Experience
Visiting Professors: Samir Chatterjee, PhD, *Design and Innovation (Claremont Graduate School)*; Dan Ryan, PhD, *Art, Technology and the Business of Innovation (Mills College)*

General Information

Degree Offered

The Jimmy Iovine and Andre Young Academy offers a Bachelor of Science in Arts, Technology and the Business of Innovation.

Minimum Grade Requirement

Iovine and Young Academy majors must receive a minimum final grade of B- (2.7) in all required courses offered by the Iovine and Young Academy. Failure to meet this requirement will result in the following:

For final grades of C+, C or C- in a required Academy course, the student must enroll in an approved 1-unit Academy Independent Study designed to ensure the student has obtained sufficient skill and knowledge in the subject area. The student must enroll in the Independent Study in the semester immediately following the term in which the insufficient grade was received (excluding summer session), and must receive a minimum final grade of B- in the Independent Study. Failure to receive a minimum final grade of B- in the Independent Study will result in a determination of unsatisfactory academic progress, and ineligibility to continue in the major. Substitutions for the Independent Study may occur at the discretion of the director, based on an evaluation of the academic needs of the student, and/or course or instructor availability.

For final grades of D+, D, D-, F or NC in a required Academy course, the student must repeat the course in order to ensure sufficient skill and knowledge in the subject area. The student must repeat the course in the semester immediately following the term in which the insufficient grade was received (or at the earliest opportunity, i.e., in the next semester it is offered), and must receive a minimum final grade of B- in the repeated course. Failure to receive a minimum final grade of B- in the repeated course will result in a determination of unsatisfactory academic progress, and ineligibility to continue in the major. Students may repeat a maximum of two required Academy courses. Receipt of a D+, D, D-, F or NC in a third required Academy course will result in ineligibility to continue in the major.

Note: If a student's grade results in the need to seek remediation as described above, students are advised that, due to prerequisites and other program elements, such remediation may affect the student's ability to register for subsequent course work and could result in a delay of the anticipated graduation date.

Responsive Learning Modules

Developed to complement Academy course work, RLM sessions

augment students' classroom education and meet their individualized needs by providing them with critical learning opportunities, but without the full infrastructure of a semester-long course. As a result, RLMs are diverse enough to respond to a wide variety of student interests, and flexible enough to deliver each subject in the most useful and relevant way. Participation in RLM sessions is expected for all Academy students. Most sessions take place on Fridays from 10 a.m.-12 p.m. Additional alternate times may be scheduled on a case-by-case basis.

Undergraduate Admission

Admission to the Iovine and Young Academy is granted through the USC Office of Admission. The incoming freshmen and external transfer application deadline for Fall 2018 is December 1, 2017. Specific requirements and additional information are available at http://iovine-young.usc.edu.

Entrance Requirements for Current USC Students

The Academy will consider entrance into the major for current USC students. While completed USC course work will be taken into account, there is no guarantee it will be credited toward Academy requirements. For example, a sophomore may not be able to transfer to the Academy with sophomore standing. Credit and standing will be considered on a case-by-case basis. Admission to the Academy is limited to fall semester only. The application deadline for Fall 2018 is January 1, 2018. Specific requirements and additional information are available at *iovine-young.usc.edu.*

Advisement

Academic advisement is provided to majors through the Student Affairs Office in HSH 101. The staff adviser provides information regarding academic life at the university, program requirements, policies and procedures to assist students with their degree completion. Majors are required to meet with the adviser before registering each semester. Appointments may be scheduled at most times during the academic year.

Waiver of Course Requirements

Under special circumstances course waivers and substitutions may be granted. All course waivers and course substitutions must be approved by the executive director of the Academy or her designee.

Tuition and Fees

Undergraduate programs are assessed the university-wide tuition rate. In addition, some Academy classes are charged technology fees, as noted in the *Schedule of Classes*. The university reserves the right to assess new fees or charges. The rates listed are subject to change without notice by action of the Board of Trustees.

Bachelor's Degree

Arts, Technology and the Business of Innovation (BS)

This unique Bachelor of Science degree offers a highly select group of students an integrated, four-year course of study that provides in-depth learning in three essential areas: art and design; engineering and computer science; and business and venture management. Through the Academy's Core, students learn applied skills and gain understanding of the theories, concepts, and "language" common to each area. Academy electives serve to customize each student's experience to his or her individual strengths or desired focus. The fourth-year "Garage Experience" moves student teams from concept to creation, vision to prototype. Throughout the program students are taught to think seamlessly across multiple disciplines, and to apply a vast array of relevant technologies and techniques toward innovative problem solving.

The degree requires a total of 128 units, including 76 units in the Core and 12 units in major electives. Students must select elective courses from the Academy's current offerings in Visual Design, Technology, Venture Management, Audio Design and Communication, or from future electives as they become available. In consultation with their academic adviser, students may petition to create unique degree paths by selecting courses from across all of the Academy's partner offerings, or from academic units or disciplines outside of the Academy (subject to approval by the dean). In addition to required courses, students may elect to register for other Academy experiences such as summer study abroad and internships.

Required Core Courses

Lower Division (48 units)

- ACAD 174 Innovators Forum Units: 2 (needs to be taken twice)
- ACAD 176 Rapid Visualization Units: 4
- ACAD 177 Digital Toolbox for Design Units: 2
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 181g Disruptive Innovation Units: 4
- ACAD 182 Case Studies in Innovation Units: 4
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 207 Multimedia for Designers and Entrepreneurs I Units: 4
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 275 Dev I Units: 4
- ACAD 276 Dev II Units: 4
- ACAD 277 Dev III Units: 4

  or
- ACAD 245 Product Design I Units: 4
- ACAD 280 Designing for Experiences Units: 4

Upper Division (28 units)

- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- ACAD 323g Design Theory Units: 4
- ACAD 360 Design Consulting: Problem Solving for Organizations Units: 4
- ACAD 376 Discerning and Making I: Concept and Feasibility Units: 4
- ACAD 377 Discerning and Making II: Creation and Implementation Units: 4
- ACAD 475a The Garage Experience Units: 4, 8
- ACAD 475b The Garage Experience Units: 4, 8

Major Electives

Complete 12 units from the following list:

Visual Design

- ACAD 230 3D Design: Materials and Tools Units: 4
- ACAD 303 Web Design Units: 2
- ACAD 330 3D Design: Objects and Space Units: 4
- ACAD 332a Typography Units: 2
- ACAD 332b Typography Units: 2

Technology

- ACAD 342 Mobile Application Development Units: 3
- ACAD 344 Advanced Topics in Mobile App Development Units: 3
- ACAD 365 Managing Data in C++ Units: 3
- ACAD 382 Mobile Game Programming Units: 3
- ACAD 404 Modern Technologies of Web Development Units: 3
- ACAD 405 Professional Applications and Frameworks in Web Development Units: 3
- ACAD 425 Web Application Security Units: 4
- ACAD 435 Professional C++ Units: 3
- ACAD 442 Mobile App Project Units: 4
- ACAD 460 Web Application Project Units: 4
- ITP 250x Database Systems for Analytics Units: 2
- ITP 251 Applied Statistics for Analytics Units: 2
- ITP 350x Technologies and Practices for Analytics Units: 4
- ITP 476 Technologies for Interactive Marketing Units: 4

Venture Management

- ACAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- ACAD 385x Marketing of Creative Disruption and Innovation Units: 4

- ACAD 467 Strategic Management of Innovation Units: 4
- BAEP 455 Founder's Dilemmas Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 461 Design of Effective Organizations Units: 4

Audio Design

- ACAD 200 Advanced Sound and Audio Units: 4
- ACAD 352 Digital Audio Recording and Processing Units: 4
- ACAD 354 Synthesis and Sound Design Units: 4
- ACAD 356 Audio and Media Integration Units: 4

Communication

- ACAD 206 Communication and Culture Units: 4
- ACAD 306 Innovation, Entertainment, and the Arts Units: 4
- ACAD 366 Designing Media and Communication Projects for Social Change Units: 4
- ACAD 375 Business and Professional Communication Units: 4

Mechanics and Materials

- ACAD 312 Materials Behavior and Processing Units: 3
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 231L Mechanical Behavior of Materials Units: 3
- AME 301 Dynamics Units: 3
- ITP 308 Computer-Aided Design for Bio-Mechanical Systems Units: 3

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see the General Education Program for more information.

Sample Four Year Program

Year 1 - Fall

- ACAD 174 Innovators Forum Units: 2
- ACAD 176 Rapid Visualization Units: 4
- ACAD 177 Digital Toolbox for Design Units: 2
- ACAD 180 Digital Toolbox: Sound and Audio Units: 2
- ACAD 181g Disruptive Innovation Units: 4
  General Education Seminar Units: 4

Total units: 18

Year 1 - Spring

- ACAD 174 Innovators Forum Units: 2 (required twice)
- ACAD 178 Digital Toolbox: Motion Graphics Units: 2
- ACAD 182 Case Studies in Innovation Units: 4
- ACAD 187 Digital Toolbox: 3D Design Units: 2
- ACAD 275 Dev I Units: 4
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 18

Year 2 - Fall

- ACAD 207 Multimedia for Designers and Entrepreneurs I Units: 4
- ACAD 240 Materials: Denim to Nanotubes Units: 4
- ACAD 276 Dev II Units: 4
- ACAD 323g Design Theory Units: 4

Total units: 16

Year 2 - Spring

- ACAD 277 Dev III Units: 4
  OR
- ACAD 245 Product Design I Units: 4
- ACAD 280 Designing for Experiences Units: 4
- ACAD 360 Design Consulting: Problem Solving for Organizations Units: 4
  General Education Units: 4

Total units: 16

Year 3 - Fall

- ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino Units: 4
- ACAD 376 Discerning and Making I: Concept and Feasibility Units: 4
- WRIT 340 Advanced Writing Units: 3, 4
  General Education Units: 4

Total units: 16

Year 3 - Spring

- ACAD 377 Discerning and Making II: Creation and Implementation Units: 4
  Major Elective Units: 4
  General Education Units: 4
  General Education Units: 4

Total units: 16

Year 4 - Fall

- ACAD 475a The Garage Experience Units: 4, 8
  Major Elective Units: 4
  General Education Units: 4
  General Education Units: 4

Total units: 16

Year 4 - Spring

- ACAD 475b The Garage Experience Units: 4, 8
  Major Elective Units: 4
  General Education Units: 4

Total units: 12

USC Leventhal School of Accounting

The USC Leventhal School of Accounting is dedicated to maintaining a leadership position in accounting education and research. We are committed to educational programs that seek to establish in each graduate the potential for career development into the highest executive levels of public accounting, controllership, financial management and management of accounting information systems. The accounting curriculum explores not only the state of the art but also seeks to explore the accounting discipline's future structures and directions. Relevant concepts and techniques from other academic disciplines are drawn upon and integrated into all accounting programs.

Accounting education has been an integral part of USC since 1920, when the Department of Accounting offered a Bachelor of Science degree in business administration with an emphasis in accounting. The Leventhal School of Accounting was established in 1979 in recognition of the growing importance of accounting to our economy and broader society. It continues to rank as one of the premier AACSB-accredited accounting programs in the nation.

Currently the Leventhal School of Accounting undergraduate program offers a Bachelor of Science accounting degree. Honors students may be eligible for early admission to the graduate program, an efficient way to complete both undergraduate and graduate degrees. An accounting minor is also offered to students outside the USC Marshall School of Business. Graduate programs include a full-time Master of Accounting or Master of Business Taxation; a Master of Business Taxation for working professionals; and a Juris Doctor/Master of Business Taxation in conjunction with the USC Gould School of Law. A PhD degree with an accounting major is offered through the doctoral program in the Marshall School of Business.

USC Leventhal School of Accounting
Accounting 101
(213) 740-4838
FAX: (213) 747-2815
Email (graduate students): MAcc.MBT@marshall.usc.edu; (undergraduate students) lsoa_undergrad@marshall.usc.edu
marshall.usc.edu/lsoa

Administration

William W. Holder, DBA, CPA, *Dean, Alan Casden Dean's Chair at the Leventhal School of Accounting*
Mark L. DeFond, PhD, CPA, *Associate Dean, Faculty Affairs*
Shirley Maxey, BA*, *Associate Dean, Master's Programs*
Mildred G. Penner, MA, *Assistant Dean, Undergraduate Program*

Faculty

George Bozanic and Holman G. Hurt Chair in Sports and Entertainment Business: S. Mark Young, PhD*
Deloitte & Touche LLP Chair in Accountancy: Kenneth A. Merchant, PhD, CPA
A.N. Mosich Chair in Accounting: Mark L. DeFond, PhD, CPA*
Joseph A. DeBell Chair in Business Administration: C.W. Park, PhD
KPMG Foundation Professor of Accounting: K.R. Subramanyam, PhD
Ernst & Young Professor of Accounting: Sarah E. Bonner, PhD, CPA*
Accounting Associates Professor of Accounting: Clive Lennox, PhD
Arthur Andersen & Co. Alumni Associate Professor of Accounting: Regina Wittenberg Moerman, PhD
Professors: Randolph P. Beatty, PhD, CPA; Sarah E. Bonner, PhD, CPA*; Patricia Dechow, PhD; Mark L. DeFond, PhD, CPA*; William W. Holder, DBA, CPA; Clive Lennox, PhD; Thomas W. Lin, PhD, CMA; Kenneth A. Merchant, PhD, CPA; Daniel E. O'Leary, PhD, CPA, CMA, CISA; Richard Sloan, PhD; Mark Soliman, PhD, CPA; K.R. Subramanyam, PhD; Charles W. Swenson, PhD*, CPA; TJ Wong, PhD; S. Mark Young, PhD*
Associate Professors: John J. Barcal, JD, CPA*; Shane M. Heitzman, PhD; Maria Ogneva, PhD; Shiing-Wu Wang, PhD*; Regina Wittenberg-Moerman, PhD
Assistant Professors: Eric Allen, PhD, CPA; David Erkens, PhD; Shelley Xin Li, PhD; Tracie Majors, PhD, CPA; Lorien Stice-Lawrence, PhD; Andrew Tinseth, MBA; David Tsui, PhD; Marshall Vance, PhD; Forester Wong, PhD
Professors of Clinical Accounting: Ruben A. Davila, JD, MBA, CPA; Chrislynn Freed, MBA, CPA*; Merle Hopkins, PhD*; Cecil W. Jackson, PhD, CPA; Joseph L. Keller, MS, CPA; Rose M. Layton, MAcc, CPA*; Shirley Maxey, BA*; Patricia Mills, JD, LLM; Leslie R. Porter, PhD*; Kendall Simmonds, MBA, CPA*
Associate Professors of Clinical Accounting: Robert Kiddoo, MBA, CPA; John Owens, BS, CPA
Assistant Professors of Clinical Accounting: Smrity Randhawa, PhD; Lori Smith, BS, CPA; Zivia Sweeney, MBA, CPA*, Julie Suh, PhD; Andrew Tinseth, MBA, CPA; MaryAnne Werner, MBT, CPA
Professors of the Practice of Accounting: John Owens, BS; Thomas P. Ryan, MBA
Emeritus Professors: Jerry L. Arnold, PhD, CPA; Theodore J. Mock, PhD; ZoeVonna Palmrose, PhD
**Recipient of university-wide or school teaching award.*

Degree Programs

Undergraduate Degree

Bachelor of Science, Accounting

The USC Leventhal School of Accounting offers the Bachelor of Science, Accounting (BS) degree designed to provide students with a broad foundation in accounting and business to prepare them for entry into the professional program leading to a Master of Accounting or Master of Business Taxation degree. The undergraduate curriculum also provides the background necessary for direct entry into the accounting profession.

Graduate Degrees

Master of Accounting

The Master of Accounting (MAcc) program provides an integrated curriculum designed to prepare graduates for careers in professional accounting, public accounting, industry and government. Students have the opportunity to study accounting in greater depth and in more areas of specialization than in undergraduate accounting programs or MBA programs with concentrations in accounting. Students have flexibility in elective choices to reflect their career goals.

Admission does not require an accounting or business undergraduate degree, nor is work experience a requirement. For students with an undergraduate degree in accounting, the program requires 30 units for completion; for students without the prerequisite accounting course work, the program requires 45–48 units. The variation in units depends on the student's educational background and completed course work. This degree is designed to be completed by full-time students.

Master of Business Taxation

The Master of Business Taxation (MBT) degree is offered to both full-time and part-time students. This specialized program in taxation requires 30 units for students with the required accounting education. For students without the prerequisite accounting knowledge, the program requires 45-48 units. The program is designed for accountants, attorneys and business professionals who wish to learn or improve skills and knowledge through participation in advanced tax study. Students have flexibility in elective choices to reflect their career focus and goals. The part-time program is referred to as the MBT for Working Professionals (MBTWP).

Juris Doctor/Master of Business Taxation

The USC Gould School of Law and the Leventhal School of Accounting offer this dual degree program. Admission to the JD program offered by the Law School is required before applying to the MBT program offered by the Leventhal School of Accounting.

Master of Business Administration

The Master of Business Administration (MBA) is offered by the Marshall School of Business and is also serviced by the Leventhal School of Accounting. For additional information, consult the USC

Marshall School of Business section in this catalogue.

Doctor of Philosophy

The Marshall School of Business offers the Doctor of Philosophy (PhD) degree in conjunction with the Graduate School. A student electing to major in accounting may design a research program that emphasizes auditing, financial accounting, information systems, management accounting or taxation. More information on the doctoral program is available in the USC Marshall School of Business section of this catalogue, or contact the doctoral office at (213) 740-0674 or the director of doctoral studies in accounting at (213) 740-4838.

Graduate Degrees

The USC Leventhal School of Accounting offers two graduate degrees: the Master of Accounting (MAcc) and the Master of Business Taxation (MBT). The MAcc program provides an integrated curriculum designed to prepare graduates for careers in professional accounting, public accounting, industry and government. Students have the opportunity to study accounting in greater depth and in more areas of specialization than in undergraduate accounting programs or MBA programs with concentrations in accounting. The MBT program provides in-depth specialization in taxation to prepare the student for a successful career as a tax professional whether in public accounting, industry, government, the investment arena or entrepreneurship.

The Leventhal School of Accounting also offers the dual Juris Doctor/Master of Business Taxation (JD/MBT) degree program in conjunction with the USC Gould School of Law. The combination of broad legal education with detailed tax specialization prepares graduates for fast-track careers in law and tax practices.

The Marshall School of Business offers the Doctor of Philosophy (PhD) degree in conjunction with the Graduate School. A student electing to major in accounting may design a research program that emphasizes auditing, financial accounting, information systems, management accounting or taxation. For more information on the doctoral program, see the Marshall School of Business section of this catalogue, or contact the doctoral office at (213) 740-0670 or the director of doctoral studies in accounting at (213) 740-5025.

Admission to Master's Programs

The Leventhal School of Accounting seeks individuals who have the potential for outstanding achievement in accounting or taxation. The Admissions Committee uses the holistic review model. Candidates are reviewed on the merits of their application and the merits of the applicant pool for the year in which they seek admission.

Applicants to the full-time programs are not required to have previous work experience. Applicants to the part-time MBT program (MBTWP) are required to have a minimum of one year full-time professional experience related to taxation after receiving an undergraduate degree.

Application to the Programs

An admission decision requires the following: (1) a completed USC Leventhal School of Accounting online graduate application (available at www.marshall.usc.edu/admissions/applyonline); (2) a non-refundable application fee; (3) one official transcript from the registrar of each college or university attended (undergraduate and/or postgraduate); (4) two letters of recommendation; (5) a professional résumé; (6) an official Graduate Management Admission Test (GMAT) score report or, for JD/MBT applicants or attorneys, an official Law School Admission Test (LSAT) score report; and (7) an essay. Finalist must also complete an interview.

Applicants for the JD/MBT dual degree program should apply to the Leventhal School of Accounting for admission to the MBT program in the second semester of their first year in the USC Gould School of Law. In addition, current Law School transcripts and a "letter in good standing" from the registrar of the Law School must be submitted as part of the application. The same Leventhal School of Accounting admission criteria apply to the MBT portion of the JD/MBT program.

International Students

In addition to the application requirements noted above, all international students must submit TOEFL or IELTS scores. A letter of financial support is also required.

MAcc/MBT for Current USC Students

The Leventhal School of Accounting offers the opportunity to earn both a bachelor's degree and a master's degree in five years or less. This simplified, early admission process is for current USC students who have demonstrated exceptional academic success in undergraduate studies and who have completed a minimum of 70 units of course work. Strong SAT scores may be substituted for GMAT scores for continuing USC students only.

Please see a Leventhal School of Accounting academic adviser for further information and to develop a course plan proposal.

Application Deadlines

Full-time MAcc and MBT – Applicants are urged to file a completed application as early as possible. For applications to the full-time programs that begin in summer or fall, the online application system is generally open from early October through March 31. International students must apply no later than January 10. Applicants asking for scholarship consideration should apply by mid-January to increase the likelihood of funds being available. Application decisions will be made on a rolling admission basis until the programs are filled. Applications that arrive after the regular deadline will be considered on a space-available basis.

MBT for Working Professionals – Students may begin in the MBT.WP program in the fall or summer semester. The application deadline for summer applicants is March 31; for fall applicants, June 30. Applications that arrive after the regular deadline will be considered on a space-available basis.

Residence Requirements

Subject to approval of the Leventhal School of Accounting, the maximum number of transfer credits that may be applied toward the master's degree is three units. To be applied to the degree, transfer work must have been completed within five years of admission to the master's program. Graduate transfer credit will not be granted for course work taken elsewhere after a student has been admitted and enrolled at USC. Credit will only be allowed for courses (1) from an AACSB-accredited graduate school, (2) of a quality of at least 3.0 on a 4.0 grading scale, (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level, and (4) fitting into the logical program for the degree. Transfer course work is applied as credit (CR) toward the degree and is not included in the calculation of a minimum grade point average for graduation.

Waivers

With the written approval of the Leventhal School of Accounting, waiver of required courses may be granted to students based upon prior academic work. All waived courses must be replaced with approved electives. Students should carefully read their program evaluation form to know what electives must be taken if they are granted subject waivers.

Bachelor's Degree

Accounting (BS)

The USC Leventhal School of Accounting Bachelor of Science, Accounting (BS) degree is designed to provide students with a broad foundation in accounting and business to prepare them for entry into the professional program leading to a Master of Accounting or Master of Business Taxation degree. The undergraduate curriculum also provides the background necessary for direct entry into the accounting profession. The BS, Accounting degree is a 128-unit program.

Admission

Students may be admitted to the program as incoming freshmen, as USC undergraduates transferring from another major or as students transferring from another college or university. Admission to Leventhal is dependent on admission to the university and on

academic performance, particularly in quantitative areas. USC students who have not been admitted to the major or the minor in the Marshall School of Business and/or the Leventhal School of Accounting may complete a maximum of 12 units from the Marshall School of Business and/or the Leventhal School of Accounting. No further course work may be taken unless a student is admitted.

Leventhal/Marshall Honors

Leventhal/Marshall Honors is available upon graduation to majors in accounting or business administration and results in a special designation of departmental honors on a student's transcript. Acceptance to the program requires completion of at least 64 units of course work (including transfer units), a GPA of 3.5 or higher in course work to be applied to the major, an application, and a successful interview with the director of the program. Achievement of Leventhal/Marshall Honors requires completion of ACCT 493 Honors Research Seminar prior to the senior year, a thesis (research project and paper) conducted under the guidance of a Leventhal or Marshall faculty member during the senior year, and minimum GPA of 3.5 in upper-division Leventhal School of Accounting and Marshall School of Business courses applied to the major. For additional information, contact the Leventhal School of Accounting Undergraduate Program Office in ACC 101, (213) 740-4838.

Advisement

Academic advisement is provided through the Leventhal School of Accounting Undergraduate Program Office in Accounting 101, (213) 740-4838. Students are required to meet with an academic adviser before registering and this requirement remains in effect until 24 USC units are completed. However, all students are encouraged to see an academic adviser on a regular basis. A record of each student is kept on file. Appointments for advisement may be scheduled at most times during the academic year. However, during busy times such as the preregistration, registration and drop/add periods, advisers may be available on a walk-in basis only.

The Leventhal Undergraduate Program Office and Marshall Undergraduate Student Services offer students assistance in networking, finding internships, resume writing, interviewing techniques and other career-related issues.

Transferring College Credit

College Courses

USC has established articulation agreements with most community colleges throughout California. Most academic courses are acceptable for transfer credit from a two-year school, but students may not receive credit for specialized, technical or remedial courses.

Courses that do not appear on the articulation agreement are not transferable. A maximum of 64 semester units may be transferred. Check with the Degree Progress Department (JHH 010) for questions about transferable courses or see a counselor in Accounting 101.

Official transcripts of college work taken elsewhere must be submitted, at the time of application, to the USC Office of Admission. A credit evaluation will be completed, which will list transfer courses accepted for credit. All business courses completed at a two-year college, if transferable, will be considered elective credit.

There is one exception to this policy. Students may transfer two semesters of introductory accounting and receive credit equivalent to one semester of introductory accounting at USC. Then students can register for BUAD 305 Abridged Core Concepts of Accounting Information and complete their accounting course requirement in one semester at USC. In this case, students would not be required to take BUAD 280 or BUAD 281.

Four Year Colleges

Most courses are acceptable for unit credit from all fully accredited four-year institutions. If the courses do not satisfy specific subject requirements at USC, they will be accepted for elective course credit.

Students are urged to complete all their required business administration courses at USC. All business courses from four-year institutions, if transferable, will be considered elective credit unless a challenge examination is passed. Only core classes, with the exception of BUAD 497, may be challenged. Students should consult with an academic adviser in Bridge Hall 104 to initiate the challenge examination process.

Grade Point Average Prerequisites for Transfer Students

Transfer students are required to meet the following grade requirements to be admitted to the Leventhal School of Accounting. An average grade of B in the two transferred accounting courses and BUAD 305 (with no grade lower than B-). Grades in accounting courses taken at other institutions will only be considered in meeting the admission requirement for the Leventhal School of Accounting. Once a transfer student completes a minimum of two accounting courses at USC, the student's accounting grades at the prior institution will no longer be considered in determining whether the student meets the 2.7 grade point average standard (see Grade Point Average Prerequisites following).

In the computation of grade point averages for accounting courses taken at other colleges or universities, the courses will be weighted in terms of the number of units provided for the equivalent USC accounting courses.

Grade Point Average Prerequisites

The following are grade point average prerequisites for any undergraduate student enrolled in any accounting course. Individual instructors may not waive these standards: (1) an average grade of B or better in BUAD 280 and BUAD 281 with no grade lower than a B-; and (2) a minimum 2.7 grade point average (A = 4.0) for all accounting courses taken previously.

In meeting the B average required in BUAD 280 nda BUAD 281, only one of the courses may be repeated. If the repeated course grade is higher, that grade will be considered in determining whether the student meets the B average, and the original course grade will be disregarded by the Leventhal School of Accounting in the administration of its grade point average requirements. See Repeated Course Work at USC for further restrictions on including grades in repeated courses in the overall university grade point average computation.

In computing grade point average prerequisites, BUAD 280, BUAD 281 or BUAD 305 and BUAD 302T will be considered accounting courses.

Probation

When a student's cumulative accounting grade point average falls below 2.7, the student is placed on probation. If a student on probation does not regain a minimum accounting cumulative GPA of 2.7 after completing the next 12 semester hours in all courses (including accounting units) attempted within the university, that student will not be permitted to continue as an accounting major in the Leventhal School of Accounting. Exceptions to this policy may be granted only in unusual circumstances by the Academic Standards Committee of the Leventhal School of Accounting. Decisions of the Academic Standards Committee are final.

To be removed from probationary status, a student may elect to take another accounting course or courses for which prerequisites are met or to repeat an accounting course or courses in an attempt to earn a higher grade. Regardless of the course of action taken, all courses completed will be counted in computing the cumulative accounting grade point average.

A grade of "W" in an accounting course taken while on probation will not extend probation. The probation period ends at the end of that semester during which the student completes a cumulative total of 12 semester hours of courses in any subject(s) at the university. Under no conditions will the student be permitted more than two successive semesters, including the summer semester, to complete the 12 semester hours of courses.

Graduation Standard

Students must attain a minimum 2.7 cumulative accounting grade

point average (A = 4.0) to graduate with a Bachelor of Science, Accounting degree.

USC Core Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education for more information.

Business Foundation Requirements

All students in the Leventhal School accounting undergraduate degree program take business foundation courses that focus on necessary analytic skills and theoretical knowledge in math, statistics, accounting and economics. Fundamental knowledge of the functional business disciplines and the strategic interplay among them completes the business core.

Accounting/Business Foundation Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302T Communication Strategy in Accounting Units: 4 *
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 311T Operations Management for Accounting Majors Units: 4 *
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 ** or
- MATH 125g Calculus I Units: 4

Note:

**If an accounting student has already completed the course in a section not designated for accounting majors, he or she must check with an academic adviser in the Leventhal School of Accounting for advisement.*

***Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam or AP calculus or IB mathematics exam.*

All prerequisites for business and all accounting and business courses must be taken for a letter grade.

A maximum of 24 units of undergraduate course work taken on a pass/no pass basis may be used toward the BS, Accounting degree. No more than four units of credit (or one course) counting toward the general education categories may be taken on a pass/no pass basis. The writing course cannot be taken on a pass/no pass basis.

The Bachelor of Science, Accounting degree includes the following required accounting courses in addition to the accounting/business foundation courses listed above.

Required Accounting Courses

- ACCT 370 External Financial Reporting Issues Units: 4
- ACCT 371 Introduction to Accounting Systems Units: 4
- ACCT 372 Internal Reporting Issues Units: 2
- ACCT 373 Introduction to Auditing and Assurance Services Units: 2
- ACCT 374 Introduction to Tax Issues Units: 2
- ACCT 377 Valuation for Financial Statement Purposes Units: 2
- ACCT 430 Accounting Ethics Units: 4
- ACCT 470 Advanced External Financial Reporting Issues Units: 4

- ACCT 473 Financial Statement Auditing Units: 2 or
- ACCT 474 Tax Issues for Business Units: 2

Elective Courses

Choose one of the following courses:

- ACCT 416 Financial Reporting and Analysis Units: 2
- ACCT 462 Detecting Fraudulent Financial Reporting Units: 2
- ACCT 463 Internal Audit Units: 2
- ACCT 471 Accounting Information Systems Units: 2
- ACCT 472 Managerial Accounting Units: 2
- ACCT 473 Financial Statement Auditing Units: 2 *
- ACCT 474 Tax Issues for Business Units: 2 *
- ACCT 475 Systems Security and Audit Units: 2
- ACCT 476 Performance Measurement Issues Units: 2
- ACCT 477 Intermediate Fair Value Issues in Accounting Units: 2
- ACCT 478 Accounting Systems Design Units: 4
- ACCT 479 Accounting Systems Development Units: 4
- ACCT 493 Leventhal Honors Research Seminar Units: 2

Note:

**If not already completed as a required course*

Minor

Accounting Minor

A minor in accounting is available to students in all schools and departments except the Marshall School of Business. The minor provides the opportunity for non-business majors to gain an understanding, from the perspective of the user of accounting information, of how accounting is used in the business world.

To be approved for the accounting minor, students must have completed a minimum of 32 units of college-level courses and attained a minimum GPA of 2.75.

Successful completion of the minor requires at least 16-18 units with a minimum GPA of 2.0 in the courses applied to the minor:

Minor Course Requirements

Choose one of the following four options: (2-8 units) *

- BUAD 200x Economic Foundations for Business Units: 2
  or
- ECON 203g Principles of Microeconomics Units: 4 ** and
- ECON 205g Principles of Macroeconomics Units: 4
  or
- ECON 303 Intermediate Microeconomic Theory Units: 4 and
- ECON 305 Intermediate Macroeconomic Theory Units: 4 **
  or
- ECON 351x Microeconomics for Business Units: 4 ** and
- ECON 352x Macroeconomics for Business Units: 4 **

Required Courses (12 units)

- ACCT 410x Foundations of Accounting Units: 4
  or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4
  or
- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3

- BUAD 215x Foundations of Business Finance Units: 4 **
  or
- BUAD 306 Business Finance Units: 4 **

- ACCT 415x Intermediate Financial Accounting for Non-Accounting Majors Units: 4

Electives: Choose two of the following courses (4 units)

- ACCT 372 Internal Reporting Issues Units: 2 **
- ACCT 374 Introduction to Tax Issues Units: 2 **
- ACCT 416 Financial Reporting and Analysis Units: 2 **
- ACCT 462 Detecting Fraudulent Financial Reporting Units: 2 **

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first requirement.*
***Prerequisites and/or Corequisite required. Plan carefully.*

Master's Degree

Accounting (Data and Analytics) (MAcc)

The Master of Accounting program with an emphasis in data and analytics combines course work from the Leventhal School of Accounting and Marshall's Data Sciences and Operations department. Advances in computing technology are fundamentally changing the way audits are conducted. The data and analytics emphasis of the MAcc is designed to train auditors for the data age.

The program employs a rigorous case analysis approach that requires students to exercise their analytical abilities and develop both teamwork and professional communication skills.

Integrated into the data and analytics emphasis is an audit internship during the spring semester encompassing both audit and data and analytics in an integrated fashion. This required element of the program builds a critical bridge for the student between his or her academic and work lives, ultimately enriching both.

Application

The data and analytics emphasis of the MAcc is open only to individuals who have earned the equivalent of a four-year bachelor of accounting degree from an accredited program. Applicants also must have an offer letter for a spring internship at either a "big four" or major national public accounting firm. Spring internships must run from January through April and integrate both audit and data analytics.

Applicants follow the same application process as our traditional MAcc. For specifics visit *marshall.usc.edu/macc/admissions*. A copy of the offer letter for the student's spring internship should also be uploaded.

Program Requirements

The Master of Accounting, Data and Analytics emphasis requires up to 31.5 units including fundamentals, core requirements and electives. Students with prior study in statistics who pass the challenge exam for Data Driven Decision Making receive a waiver reducing the units required to earn the degree to 30.

Fundamentals (1.5 Units)

- GSBA 545 Data Driven Decision Making Units: 1.5

Core Program (15 Units)

- ACCT 528 Fair Value Accounting: GAAP, IFRS and Emerging Issues Units: 1.5
- ACCT 557 Advanced Financial Statement Auditing Topics Units: 3
- ACCT 585 Professional Responsibilities in Accounting Units: 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 545 Statistical Computing and Data Visualization Units: 3.0

Electives (15 Units)

Working with an adviser, students select a minimum of 15 units of 500-level electives from DSO and ACCT course work.

Accounting (MAcc)

The Master of Accounting program (MAcc) prepares graduates for careers in public accounting, industry and government. The program offers students technical and conceptual knowledge, professional development, research and lifelong learning, ethical and professional standards and globalization and diversity. For details on these student learning outcomes, see the program Website at *marshall.usc.edu/macc*.

The program employs a rigorous case analysis approach that requires students to exercise their analytical abilities and develop both teamwork and professional communication skills.

Application

An undergraduate accounting or business major is not necessary, nor is work experience a requirement. The program enrolls students in the summer or fall based on their academic backgrounds. For application information visit *marshall.usc.edu/macc/admissions*.

Program Requirements

The Master of Accounting degree requires 48 units, including fundamentals, core requirements and electives.

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine the courses required to complete the program.

Students admitted for summer term start with ACCT 525 Intensive Accounting Principles and Practices — an eight-week, 40 hours-per-week course for students who have not completed undergraduate degrees or other extensive course work in accounting. This course must be completed successfully prior to beginning the core in the fall.

Students admitted for fall term generally hold a bachelor's degree in Accounting and are waived from the 15-unit ACCT 525 class reducing the number of units required to earn the degree to 33.

USC BS in Accounting students may qualify for waiver of an additional 6 units reducing the number of units required to earn the degree to 27. (USC BS in Accounting students should meet with a graduate adviser during their junior year to determine if they qualify.)

Any of the groups listed above who have taken an equivalent of GSBA 548 Corporate Finance may petition to waive out of the requirement, reducing the number of units required to complete the degree by 3 units.

Degree Requirements

Fundamentals (18 units)

- ACCT 525x Intensive Accounting Principles and Practices Units: 15
- GSBA 548 Corporate Finance Units: 2, 3

Core Program (16.5 Units)

- ACCT 528 Fair Value Accounting: GAAP, IFRS and Emerging Issues Units: 1.5
- ACCT 530L Ethics for Professional Accountants Units: 3
- ACCT 585 Professional Responsibilities in Accounting Units: 3

At least one from the following (to be determined by previous course work)

- ACCT 546 Auditing and Assurance Services Units: 3
- ACCT 557 Advanced Financial Statement Auditing Topics Units: 3

At least one from the following (to be determined by previous course work)

- ACCT 547 Enterprise Information Systems Units: 3
- ACCT 549 Advanced Enterprise Systems and Technologies Units: 3

At least one from the following (to be determined by previous course work)

- BUCO 504T Writing for Accounting and Tax Professionals Units: 3 or
- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3

Elective Course Work (13.5 Units)

- Select a minimum of 10.5 units of ACCT 5xx electives
- Select a maximum of 6 units of Marshall (BAEP, BUCO, DSO, FBE, GSBA, MKT, MOR) 500-level electives.

Business Taxation (MBT)

Understanding taxation is critical to every business decision and many personal decisions as well. Whether you are preparing

for a career as a tax professional in public accounting, industry, government or the investment arena or are starting your own business, tax planning must be done. Because of the complexity of the tax law and its pervasive influence, people facing tax decisions routinely call on tax professionals for advice in planning and structuring their affairs in order to comply with the law and to ensure economic good sense.

The Master of Business Taxation (MBT) program is designed to develop the skills and expertise professionals need to assist individuals and firms trying to cope with myriad tax legislation and regulation at both the federal and local levels. The program offers students: 1) technical and conceptual knowledge; 2) professional development; 3) research and lifelong learning; 4) ethical and professional standards; and 5) globalization and diversity. For details on these student learning outcomes, see the program website at *marshall.usc.edu/mbt/academics*.

Application

An undergraduate accounting or business major is not necessary, nor is work experience a requirement. The program enrolls students in the summer or fall based on their academic backgrounds. For application information visit *marshall.usc.edu/mbt/admissions*.

Program Requirements

The Master of Business Taxation degree requires 48 units, including fundamentals, core requirements, and electives.

Academic Background Review and Waivers

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine the courses required to complete the program.

Students admitted for summer term start with ACCT 525 x Intensive Accounting Principles and Practices -- an eight-week, 40 hours-per-week course for students who have not completed undergraduate degrees or other extensive course work in accounting. This course must be completed successfully prior to beginning the core in the fall.

Students admitted for fall term generally hold a bachelor's degree in Accounting and are waived from the 15 unit ACCT 525x class reducing the number of units required to earn the degree to 33.

USC BS in Accounting students may qualify for waiver of an additional six units reducing the number of units required to earn the degree to 27. (USC BS in Accounting students should meet with a graduate adviser during their junior year to determine if they qualify.)

Any of the groups listed above who have taken an equivalent of GSBA 548 Corporate Finance may petition to waive out of the requirement, reducing the number of units required to complete the degree by 3 units.

Degree Requirements

Fundamentals (18 units)

- ACCT 525x Intensive Accounting Principles and Practices Units: 15
- GSBA 548 Corporate Finance Units: 2, 3

Core Program (18 Units)

- ACCT 530L Ethics for Professional Accountants Units: 3
- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 560T Tax Theory and Ethics Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3

At least one from the following (to be determined by previous course work)

- BUCO 504T Writing for Accounting and Tax Professionals Units: 3 or
- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3

Elective Course Work (12 Units)

Select at least 9 units from the following list. Three additional units may be selected from this list or any 500-level elective from ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR.

- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3
- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 582 Accounting for Mergers and Acquisitions Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3
- ACCT 586 Financial Reporting Topics and Analysis for Tax Professionals Units: 3

Business Taxation for Working Professionals (MBT)

The Master of Business Taxation — Working Professionals (MBT.WP) program is designed for students who wish to remain fully employed while pursuing their graduate studies. The program is very flexible, allowing students to complete classes either on ground at the University Park Campus or online. Entering students must have a minimum of one year of experience in tax.

The Master of Business Taxation (MBT.WP) program offers students: 1) technical and conceptual knowledge; 2) professional development; 3) research and lifelong learning; 4) ethical and professional standards; and 5) globalization and diversity. For details on these student learning outcomes, see the program Website at *marshall.usc.edu/mbt/academics*.

Application

An undergraduate accounting or business major is not necessary though one year of work experience in tax is required. The program enrolls students in the summer or fall. For application information visit *http://www.marshall.usc.edu/mbtwp/admissions*.

Program Requirements

The program requires completion of 30 units. Degree requirements consist of five core courses and five elective courses. Applicants who hold a master's degree from an AACSB accredited institution may be able to waive out of the communication requirement and complete the MBT.WP in 27 units.

Degree Requirements

Core Program (12 Units)

- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 560T Tax Theory and Ethics Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3

At least one from the following

(to be determined by previous course work)

- GSBA 523T Communication for Accounting and Tax Professionals Units: 3 or
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3 or
- BUCO 533 Managing Communication in Organizations Units: 1.5, 3

Elective Course Work (15 Units)

Select at least 9 units from the following list. Six additional units may be selected from this list or any 500-level elective from ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR.

- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3

- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 582 Accounting for Mergers and Acquisitions Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3
- ACCT 586 Financial Reporting Topics and Analysis for Tax Professionals Units: 3

Dual Degree

Juris Doctor/Master of Business Taxation (JD/MBT)

Dual Degree Program

The Leventhal School of Accounting, in conjunction with the USC Gould School of Law, offers a dual degree program leading to the degrees of Juris Doctor and Master of Business Taxation (JD/MBT). This program permits a student to pursue a specialized program in taxation through courses in the Marshall School of Business, the Leventhal School of Accounting and the USC Gould School of Law. The MBT portion of the program requires 42 units, including 9 units of law school courses that are recognized by the Leventhal School of Accounting toward the JD/MBTJD/MBT Students must complete 76 law units to satisfy the JD portion of the dual degree.

Unit Requirements

The total number of units required for the MBT portion of the JD/MBT program will vary, depending on the educational background of the individual student. Units are divided into four categories and students are required to maintain an overall graduate grade point average of 3.0.

The Leventhal School of Accounting Master's Program Office evaluates the academic background of each admitted student to determine if any of the 12 units of course work in Group I can be waived.

The courses in Groups II, III and IV are required of all JD/MBT students and total 30 units, including no more than 9 units of Law School courses.

First Year

Required USC Gould School of Law courses (33 units)

Second, Third and Fourth Years

Forty-three units of law courses, including the law courses listed below, and 21-33 units of Marshall School of Business and Leventhal School of Accounting courses as follows:

Group I Courses (Up to 12 Units)

- ACCT 572 Corporate Accounting and Reporting Units: 3
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
- GSBA 511 Microeconomics for Management Units: 1.5, 3
- GSBA 548 Corporate Finance Units: 2, 3

Group II Courses* (A Minimum of 9 Units)

- ACCT 550T Tax Research and Professional Responsibilities Units: 3
- ACCT 561T Income Tax of Corporations and Their Shareholders Units: 3
- LAW 600 Taxation Units: 3 or 4

Group III Courses* (A Minimum of 6 Units)

- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 607 Gifts, Wills, and Trusts Units: 3 or 4
- LAW 717 Estate Planning Units: 3
- LAW 842 Partnership Taxation Units: 2, 3, 4

Note:

**Students should seek counseling at the Law School regarding all LAW courses.*

Group IV Courses (A Minimum of 15 Units)

Select at least 15 units from the following list. Three additional units may be selected from this list or any Marshall (ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR) 500-level elective.

- ACCT 551T Taxation of Partnerships and S-Corps Units: 3
- ACCT 563T Federal Estate and Gift Taxes Units: 3
- ACCT 567T Taxation of Transactions in Property Units: 3
- ACCT 568T International Taxation Units: 3
- ACCT 569T Advanced Partnership Taxation Units: 3
- ACCT 570T State and Local Tax Concepts Units: 3
- ACCT 571T Taxation of Individuals Units: 3
- ACCT 573T Federal Tax Procedure Units: 3
- ACCT 576T Tax Consolidations Units: 3
- ACCT 578T Advanced Corporate Taxation Units: 3
- ACCT 580T Tax Accounting Methods Units: 3
- ACCT 582 Accounting for Mergers and Acquisitions Units: 3
- ACCT 583 Income Tax Accounting and Auditing Units: 3
- ACCT 584 Family Wealth Preservation Units: 3
- ACCT 586 Financial Reporting Topics and Analysis for Tax Professionals Units: 3

USC School of Architecture

The USC School of Architecture offers undergraduate, graduate and doctoral education in architecture and architectural studies, landscape architecture, heritage conservation and building science. Its faculty is active in professional practice, in design research, in the supervision of programs at the Gamble House and Freeman House and in extended professional education.

Work in the school is conducted in an intellectual climate, which promotes inquiry, introduces principles and values and teaches the disciplines necessary to work in collaboration with other professionals to develop design and research excellence.

The school is located in the center of Los Angeles, the second largest urban region in the country, which offers a unique understanding of 21st century growth and change. In such an environment the possibilities for teaching and learning are extraordinary.

The school is highly selective in its admissions and enjoys the strong support of alumni and the professions it serves. The opportunity exists for students to have close contact with faculty, other students and practicing architects.

An architecture curriculum was initiated at USC in 1914. In 1919, a Department of Architecture was created and a separate School of Architecture was organized in 1925. The school shares Watt and Harris Halls with the USC Roski School of Art and Design and the Fisher Museum of Art.

USC School of Architecture
Watt Hall 204
(213) 740-2723
FAX: (213) 740-8884
arch.usc.edu

Administration

Milton S. F. Curry, MArch, *Dean*
Douglas E. Noble, PhD, *Chair, PhD Program, Discipline Head, Chase L. Leavitt Graduate Program of Building Science*
Trudi Sandmeier, MA, *Discipline Head of Heritage Conservation Programs*
Kelly Shannon, PhD, *Discipline Head of Landscape Architecture Programs*
Wesley Jones, MArch, *Director, Graduate Architecture Programs, Discipline Head of Architecture Programs*
Hadrian Predock, MArch, *Director, Undergraduate Architecture Programs*
Edward R. Bosley, MBA, *James N. Gamble Director of the Gamble House*

Faculty

Della and Harry MacDonald Dean's Chair in Architecture: Milton S. F. Curry, MArch
MacDonald and Diane Rusling Becket Professor of Community Design: Charles A. Lagreco, MFA (Arch)
Judge Widney Professor of Architecture: Frank O. Gehry, FAIA, MArch
Professors: Kim Coleman, MArch; Diane Ghirardo, PhD; Qingyun Ma, MArch; John V. Mutlow, MArch (UD); Victor Regnier, MArch.*; Goetz Schierle, PhD; Marc Schiler, MS, ArchSci; Kelly Shannon, PhD; James Steele, PhD; John Wilson, PhD
Associate Professors: Kenneth Breisch, PhD; Vittoria De Palma, PhD; Alvin Huang, MArch; Charles Lagreco, MFA (Arch); Graeme M. Morland, DiplArch; Amy Murphy, MFA; Douglas E. Noble, PhD; Doris Sung, MArch
Assistant Professors: Joon-Ho Choi, PhD; Alison Hirsch, PhD; Kyle Konis, PhD; Travis Longcore, PhD; Alex Robinson, MLArch; José Sanchez, MArch
Visiting Faculty: Steven Ehrlich, MArch; Mia Lehrer, MLA; David C. Martin, MArch; Yaohua Wang, MArch
Professor of the Practice of Architecture: Wesley Jones, MArch
Associate Professors of the Practice of Architecture: Sarah Cowles, MLA; Yo-ichiro Hakomori, PhD; Karen M. Kensek, MArch; Esther Margulies, MLArch; Lauren Matchison, MArch; Lee Olvera, MArch; Gary Paige, BArch; Hadrian Predock, MArch; Trudi Sandmeier, MA; Selwyn Ting, MArch; Olivier Touraine, Dipl Ing (Arch)
Assistant Professors of the Practice of Architecture: Valery Augustin, MArch; Scott Mitchell, MArch; Geoffrey von Oeyen, MArch
Adjunct Professors: Peyton Hall, MED; Alice Kimm, MArch; Lorcan O'Herlihy, MArch; Robert Perry, MLA; Lawrence Scarpa, MArch; Patrick Tighe, MArch
Adjunct Associate Professors: Tigran Ayrapetyan, MS; John Dutton, MArch; T. Jeff Guh, PhD; Eric Haas, MArch; Michael Hricak, MArch; Rob Ley, MArch; Andrew Liang, MArch; Jennifer Siegal, MArch; Warren Techentin, MArch; Roland Wahlroos-Ritter, DiplIng
Adjunct Assistant Professors: Laurel Broughton, MArch; Mario Cipresso, MArch; Victoria Coaloa, MArch; Janek Dombrowa, BS (Arch); Aaron Neubert, MArch; Scott Uriu, BArch
Senior Lecturers: Michael Arden, MA; Miller Fong, BAArch; Sophia Gruzdys, MArch; Susanna Seierup, MArch
Lecturers: Iman Ansari, MArch; Victoria Turkel Behner, PhD; Rob Berry, MArch; Vinayak Bharne, MArch; Emily Bills, PhD; Biayna Bogosian, MS (Arch); Sofia Borges, MArch; Justin Brechtel, MS (Arch); Aja Bulla-Richards, MLArch; Mary Casper, MArch; Nefeli Chatzimina, MS (Arch); Rebecca Choi, MA; Mina Mei-Szu Chow, MArch; Tony Cocea, MS; Lauren Dandridge Gaines, BS; Stephen Deters, MArch; Ian Dickenson, BS (Arch); James Diewald, MArch; Michael Ellars, BArch; Maria Esnaola, MArch; John Frane, MArch; Richard Gooding, MArch; Christina Gray, MArch; Jia Gu, MArch; Katherine Harvey, MLArch; Jerry Hastings, BS; Rebecca Hill, MLArch; Kathryn Horak, MHP; Ying-Yu Hung, MLArch; Christof Janzten, MArch; Erin Kasimow, MArch; Jason Kerwin, MArch; Hunter Knight, MArch; Alfie Koetter, MArch; Zeina Koreitem, MArch; Andy Ku, MArch; Manyan Lam, MArch; Christine Lampert, ExMArch; Anthony Laney, BArch; John Lesak, MArch; Lisa Little, MArch; Lauren Lynn, MArch; Jeff Mikolajewski, Clifford Pearson, MA; Zachary Porter, PhD; Jay Platt, MS; Mary Ringhoff, MHP; Michele Saee, MA (Arch); Marcos Sánchez, MArch; Kris Sandheinrich, MFA; Lee Schneider; Brendan Shea, MArch; Luke Smith, MArch; Takako Tajima, MLArch; Madhu Thangavelu, MBS; Brian Tichenor, MLArch; David Ulin, MFA; John Uniack, BArch; Elizabeth Valmont, PhD; Jeffrey Vaglio, PhD; Takashi Yanai, MArch; Sandra Yum, MArch; Peter Zellner, MArch
Emeritus Professors: James Ambrose, MS; Frank Dimster, MArch; Robert S. Harris, MFA (Arch); Ralph Knowles, MArch*; Roger Sherwood, MSArch, MCRP
**Recipient of university-wide or school teaching award.*

Degree Programs

The School of Architecture offers curricula leading to the following degrees.

Bachelor of Architecture: a five-year undergraduate accredited professional degree program.

Bachelor of Science in Architectural Studies: a four-year undergraduate non-professional architectural studies degree program providing specialization in related fields and an alternative path to graduate studies in architecture and other design fields.

Minor in Architecture: provides the flexibility of complementing a student's major with an area of specialization. Not available for architecture majors.

Minor in Landscape Architecture: provides students with the ability to integrate the natural and cultural profession of landscape architecture into their course of study. Not available for architecture majors.

Master of Advanced Architectural Studies: a 48-unit, three-semester program for students who hold a first professional degree from an accredited school of architecture.

Master of Architecture: a 102-unit, three-year accredited degree for students who have completed a bachelor's degree with a major other than one of the design professions; a 64-unit, two-year accredited degree for students holding a pre-professional degree with a major in architecture.

Master of Heritage Conservation: a 48-unit program designed to prepare individuals for work in heritage conservation and its allied disciplines, including architecture, urban planning, cultural resource management, real estate development, construction and materials conservation.

Master of Landscape Architecture: a 96-unit, six-semester curriculum for students with no prior degree in architecture, landscape architecture or environmental design; a 64-unit, four-semester curriculum for students who hold a first non-accredited degree in architecture, landscape architecture or environmental design.

Master of Building Science: a 48-unit, two-year program for applicants who hold an architecture, engineering or science-related degree (e.g., Bachelor of Architecture, Bachelor of Architectural Engineering, Bachelor of Science in Engineering, Environmental Studies, Physics or Mathematics). Students with five-year professional degrees in architecture and a minimum of five years of experience may be given advanced standing.

Dual Degree in Architecture and Planning: a 72-unit program leading to the post-professional Master of Architecture and the Master of Planning degrees. Admission to both degree programs is required.

Dual Degree in Heritage Conservation and Planning: a 60-unit program leading to the Master of Heritage Conservation and Master of Planning degrees. Admission to both degree programs is required.

Dual Degree in Landscape Architecture and Planning: a 82- or 108-unit program leading to the Master of Landscape Architecture and Master of Planning degrees. Admission to both degree programs is required.

Doctor of Philosophy in Architecture: This program is designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice.

Certificate in Architecture: The focus of this program is on understanding the broad and complex role of architecture within the urban and cultural context. Studies focus on cities and architecture throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture degree.

Certificate in Building Science: This program is intended as a supplementary credential for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines, and also for practicing design and planning professionals with undergraduate or graduate degrees and related experience.

Certificate in Heritage Conservation: This program is for those who wish to augment their current work in heritage conservation, and for graduate students who wish to obtain a complementary specialization in conjunction with their degree.

Certificate in Landscape Architecture: This program provides an opportunity for professionals and graduate students to develop understandings and skills related to the basic subjects inherent in the field of landscape architecture.

Certificate in Sustainable Design: This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. Environmental, economic and socially responsible solutions will be explored through the course work.

National Architecture Accrediting Board Statement

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture and the Doctor of Architecture. A program may be granted an eight-year, three-year or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Southern California School of Architecture offers the following NAAB-accredited degree programs:

Bachelor of Architecture (160 undergraduate credits)

Master of Architecture (pre-professional degree + 64 graduate credits)

Master of Architecture (non-professional degree + 102 graduate credits)

Next accreditation visit for all programs: 2022

National Landscape Architecture Accreditation Board Statement

The USC Master of Landscape Architecture first professional curricula (three-year and two-year curricula) are accredited by the American Society of Landscape Architects Landscape Architecture Accreditation Board (LAAB). The LAAB conditions of accreditation (including the student performance criteria) are posted on the ASLA Website, asla.org/AccreditationLAAB.aspx.

Other Programs

Exploration of Architecture Summer Program for High School Students

The School of Architecture offers two- and four-week programs for high school students (must have completed ninth grade by the start of the program) who have no previous experience but are interested in architecture. The program, which began in 1983, is particularly rewarding for students who are contemplating a career in architecture. However, all students find the exposure to the unique problem-solving methodologies of architecture a benefit regardless of their final career choice. Living on campus in a USC residence hall, high school students experience what it is like to be a university student. They participate in studio classes with professional critics and present their ideas in reviews attended by parents and friends.

The program also exposes them, through case studies, sketching exercises and field trips, to some of the most dramatic and impressive historical and modern architecture of Los Angeles. International students have especially appreciated the opportunity to pursue this summer program of study that is not highly dependent on English language skills.

Obtain program details by visiting the School of Architecture Website or by calling (800) 281-8616.

The Building Science Program in Civil Engineering

The Sonny Astani Department of Civil Engineering offers an undergraduate program leading to the degree of Bachelor of Science in Civil Engineering, with an emphasis in building science. The curriculum includes most of the work which is required for the major in structures, plus 30 units in architectural studies offered by the School of Architecture. See the USC Viterbi School of Engineering, Civil Engineering section of this catalogue for further information.

Bachelor's Degree

Architectural Studies (BS)

Bachelor of Science, Architectural Studies

The Bachelor of Science in Architectural Studies program begins intensively with architectural studies in the first two years and provides a mix of architectural and general university studies throughout the program. The curriculum includes a core program in the first two years identical to the Bachelor of Architecture professional degree program. The last two years provide the opportunity to explore many aspects of architecture and related fields and to develop individual strengths and interests. Students take an introductory course in specialization in the second year, which provides an introduction to related fields and alternative degree options. Students can elect to move into the four-year non-

professional BS in Architectural Studies program with a degree plan identifying electives fulfilling an area of concentration. The program is concluded with a seminar with all degree candidates, allowing for collaborative work on areas of common interest.

Admission as a First-year Student

All applicants to the School of Architecture must complete the Common Application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include at least 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture at the time of application.

Summer Transfer Courses

A summer design studio allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer studio, transfer students must demonstrate significant design and drawing skill to justify advanced placement. Transfer students who are admitted with fewer than 32 units of college level work and who have only limited drawing or design skills may be considered for placement in the first year of the four-year program. Previous academic work may in part be applied toward required and elective courses for the four-year BS in Architectural Studies program. For more information about this program, contact the school at (213) 740-2420.

Advisement

The School of Architecture maintains student advisers for the benefit of all students in the school. All incoming students will participate in new student orientation and receive information about course requirements and planning. An individual appointment with an adviser may be scheduled at any time during the academic year to review course work in progress or to plan for future semesters.

Design Studio Grade Point Average Requirement

Less than average work in design studio is not considered sufficient for a continuation in the design studio sequence. Students must receive a grade of C (2.0) or above in each semester of design in order to continue in the design sequence. Students in the first two years of the program are required to repeat the course until such a grade is achieved.

Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125 requirement, on a pass/no pass option. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

Time Limits

While there are no specific time limits for completing the BS in Architectural Studies degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

Four-Year Curriculum for the Bachelor of Science in Architectural Studies Degree

First Year, First Semester

- ARCH 102a Architectural Design I Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- General Education Seminar Units: 4
- MATH 108g Contemporary Precalculus Units: 4 or General Education Units: 4

Total units: 16

First Year, Second Semester

- ARCH 102bL Architectural Design I Units: 4
- ARCH 214ag World History of Architecture Units: 3 *
- PHYS 125Lg Physics for Architects Units: 4 **
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 15

Second Year, First Semester

- ARCH 202aL Architectural Design II Units: 6
- ARCH 213a Building Structures and Seismic Design Units: 3 ***
- ARCH 214bg World History of Architecture Units: 3 *
- General Education Units: 4

Total units: 16

Second Year, Second Semester

- ARCH 202bL Architectural Design II Units: 6
- ARCH 211 Materials and Methods of Building Construction Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3 ***
- General Education

Total units: 16

Third Year, First Semester

- ARCH 215 Design for the Thermal and Atmospheric Environment Units: 3
- ARCH 313 Design of Building Structures Units: 3
- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- ARCH 370 Architectural Studies — Expanding the Field Units: 2
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 15

Third Year, Second Semester

- ARCH 315 Design for the Luminous and Sonic Environment Units: 3
- ARCH 411 Architectural Technology Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- General Education Units: 4
- Professional Architecture Electives Units: 3

Total units: 16

Fourth Year, First Semester

- ARCH 470a Architectural Studies Capstone Units: 1
- Professional Architecture Electives Units: 13
- General Education Units: 4

Total units: 18

Fourth Year, Second Semester

- ARCH 470b Architectural Studies Capstone Units: 3
- Electives Units: 8
- Professional Architecture Electives Units: 5

Total units: 16

Total minimum units required: 128

*ARCH 214a, ARCH 214b fulfill the General Education requirement

in Category A: The Arts.
**PHYS 125 fulfills the General Education requirement in Category E: Physical Sciences. The PHYS 125 requirement may also be fulfilled by PHYS 135a, PHYS 135b; 4 units will be applied toward the BArch and 4 will count as electives.
***ARCH 213a ARCH 213b fulfills the General Education requirement in Category F: Quantitative Reasoning.

Requirements for BS in Architectural Studies Degree

A total of 25 units of professional electives, including ARCH 470 Capstone Seminar, are required in an area of specialization, which must be selected from the accepted professional elective offerings in the School of Architecture or with consultation and approval of the program adviser. This is in addition to the core, elective and general education requirements of the Bachelor of Architecture degree, which are identical for the first two years of the Bachelor of Science in Architectural Studies.

In the third and fourth year of the program, the requirements for the Bachelor of Architecture design studios, ARCH 302a, ARCH 302b and ARCH 402a, ARCH 402b — 24 units — are changed to the professional electives requirement. The full degree requirements are described above.

Core Requirements

Students MUST complete the following core courses as a prelude to the upper-division professional electives and degree requirements: ARCH 102a, ARCH 102b, ARCH 105, ARCH 114, ARCH 202a, ARCH 202b, ARCH 211, ARCH 213a, ARCH 213b, ARCH 214a, ARCH 214b, ARCH 314, ARCH 370, MATH 108, PHYS 125 and WRIT 150.

General Education Requirements

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)
In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.
To fulfill a minimum 128 units for the Bachelor of Science in Architectural Studies, courses in the Global Perspectives categories should be used to satisfy requirements in the Core Literacies as well. A single course can satisfy one Global Perspective and one Core Literacy requirement.
For more information about the general education requirements, see here.

Architecture (BArch)

Bachelor of Architecture

The bachelor's degree program begins intensively with architectural studies in the first year and provides for a mix of architectural and general university studies throughout the program. The curriculum includes two cycles of development. The first cycle of six semesters provides a foundation in understanding architecture, concluding with integrative studies after two years of introductory work. The second cycle, four semesters, provides the opportunity to explore many aspects of architecture and to develop individual strengths and interests. During this period, a comprehensive design studio project is undertaken in the fall of the fifth year. The spring of the fifth (and final) year culminates in the development of that comprehensive building project in the context of a professional practice course, coupled with a research design studio taken along the lines of the students' own interests.

Admission as a First Year Student

All applicants to the School of Architecture must complete the Common Application and submit it to the USC Office of Admission along with Scholastic Aptitude Test (SAT) or other test scores. All applicants, including international students, must submit a portfolio.

Admission with Advanced Placement

It is possible, in selected instances, that a transfer student from an accredited community college or other university may be eligible for advanced placement at the second-year level if previous work includes a minimum of 32 semester units of acceptable academic credit in a pre-architecture program. The academic credit must include at least 8 semester units in architectural design or environmental design. Students accepted for advanced placement must still comply with all requirements for the degree.

Advanced placement applicants are required to submit a design portfolio to the School of Architecture at the time of application.

Summer Transfer Courses

A summer design studio and drawing course allows highly qualified students transferring from community college or other university programs to be evaluated for advanced placement in the fall semester. Applicants must submit a university application and portfolio by February 1 for consideration. During the summer transfer courses, students must demonstrate significant design and drawing skills to justify advanced placement. Successfully completing these summer transfer courses allows students to reduce the required 10-semester design sequence by two semesters, reducing USC residency to four years. This either provides for advanced placement into the second year or gives credit for ARCH 102a, ARCH 102b and ARCH 105 if these courses are passed with grades of B or above. For more information, contact the school at (213) 740-2420.

Transfer students who are admitted with fewer than 32 units of college level work and who have only limited drawing or design skills may be considered for placement in the first year of the five-year design sequence. Previous academic work may in part be applied toward required and elective courses for the five-year Bachelor of Architecture program.

Advisement

The School of Architecture maintains academic advisers for the benefit of all students in the school. All incoming students will participate in new student orientation and receive information about course requirements and planning. An individual appointment with an adviser may be scheduled at any time during the academic year to review coursework in progress or to plan for future semesters.

Degree Requirements

Accredited degree programs awarding the BArch degree must require a minimum of 150 semester credit hours or the quarter-hour equivalent, in academic course work in general studies, professional studies and electives. The curriculum leading to the architecture degree must include at least 45 credit hours, or the quarter-hour equivalent, outside of architectural studies either as general studies or as electives with content other than architectural.

Design Studio and Degree Seminar Grade Point Average Requirement

Less than average work in design and design research is not considered sufficient for a professional degree. Students must

receive a grade of C (2.0) or above in each semester of design and design research (ARCH 102a, ARCH 102b, ARCH 202a, ARCH 202b, ARCH 302a, ARCH 302b, ARCH 402a, ARCH 402b, ARCH 500a, ARCH 501 , ARCH 502a) in order to continue in the design sequence and to graduate. Students will be required to repeat the course until such a grade is achieved.

Transfer Limit for Design Studio Credit

School of Architecture majors enrolling for a semester of study off campus are limited to the transfer of only one design studio course within the ARCH 402a, ARCH 402b sequence. Approval of transfer credit will be dependent upon portfolio review by an appointed faculty review committee.

Pass/No Pass Courses

Architecture students are permitted to take a maximum of 24 units of non-architecture electives, exclusive of the writing requirements, MATH 108 and the PHYS 125L requirement, on a pass/no pass basis. No more than 4 units of pass/no pass courses may be applied to general education requirements; no more than 4 units may be taken in one semester. Students who have taken non-architecture courses pass/no pass in the past (i.e., before admission to architecture) may count such pass/no pass courses toward, but not in addition to, the maximum of 24 units.

Schedule Choices

Students in upper division (ARCH 402a, ARCH 402b) may substitute any fall or spring semester by completing degree requirements, including design studio, by enrolling during summer session. This substitution does not provide for acceleration of the degree but does allow for make up so that students may get back on schedule for the five-year degree.

Time Limits

While there are no specific time limits for completing the bachelor's degree (except in the case of discontinued programs) the School of Architecture may require additional course work of students who remain in the degree program beyond six years.

Five-Year Curriculum for the Bachelor of Architecture Degree

First Year, First Semester

- ARCH 102a Architectural Design I Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- General Education Seminar Units: 4

- MATH 108g Contemporary Precalculus Units: 4 or General Education Units: 4

Total units: 16

First Year, Second Semester

- ARCH 102bL Architectural Design I Units: 4
- ARCH 214ag World History of Architecture Units: 3 *

- PHYS 125Lg Physics for Architects Units: 4 **
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Total units: 15

Second Year, First Semester

- ARCH 202aL Architectural Design II Units: 6
- ARCH 213a Building Structures and Seismic Design Units: 3 ***
- ARCH 214bg World History of Architecture Units: 3 *
- General Education Units: 4

Total units: 16

Second Year, Second Semester

- ARCH 202bL Architectural Design II Units: 6
- ARCH 211 Materials and Methods of Building Construction Units: 3
- ARCH 213b Building Structures and Seismic Design Units: 3 ***
  General Education Units: 4

Total units: 16

Third Year, First Semester

- ARCH 215 Design for the Thermal and Atmospheric Environment Units: 3
- ARCH 302aL Architectural Design III Units: 6
- ARCH 313 Design of Building Structures Units: 3
- ARCH 314 History of Architecture: Contemporary Issues Units: 3

Total units: 15

Third Year, Second Semester

- ARCH 302bL Architectural Design III Units: 6
- ARCH 315 Design for the Luminous and Sonic Environment Units: 3
- ARCH 411 Architectural Technology Units: 3
- General Education Units: 4

Total units: 16

Fourth Year, First Semester

- ARCH 402aL Architectural Design IV Units: 6
- WRIT 340 Advanced Writing Units: 3, 4
- General Education Units: 4
- Electives Units: 4

Total units: 18

Fourth Year, Second Semester

- ARCH 402bL Architectural Design IV Units: 6
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- Architecture History Elective Units: 2-4
- Electives Units: 3-5

Total units: 16

Fifth Year, First Semester

- ARCH 500aL Comprehensive Architectural Design Units: 6
- ARCH 501 Critical Topics in Architecture Units: 2
- Electives Units: 8

Total units: 16

Fifth Year, Second Semester

- ARCH 502aL Architectural Design V Units: 6
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- Electives Units: 7

Total units: 16

Total minimum units required: 160

*ARCH 214a, ARCH 214b *fulfill the General Education requirement in Category A: The Arts.*
**PHYS 125 *fulfills the General Education requirement in Category E: Physical Sciences. The* PHYS 125 *requirement may also be fulfilled by* PHYS 135a, PHYS 135b*; 4 units will be applied toward the BArch and 4 will count as electives.*
***ARCH 213a, ARCH 213b *fulfills the General Education requirement in Category F: Quantitative Reasoning.*

Core Requirements

In order to take advantage of elective opportunities at the upper division level, students MUST complete the following courses before the end of the integrative semester (third year, second semester): ARCH 102a, ARCH 102b, ARCH 105, ARCH 114, ARCH 202a, ARCH 202b, ARCH 211, ARCH 213a, ARCH 213b, ARCH 214a, ARCH 214b, ARCH 215; ARCH 314; MATH 108; PHYS 125 and WRIT 150

Additional Requirements

Allocation of Elective Units

Professional Architecture Electives

A minimum of 12 units in architecture is required.

Architecture History Elective

A minimum of 2 units in architecture history is required.

Free Electives

A minimum of 8 units in any area of liberal arts or sciences excluding MATH 108, PHYS 125 or PHYS 135a, PHYS 135b).

General Education Requirements

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

Core Literacies

GE-A: The Arts (one course)

GE-B: Humanistic Inquiry (two courses)

GE-C: Social Analysis (two courses)

GE-D: Life Sciences (one course)

GE-E: Physical Sciences (one course)

GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)

GE-H: Traditions and Historical Foundations (one course)

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

To fulfill a minimum 160 units for the Bachelor of Architecture degree, courses in the Global Perspectives categories should *be used to satisfy requirements in the Core Literacies as well. A single course can satisfy one Global Perspective and one Core Literacy requirement.*

For more information about the general education requirements, see here.

Minor

Architecture Minor

The minor in architecture provides the flexibility of complementing a student's major with an area of specialization. Taking a minor in architecture is a unique opportunity for a student to stimulate his or her imagination and learn creative approaches to problem solving.

Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

Course Requirements

The requirements for the minor include three required courses (8 units) and a minimum of 12 units of upper division courses.

Required Courses

- ARCH 106x Workshop in Architecture Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 304x Intensive Survey: Prehistory to the Present Units: 4

Note:

Students may elect to take the upper division courses in an area of specialization, such as architectural history and theory, historic preservation, computers and design, visual communication, landscape architecture, public places — urban spaces, housing or practice management. This minor is not available to architecture majors.

Landscape Architecture Minor

The minor provides students with the ability to integrate the ecological and cultural dimensions of landscape architecture into their course of study. Studies are about repairing and sustaining natural systems in cities, about the history of human settlements, places, and gardens in urban landscapes, and about the cultural and aesthetic meanings of landscape architecture design. This is an excellent emphasis for students in environmental studies, civil engineering, planning and anthropology. This minor is not available to architecture majors.

Admission Requirements

Students in good academic standing who have completed the freshman year are eligible.

Course Requirements

The minor in landscape architecture consists of three required courses (11 units) and a minimum of 10 units of upper division courses.

Required Courses

- ARCH 203 Visualizing and Experiencing the Built Environment Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ARCH 465 The Landscape Imaginary Units: 4

Upper Division Courses (10 Units)

- ARCH 303 Principles of Spatial Design I Units: 4
- ARCH 432 People, Places and Culture: Architecture of the Public Realm Units: 4
- ARCH 531 The Natural Landscape Units: 3
- ARCH 536 The Landscape Planning Process Units: 3
- ARCH 544 Urban Landscape: Process and Place Units: 3
- ARCH 545 Urban Landscape: Contemporary History and Prospect Units: 3
- ARCH 547 Urban Nature Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3 (max 6)

Note:

Non-architecture students must obtain written approval from their academic unit in order to take a 500-level course. For more information, contact an architecture advisor, archadvs@usc.edu.

Master's Degree

Advanced Architectural Studies (MAAS)

This program is dedicated to cutting edge research and experimentation, and seeks to explore in a highly innovative fashion the cultural and technological landscapes of Los Angeles. Through its range of experimental 'Labs', the program is structured under three distinct veins of inquiry [1] architectural urban studies using Los Angeles as a laboratory to engage global issues; [2] advanced computation/fabrication technologies and material processes; and [3] performative architecture with an emphasis on sustainable systems. These specific design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University of Southern California and the city of Los Angeles.

The Master of Advanced Architectural Studies is a three-semester advanced degree program. Consisting of two option-based topic studios followed by an in-depth Directed Design Research project [DDR], and coordinated seminar courses each for the first two semesters, the degree is focused on advanced and emerging topics in architecture. The design and research directions are diversely initiated by our faculty and fully supported by additional resources from the University at-large and the city of Los Angeles.

Candidates for admission must have a five-year Bachelor of Architecture degree or its equivalent. Completion of the degree

requires 48 units, including 28 units of required studio and seminar courses, [including 8 units Directed Design Research or Thesis], and 20 units of approved electives, over three semesters of residency.

Required Courses

- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6
  or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

48-Unit Sample Curriculum – Master of Advanced Architectural Studies (MAAS) Post-Professional Degree

First Semester

- ARCH 606 Advanced Architectural Theory Units: 2 *
- ARCH 607 Advanced Computation Units: 2 *
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2 *
- ARCH 609 Advanced Fabrication Units: 2 *
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6

Total units: 14

Second Semester

- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6 (max 12)

- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or
- ARCH 795aL Architecture Thesis Option II Units: 2

- Elective Units: 8

Total units: 16

Third Semester

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6

- Electives Units: 12

Total units: 18

Note:

**ARCH 606 and ARCH 607 will be taken the first half of the semester and ARCH 608 and ARCH 609 in the latter half of the semester.*

Architecture (MArch)

Programs

The USC School of Architecture offers two distinct master's programs related to the study of architecture: the Master of Architecture professional degree (MArch) and the Master of Advanced Architectural Studies postprofessional degree (MAAS) for students who already hold a professional degree in architecture or its equivalent.

Master of Architecture (MArch), Professional Degree

The school's Master of Architecture is a NAAB accredited professional degree program in the area of architectural design. It is intended for individuals who have completed a bachelor's degree with a major other than one of the design professions, (typically requiring three years of residency); or, with advanced standing, for those individuals with a pre-professional undergraduate degree in architectural studies (typically requiring two years of residency).

This degree fully prepares graduates for the present and future professional activities in the ever-evolving field of architecture. As an accredited professional degree, it provides a solid intellectual base of knowledge in history, technology, professional practice and theory. Particular emphasis is put on each of the six-semester design studio sequences, where students learn to synthesize the social, environmental and tectonic thinking through informed design practice. The studios culminate in an option-based studio and directed design research sequence, pursuing exploration of advanced and emerging topics. Exploring the many elective opportunities within the school, students are encouraged to develop a tailored curriculum, and if possible, to complete one of the several graduate certificates offered by the school or within the university.

Degree Requirements

A minimum one-semester college-level course in physics or calculus is required.

In order for the MArch degree to be conferred, students must complete 102 credit units of both required professional and elective course work during three years of residency, or for students admitted with advanced standing, a minimum of 64 units of both required professional and elective course work during two years of residency. Students must also continually meet the established standards for graduate study at USC.

To meet NAAB accreditation requirements, all students must complete (before graduation) a combined total of 168 credit hours of study at the undergraduate and graduate level, of which at least 30 semester credit hours must be at the graduate level as well as a minimum of 45 units of non-architectural content.

Advanced Standing

Students seeking advanced standing must have a four-year architectural studies degree from: a U.S. school with an accredited professional architecture program; a U.S. school that is accredited by a regional accrediting body, without an accredited professional architecture program; or an international program that is deemed equivalent.

All students who meet the pre-professional undergraduate degree requirement and wish to be considered for advanced standing must undergo a course-by-course review. Students must provide significant evidence from the course work completed at the undergraduate level in order for waivers to be considered or granted for USC MArch required Basic Studies courses. This review is conducted after admission to the program, during the summer prior to starting course work.

Basic Studies courses include: ARCH 511 L Building Systems: Materials and Construction, ARCH 514a Global History of Architecture, ARCH 514b Global History of Architecture, ARCH 523a L Structural Design and Analysis, ARCH 523b L Structural Design and Analysis, ARCH 575a Systems, ARCH 575b Systems, ARCH 611 Advanced Building Systems Integration.

MArch students with advanced standing are required to complete a minimum two year residency, or 4 semester units of study at USC.

Summer Semester

A robust curriculum is available during the summer semester between the fourth and fifth semesters [of the full sequence; between the second and third of the advanced standing]. A combination of internationally based studios, field studies and the full first semester sequence of the MAAS is available to provide students diverse and advanced opportunities that can expand their degree offerings.

Admission with No Previous Professional Education (+3)

Students admitted with no previous professional education must complete 102 units, including 74 units of specified courses, 20 units of electives and 8 units of Directed Design Research or Thesis. Electives must be part of a curricular plan approved by the program

director.

Required Courses for the 102 unit M.Arch +3 Curriculum

- ARCH 409L Design Foundation Units: 2
- ARCH 410 Computer Transformations Units: 2
- ARCH 505aL Graduate Architecture Design I Units: 6
- ARCH 505bL Graduate Architecture Design I Units: 6
- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 514a Global History of Architecture Units: 3
- ARCH 514b Global History of Architecture Units: 3
- ARCH 523aL Structural Design and Analysis Units: 3
- ARCH 523bL Structural Design and Analysis Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 575a Systems Units: 3
- ARCH 575b Systems Units: 3
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 605bL Graduate Architecture Design II Units: 6
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6
  or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

102-unit Sample Curriculum – M.Arch. Professional Degree

First Semester

- ARCH 409L Design Foundation Units: 2 *
- ARCH 410 Computer Transformations Units: 2 *
- ARCH 505aL Graduate Architecture Design I Units: 6
- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 514a Global History of Architecture Units: 3

Total units: 17

Second Semester

- ARCH 505bL Graduate Architecture Design I Units: 6
- ARCH 514b Global History of Architecture Units: 3
- ARCH 523aL Structural Design and Analysis Units: 3
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 575a Systems Units: 3

Total units: 18

Third Semester

- ARCH 523bL Structural Design and Analysis Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 611 Advanced Building Systems Integration Units: 4

Total units: 17

Fourth Semester

- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 575b Systems Units: 3
- ARCH 605bL Graduate Architecture Design II Units: 6
- Electives Units: 4

Total units: 17

Fifth Semester

- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or
- ARCH 795aL Architecture Thesis Option II Units: 2

- Electives Units: 6

Total units: 17

Sixth Semester

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6

- Electives Units: 10

Total units: 16

Note:

**ARCH 409 and ARCH 410 will be taken as a fall semester special session prior to the first day of classes.*

Admission with Advanced Standing (+2)

Advanced standing students must complete 64 units, including 34 units of specified courses, 22 units of electives or basic studies requirements and 8 units of Directed Design Research or Thesis. Electives and basic studies courses must be part of a curricular plan approved by the program director.

Required Courses for the 64 unit +2 Curriculum

- ARCH 410 Computer Transformations Units: 2
- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- ARCH 605bL Graduate Architecture Design II Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

64-unit Sample Curriculum

Year One, Semester One

- ARCH 410 Computer Transformations Units: 2
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 605aL Graduate Architecture Design II Units: 6
- Elective or Basic Studies Units: 4

Total units: 16

Year One, Semester Two

- ARCH 525 Professional Practice: Pre-Design, Project and Office Administration Units: 3
- ARCH 563 Contemporary Architectural Theory Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 605bL Graduate Architecture Design II Units: 6

- ARCH 611 Advanced Building Systems Integration Units: 4

Total units: 17

Year Two, Semester One

- ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation Units: 3
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2 or
- ARCH 795aL Architecture Thesis Option II Units: 2

- Elective or Basic Studies Units: 5

Total units: 16

Year Two, Semester Two

- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795bL Architecture Thesis Option II Units: 6

Elective or Basic Studies Units: 9

Total units: 15

Building Science (MBS)

The Chase L. Leavitt Graduate Building Science program in the USC School of Architecture is a global leader in architectural technology education - the intricacies of structure, environmental controls, sustainability, materials and methods, and computing, with a special strength in façade research. The Master of Building Science curriculum encourages "breadth with depth," providing students with a solid platform of core knowledge that they can then amplify through their individual research projects. Electives allow students to stretch in a variety of directions, both within the field and beyond into the related disciplines of heritage conservation, landscape architecture, and architecture.

Graduate building science degree programs at USC are a half-century old, although the pedagogy has been an integral part of the School of Architecture for more than a century. Some of the great innovators of our field are either graduates or faculty associated with our program. The confluence of an outstanding faculty, dedicated students, an exceptional curricular structure, good facilities and a long history of collaborative scholarly achievement creates an unparalleled academic home for those interested in cutting-edge research and technological innovation.

Degree Requirements

The **Thesis Track** consists of 18 units of specified courses to include three core seminars and one research seminar; 17 units of elective courses; and 13 units of thesis and thesis preparation. Completion of this track requires 48 units.

The **Non-Thesis Track** consists of 18 units of specified courses to include three core seminars and one research seminar, 1 unit of thesis preparation, 17 units of electives and 12 units from a specified list of courses. Students are required to declare their intention for the Non-Thesis Track by the end of their first year of studies and must receive admission approval from the Director of the Master of Building Science program. Completion of this degree requires 48 units.

Core seminars are:

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4

- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4

Research seminars are:

- ARCH 613L Seminar: Structures Research Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4

48-Unit Sample Curriculum For Thesis Track

First Year, First Semester

- Core seminar(s) and/or research seminar(s) Units: 12
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- Core seminar and/or research seminar Units: 4
- Electives Units: 7

Total units: 11

Second Year, First Semester

- ARCH 692aL Building Science Thesis Units: 6

Electives

Total units: 12

Second Year, Second Semester

- ARCH 692bL Building Science Thesis Units: 6
- ARCH 694 Research Publication Methods for Building Science Units: 2

Electives

Total units: 12

48-Unit Sample Curriculum for Non-Thesis Track

Non-Thesis Track Building Science Elective Options (must choose 12 units)

- ARCH 418 Designing with Natural Forces
- ARCH 419 Architectural Sustainability Tools and Methods
- ARCH 507 Theories of Computer Technology
- ARCH 512 Material + Process: Material Systems
- ARCH 513L Seminar: Advanced Structures
- ARCH 515L Seminar: Advanced Environmental Systems
- ARCH 517 Current Topics in Building Science
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings
- ARCH 543 Research Methods
- ARCH 551 Conservation Methods and Materials
- ARCH 557 Sustainable Conservation of the Historic Built Environment
- ARCH 564 Descriptive and Computational Architectural Geometry
- ARCH 573 Seismic Design
- ARCH 574 Parametric Design
- ARCH 576 Sustainable Design for Healthy Indoor Environments
- ARCH 577L Lighting Design
- ARCH 579 Sustainable Building and Environment using LEED Metrics
- ARCH 581 Techniques in Digital Fabrication
- ARCH 609 Advanced Fabrication
- ARCH 611 Advanced Building Systems Integration
- ARCH 613L Seminar: Structures Research
- ARCH 615L Seminar: Environmental Systems Research

(*Note: Students may obtain credit for* either *ARCH 613L or ARCH 615L in the non-thesis option, but not both. They must select one of these two courses as part of their regular core).*

First Year, First Semester

- Core seminar(s) and/or research seminar(s) Units: 12
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- Core seminar and/or research seminar Units: 4
- Electives Units: 7

Total units: 11

Second Year, First Semester

- Elective Units: 10

- Select 2 units of Building Science elective course work from above list

Total units: 12

Second Year, Second Semester

- Select 10 units of Building Science elective course work from above list
- ARCH 694 Research Publication Methods for Building Science Units: 2

Total units: 12

Advanced Standing for Students with a Five-Year Professional Degree in Architecture

Applicants who have completed a five-year Bachelor of Architecture degree and at least five years of teaching or practice (may be combined), may be qualified for advanced standing. Each student will be considered individually. In such cases, the degree requirements are 36 units, including 16 units of specified courses, 13 units of thesis and thesis preparation and 7 units of electives. Students with advanced standing will typically be able to complete the degree program in three regular semesters. Admission with advanced standing is determined at the time of review for admission to the program.

36-Unit Advanced Standing Sample Curriculum

First Year, First Semester

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4

- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 596 Building Science Thesis Preparation Units: 1

Total units: 13

First Year, Second Semester

- ARCH 613L Seminar: Structures Research Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4

- ARCH 692aL Building Science Thesis Units: 6
  Electives

Total units: 12

Second Year, First Semester

- ARCH 692bL Building Science Thesis Units: 6
  Electives

Total units: 11

Heritage Conservation (MHC)

Completion of this degree requires 48 units and includes 26 units of specified courses, 5 units of thesis preparation and thesis, and 17 units of elective courses as approved by the program director.

Master of Heritage Conservation

Los Angeles provides a unique laboratory in which to learn and challenge conservation issues. As a relatively young and diverse global city, it is the ideal place to explore a relatively young and diverse global discipline. Our wealth of recent past resources raise a new set of research challenges and the city's richly diverse communities woven throughout the tapestry of the built environment push us to acknowledge the many layers of history and meaning revealed in the city. It is also a place forever seeking the new, providing opportunities to protect the best of the past while embracing the landmarks of the future.

Embedded in the School of Architecture at USC, heritage conservation students are instantly part of a multidisciplinary environment, linking landscape architecture, building science, architecture, and conservation. As such, the program curriculum is designed to expose students to a broad range of topics including materials conservation, policy and planning, conservation theory, global conservation efforts, architectural and landscape history, best-practices in resource documentation and evaluation, sustainability, and historic site management. Students are also encouraged to take advantage of the many academic resources in the broader university, including taking courses in real estate, regional history, urban planning, and spatial sciences. Program faculty are leaders in the field, a blend of academics and practitioners that grapple with conservation in real time, seeking creative solutions that balance the integrity of the past with a sustainable future. Through this broad exposure, students begin to formulate their professional path within the discipline.

Required Courses

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0

48-Unit Sample Curriculum

First Year, First Semester

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2
- Electives Units: 2

Total units: 12

First Year, Second Semester

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1

Total units: 12

Second Year, First Semester

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- Elective Units: 7

Total units: 12

Second Year, Second Semester

- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- Electives Units: 8

Total units: 12

Requirements for Advanced Standing

Students must have one of the following: an accredited graduate certificate in historic preservation or heritage conservation; professional degree or professional registration in architecture or engineering; graduate degree in a related field, such as architectural history, planning or history; and at least five years of teaching or practice (may be combined). Each student will be considered individually. Qualified students will be admitted to a three-semester program at the time of review of admission. Students with advanced standing must complete 36 units.

Required Courses

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0

36-Unit Sample Curriculum

First Year, First Semester

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2
- Electives Units: 2

Total units: 12

First Year, Second Semester

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1

Total units: 12

Second Year, First Semester

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- Electives Units: 3

Total units: 12

Landscape Architecture (MLArch)

USC offers a unique living laboratory of a diverse, multicultural and geographically sophisticated territory, which is exemplar for many of the world's most pressing landscape challenges within the context of a major urban research university. Los Angeles, in particular, and California, more generally, are extreme natural and social geographies, where the evolving interplays of infrastructure, landscape and urbanism require innovative and systemic thinking.

Los Angeles, which Reyner Banham famously interpreted in 1971 as a construct of four ecologies, is an ideal urban nature setting for studying landscape architecture—where urgent contemporary issues can and must be addressed while testing the boundaries of design research, design thinking and implementation. The growing ecological crises and intense population pressure of the city's coasts, flatlands and foothills are a pars pro toto, a microcosm, of the challenges facing state, nation and globe, ones that necessitate a paradigm shift to complex systems thinking.

Graduate landscape architecture at USC is based on the knowledge and skills to engage complex issues, and to undertake ambitious design explorations. Upon completion, graduates are prepared for both design and leading leadership opportunities in professional practice, public service as well as in higher education; they are able to address the necessary balance of ecology and development our future environments will require.

The USC Landscape Architecture + Urbanism program develops real-world issues, formulates and re-formulates problems, explores and proposes operative strategies and becomes part of the discourse with stakeholders and cities. The resistive capacity of the landscape to the ever-globalizing, homogenization of territories is created as a means to shape possible futures for parks, neighborhoods, city districts and the larger stewardship of the landscape.

Master of Landscape Architecture

Individuals who have completed a four-year Bachelor of Arts or Bachelor of Science degree, or its equivalent, with no prior accredited degree in landscape architecture, are eligible for admission to the program. Preference for admission is given to those who have completed a balanced undergraduate education that includes study in the arts, sciences and humanities. Applicants must document successful completion of a college-level course in the natural sciences. Preparation in the visual arts is strongly encouraged. A minimum of a one-semester, college-level course in the visual arts, such as drawing, sculpture, graphics and/or basic design, is required before beginning the first semester of study. Courses in the humanities, ecology, history of art, landscape architecture and architecture are strongly encouraged, although not required.

96-Unit Curriculum

Students admitted with no previous professional education must complete 96 units (during three years of residency), including 70 units of specified courses, 16 units of electives of which a minimum of 10 must be from the School of Architecture, and 10 units of Thesis. Electives must be part of a curricular plan approved by the program director.

96-Unit Sample Curriculum

Year One, Semester One

- ARCH 414 Perspectives in History and Theory in Architecture Units: 2
- ARCH 439 Landscape Architecture Media Workshop Units: 1
- ARCH 531 The Natural Landscape Units: 3
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 541aL Landscape Architecture Design Units: 6

Total units: 15

Year One, Semester Two

- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 537 Urban Plant Ecology: Environmental Perspectives Units: 3
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3

Total units: 18

Year Two, Semester One

- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 538L Urban Plant Ecology: Cultural Perspectives Units: 4
- ARCH 545 Urban Landscape: Contemporary History and Prospect Units: 3
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3
- Elective Units: 2

Total units: 18

Year Two, Semester Two

- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- Elective Units: 6

Total units: 15

Year Three, Semester One

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 642L Landscape Architecture Design Units: 6
- ARCH 698aL MLArch Thesis Units: 2

- Elective Units: 4

Total units: 15

Year Three, Semester Two

- ARCH 547 Urban Nature Units: 3
- ARCH 698bL MLArch Thesis Units: 8

- Elective Units: 4

Total units: 15

Requirements for Advanced Placement

Applicants who have completed a LAAB (Landscape Architectural Accreditation Board), or equivalent, degree in landscape architecture may be granted advanced placement of two semesters, subject to the review of the admission committee. Applicants granted advanced placement may be able to waive certain course requirements for the MLA program by demonstrating equivalencies in any of the required courses. The program director and faculty in charge of the specific curriculum areas will determine the studio and professional course requirements for each MLA student admitted with advanced placement. The following courses are prerequisites to be completed prior to matriculation or, on specific notice, in the first year of the program: history of landscape architecture (ARCH 565 or equivalent), landscape architecture construction (ARCH 534, ARCH 635 or equivalent), plant materials (ARCH 537, ARCH 538 or equivalent), media (ARCH 539 or equivalent).

64-Unit Sample Curriculum

Advanced placement students must complete 64 units, including 39 units of specified courses, 15 units of electives of which a minimum of 10 must be from the School of Architecture, and 10 units of Thesis. Electives must be part of a curricular plan approved by the program director.

Year One, Semester One

- ARCH 531 The Natural Landscape Units: 3
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 545 Urban Landscape: Contemporary History and Prospect Units: 3
- Elective Units: 3

Total units: 15

Year One, Semester Two

- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3
- Elective Units: 2

Total units: 17

Year Two, Semester One

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 642L Landscape Architecture Design Units: 6
- ARCH 698aL MLArch Thesis Units: 2

- Elective Units: 6

Total units: 17

Year Two, Semester Two

- ARCH 547 Urban Nature Units: 3
- ARCH 698bL MLArch Thesis Units: 8

- Elective Units: 4

Total units: 15

Sample Elective Courses

Electives

- ARCH 404 Topics in Modern Architecture in Southern California Units: 3
- ARCH 407 Advanced Computer Applications Units: 4
- ARCH 440m Literature and the Urban Experience Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ARCH 507 Theories of Computer Technology Units: 3
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 524 Professional Practicum Units: 1 (max 2)
- ARCH 536 The Landscape Planning Process Units: 3
- ARCH 540 Topics in Media for Landscape Architecture Units: 2 (max 6)
- ARCH 544 Urban Landscape: Process and Place Units: 3 (max 6)
- ARCH 546 Topics in Landscape Architecture: Issues and Practices Units: 2
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3 (max 6)
- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3
- PPD 527 The Social Context of Planning Units: 2
- PPD 530 Historical Analysis of Urban Form and Planning Practice Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- PPDE 632 Sustainable Cities Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 583 Spatial Analysis Units: 4

Graduate Certificate

Architecture Certificate

The focus of this program is on understanding the broad and complex role of architecture within the urban context. Studies focus on cities throughout the world where conditions of increasing density, environmental challenges and cultural complexity require design initiatives that support amenity, sustainability and cultural meaning. The certificate is open to graduate students not pursuing a Master of Architecture or Master of Advanced Architectural Studies degree.

Course Requirements

Completion of the certificate program requires a minimum of 14 units.

Core Courses

- ARCH 514a Global History of Architecture Units: 3
- ARCH 514b Global History of Architecture Units: 3
- ARCH 558 Fundamentals of Place-Making Units: 2 *
- ARCH 562 Architecture Themes and Case Studies Units: 2
- ARCH 563 Contemporary Architectural Theory Units: 2
- Electives Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 511L Building Systems: Materials and Construction Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 561 Urbanism Themes and Case Studies Units: 2
- ARCH 564 Descriptive and Computational Architectural Geometry Units: 2
- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 614 Contemporary Issues in Architecture: A Critical Dialectic Units: 3

Note:

**Students in the Master of Heritage Conservation Program should substitute core class ARCH 558 with another elective. Students with a previous design based degree (or are currently enrolled in one), may be able to substitute ARCH 558 for an elective.*

Building Science Certificate

Building science at USC recognizes that exemplary architecture requires a creative response to natural forces, based on informed good judgment in the areas of architectural technology. The Certificate in Building Science is intended as a supplement for students enrolled in graduate course work in architecture, landscape architecture, historic preservation, urban planning or related disciplines.

Course Requirements

Completion of the certificate requires a minimum of 14 units. Students must take three core courses. Electives in building science may be taken to complete the program requirements.

Required Courses

Choose three of the following six courses:

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4

- ARCH 513L Seminar: Advanced Structures Units: 4 or
- ARCH 613L Seminar: Structures Research Units: 4

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4

- Elective(s) in Buliding Science Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 507 Theories of Computer Technology Units: 3
- ARCH 517 Current Topics in Building Science Units: 1 (max 6)
- ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure Units: 2
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 573 Seismic Design Units: 2
- ARCH 577L Lighting Design Units: 4
- One from the list of required courses that was not yet selected Units: 4

Note:

Courses for this certificate cannot also be required courses in the student's major in the School of Architecture.

Heritage Conservation Certificate

This program is directed at professionals who wish to augment their academic credential for their involvement in heritage conservation projects and at graduate students who wish to complement a degree in architecture, landscape architecture, planning, public art administration, geography, anthropology, or other related disciplines.

Required Courses

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 553 History of American Architecture and Urbanism Units: 3
- Electives Units: 2

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2

Landscape Architecture Certificate

This program is intended to introduce at the graduate level the basic subjects inherent to the field of landscape architecture: plant materials suitable to urban conditions; urban utility and transportation systems in relation to topography, natural drainage and pathways; plant and wildlife communities; as well as inquiries about landscape infrastructure and ecology, and the history of human settlement in the evolution of urban landscapes. Southern California and Los Angeles provide an exceptionally valuable natural and socio-cultural laboratory for landscape architecture studies.

Course Requirements

Completion of the certificate program requires a minimum of 12 units.

Required Courses

- ARCH 531 The Natural Landscape Units: 3
- ARCH 537 Urban Plant Ecology: Environmental Perspectives Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3
- ARCH 566 Cross Cultural Topics in Landscape Architecture History Units: 3

Sustainable Design Graduate Certificate

The Sustainable Design Graduate Certificate is a multidisciplinary program open to USC students pursuing graduate degrees in many disciplines that may be interested in the sustainability of the built environment.

Sustainability is an imperative for our planet as climate change, population growth and dwindling oil supplies are all reminders that

our resources are finite and we need a new paradigm to adjust to these global changes. The built environment represents the majority of our energy use and design can help reduce both the embodied and operational energy of our buildings and urban landscape.

This certificate provides students with the tools necessary to understand and quantify sources of energy use in buildings and landscapes and to use design of natural and man-made systems to reduce their energy use. This certificate will give students the background to help them make sustainable design choices through informed decision-making that considers the performance of the built environment related to the energy required to make it, the energy it absorbs or releases, the energy required to maintain it, and the energy required to replace it. Environmental, economic and socially responsible solutions will be explored through the course work.

Applicants for the Certificate in Sustainable Design who are currently enrolled in a program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the student services adviser.

Applicants for the Certificate in Sustainable Design who are not matriculated in a master's-level program at USC must submit a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

Course Requirements

Completion of the certificate program requires a minimum of 14 units.

Core Courses

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- Electives Units: 4 *

Sample Electives **

(or as approved by the program faculty adviser or director)

- ARCH 515L Seminar: Advanced Environmental Systems Units: 4 or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 (whichever one not used above)

- ARCH 517 Current Topics in Building Science Units: 1 ***
- ARCH 531 The Natural Landscape Units: 3
- ARCH 537 Urban Plant Ecology: Environmental Perspectives Units: 3
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2

- ARCH 511L Building Systems: Materials and Construction Units: 4 or
- ARCH 611 Advanced Building Systems Integration Units: 4

- ARCH 599 Special Topics Units: 2, 3, 4 ***
- ENE 505 Energy and the Environment Units: 3
- PPD 644 Shaping the Built Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Notes:

*** Electives for the certificate may not include courses required by the student's other degree programs.*

**** When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*

For current USC students enrolled in the Master of Building Science program

Core Courses

- ARCH 511L Building Systems: Materials and Construction Units: 4 * or
- ARCH 611 Advanced Building Systems Integration Units: 4 * or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 *

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- Electives Units: 4

Sample Electives

(or as approved by the program faculty adviser or director)

- ARCH 511L Building Systems: Materials and Construction Units: 4 ** or
- ARCH 611 Advanced Building Systems Integration Units: 4 ** or
- ARCH 615L Seminar: Environmental Systems Research Units: 4 **

- ARCH 517 Current Topics in Building Science Units: 1 ***
- ARCH 531 The Natural Landscape Units: 3
- ARCH 537 Urban Plant Ecology: Environmental Perspectives Units: 3
- ARCH 557 Sustainable Conservation of the Historic Built Environment Units: 2
- ARCH 599 Special Topics Units: 2, 3, 4 ***
- ENE 505 Energy and the Environment Units: 3
- PPD 644 Shaping the Built Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Notes:

**If not used as a required course for MBS degree*

***If not used as a required course for MBS degree and not used as a core course above*

**** When approved by the director of the Chase L. Leavitt Graduate Program of Building Science*

Each academic unit, department or program will determine the number of units completed that may be applied to the student's master or doctoral degree.

Dual Degree

Master of Advanced Architectural Studies/ Master of Planning (MAAS/MPI)

The Master of Planning/Master of Advanced Architectural Studies dual degree program facilitates highly related cross-disciplinary studies in architecture and in planning at the master's level. This program offers students interested in developing a career in urban design an opportunity to make more substantial commitments in both disciplines and to achieve a more coherent and extensive knowledge in the design of built environments and public policy. This dual degree program normally requires five semesters in residence.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program. Such students must already possess a five-year professional degree in architecture.

Requirements

Requirements for completion of the dual degree program are 72 units, including 36 units in architecture and 36 units in planning, as follows:

Architecture

- ARCH 606 Advanced Architectural Theory Units: 2
- ARCH 607 Advanced Computation Units: 2
- ARCH 608 Urban Theory: Los Angeles Case Study Units: 2
- ARCH 609 Advanced Fabrication Units: 2
- ARCH 702L Advanced Graduate Architecture Design – Themes Units: 6
- ARCH 705L Advanced Graduate Architecture Design – Topics Units: 6

- ARCH 793aL Architecture Directed Design Research Option I Units: 2
- ARCH 793bL Architecture Directed Design Research Option I Units: 6 or
- ARCH 795aL Architecture Thesis Option II Units: 2
- ARCH 795bL Architecture Thesis Option II Units: 6

- Elective* Units: 8

Note:

**5 units of electives taken within the School of Architecture.*

Public Policy

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Concentration Methodology: A 4-unit course selected from the concentration list shown in the Master of Planning program.

Planning Studios: PPD 531L (4, 4) to total 8 units. Students must complete 8 units of domestic or international planning studies under PPD 531L (4) to satisfy this requirement. A maximum of 12 units may be taken.

Electives: A total of 8 units of electives taken within the USC Price School of Public Policy.

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Master of Heritage Conservation/Master of Planning (MHC/MPl)

The Master of Heritage Conservation/Master of Planning dual degree program facilitates highly related crossdisciplinary studies in heritage conservation and in urban planning at the master's level. The primary objective of the dual degree curriculum is to impart to students a basic familiarity with the origins and development of the philosophies, theories, and practices of planning and heritage conservation. This curriculum has been developed so that students will graduate from this program with a broad practical knowledge of the laws, regulations, and policies that apply to planning and conservation practice in the United States and internationally. This expertise will include knowledge of urban design, public policy, and architectural and planning history and theory. Students will be expected to understand the critical methodological tools necessary for a professional engaged in the investigation, interpretation, and evaluation of the urban built environment.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program.

Requirements

Requirements for completion of the dual degree program are 60 units, including 30 units in heritage conservation and 30 units in planning, as follows:

Architecture

- ARCH 549 Fundamentals of Heritage Conservation Units: 3
- ARCH 550 Heritage Conservation Policy and Planning Units: 3
- ARCH 551 Conservation Methods and Materials Units: 3
- ARCH 552 Introduction to Historic Site Documentation Units: 2
- ARCH 553 History of American Architecture and Urbanism Units: 3
- ARCH 554 Heritage Conservation Practicum — Advanced Documentation Units: 3
- ARCH 555 Global Perspectives in Heritage Conservation Units: 2
- ARCH 556 Readings in Heritage Conservation Theory Units: 2
- ARCH 558 Fundamentals of Place-Making Units: 2
- ARCH 691a Heritage Conservation Thesis Preparation and Thesis Units: 1
- ARCH 691b Heritage Conservation Thesis Preparation and Thesis Units: 4
- ARCH 691z Heritage Conservation Thesis Preparation and Thesis Units: 0
- ARCH-Electives Units: 2

Total units: 30

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12
- PPD-Concentration - Gateway course Units: 4
- PPD-Concentration - Methodology course Units: 4
- PPD-Electives Units: 6

Total units: 30

Additional Requirements

Concentration Methodology: Students in this program will be required to select a concentration for the Master of Planning program.

Electives: Electives must be taken within the USC School of Architecture or the Price School of Public Policy.

Degree Completion Requirements: Dual degree students, like all other MPL students, must take a comprehensive examination and fulfill the internship requirement. In addition, like all other MHC students, dual degree students will be expected to complete a thesis.

Master of Landscape Architecture/Master of Planning (MLArch/MPl)

Qualified students who are admitted to the Master of Landscape Architecture program in the School of Architecture and to the graduate program in the USC Price School of Public Policy may complete both degrees in a highly integrated five-seven semester program.

Completion of the dual degree requires 24 units of courses in urban planning, 10 units of thesis and either 48 units of landscape architecture (for those students admitted with advanced placement); or 74 units of landscape architecture (for those students admitted to the three-year curriculum).

Master of Landscape Architecture (Advanced Placement)/Master of Planning

Qualified students who have completed a pre-professional undergraduate degree in landscape architecture or environmental design, or a professional degree in architecture and are admitted to the graduate program in the School of Architecture with advanced placement and to the USC Price School of Public Policy may

complete both degrees in a highly integrated six-semester program.

Completion of the dual degree requires 82 units, including 48 units of courses in landscape architecture, 24 units of courses in urban planning, and 10 units of Thesis.

Landscape Architecture

- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 531 The Natural Landscape Units: 3
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 545 Urban Landscape: Contemporary History and Prospect Units: 3
- ARCH 547 Urban Nature Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3

- ARCH 698aL MLArch Thesis Units: 2
- ARCH 698bL MLArch Thesis Units: 8
- ARCH 698zL MLArch Thesis, Option I Units: 0

Electives:

9 units of elective courses taken in the School of Architecture.
**Electives must be 400-level and above.*

Studios

- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Total units for MLA: 58

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- RED 573 Design History and Criticism Units: 2

Electives:

8 units of elective courses taken within the USC Price School of Public Policy.

Total units for MPl: 24

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Total units for dual degree: 82

Master of Landscape Architecture (Three-Year Curriculum)/Master of Planning

Qualified students admitted to the Master of Landscape Architecture three-year curriculum in the School of Architecture and to the USC Price School of Public Policy may complete both degrees in a highly integrated seven-semester program.

Completion of the dual degree requires 108 units, including 74 units of courses in landscape architecture, 24 units of courses in urban planning, and 10 units of Thesis.

Landscape Architecture

- ARCH 414 Perspectives in History and Theory in Architecture Units: 2
- ARCH 439 Landscape Architecture Media Workshop Units: 1
- ARCH 530 Landscape Architecture Practice Units: 3
- ARCH 531 The Natural Landscape Units: 3
- ARCH 534 Landscape Construction: Topographic Design Units: 3
- ARCH 535 Landscape Construction: Performance Approaches Units: 3
- ARCH 537 Urban Plant Ecology: Environmental Perspectives Units: 3
- ARCH 538L Urban Plant Ecology: Cultural Perspectives Units: 4
- ARCH 539L Media for Landscape Architecture Units: 3
- ARCH 545 Urban Landscape: Contemporary History and Prospect Units: 3
- ARCH 547 Urban Nature Units: 3
- ARCH 548 Media for Landscape Architecture: 3D Design Units: 3
- ARCH 565 Global History of Landscape Architecture Units: 3
- ARCH 635 Landscape Construction: Assembly and Documentation Units: 3

- ARCH 698aL MLArch Thesis Units: 2
- ARCH 698bL MLArch Thesis Units: 8
- ARCH 698zL MLArch Thesis, Option I Units: 0

Electives:

4 units of elective courses taken in the School of Architecture.
**Electives must be 400-level and above.*

Studios

- ARCH 541aL Landscape Architecture Design Units: 6
- ARCH 541bL Landscape Architecture Design Units: 6
- ARCH 542aL Landscape Architecture Design Units: 6
- ARCH 542bL Landscape Architecture Design Units: 6
- ARCH 642L Landscape Architecture Design Units: 6

Total units for MLA: 84

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- RED 573 Design History and Criticism Units: 2

Electives:

8 units of elective courses taken within the USC Price School of Public Policy.

Total units for MPl: 24

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Total units for dual degree: 108

Doctoral Degree

Architecture (PhD)

The School of Architecture offers the PhD in Architecture, designed to prepare individuals for university level teaching and professional research and for leadership positions in industry and professional architectural practice. Doctoral students must consult the Graduate School section for regulations and requirements pertaining to its degrees. Students should also consult the Academic Policies section for additional information.

Completion of degree requirements is assumed to take a minimum of three years of approved graduate study and research beyond the bachelor's degree in a related field or a bachelor's degree and related practical experience. For the PhD student without Advanced Standing, a minimum of 48 graduate units completed in residence on the University Park Campus in Los Angeles is required. Full-time study is represented by enrollment in six units during the semester. Usually, the school and the student's qualifying exam committee insist on a clear and mutually understood commitment of time and energy by the student to ensure significant involvement in the doctoral learning experience.

Application and Admission

Admission to the PhD is granted by the Dean of the School of Architecture. However, only a letter from the Office of Graduate Admission constitutes an official offer of admission; correspondence

with department chairs or individual faculty members does not constitute admission.

Priority consideration for PhD student funding will be given to those applicants who submit all application materials by December 1. The university will continue to accept and consider applications submitted after December 1. Those who wish to submit applications after the deadline should check with the School of Architecture. Applications for admission to the PhD program are made once each year for fall semester admission.

The admission decision is made using criteria which include verification that the applicant has a bachelor's degree from an accredited college or university, has maintained a high grade point average in the last 60 units of undergraduate work and has earned a competitive score on the verbal and quantitative portions of the Graduate Record Examinations (GRE). Other elements of the applicant's educational and experiential background are also evaluated, including performance in other advanced degrees.

Each applicant should submit the following: (1) one copy of official transcripts of all previous college and university work (be sure that these official transcripts show an awarded degree where appropriate); (2) one copy of GRE scores; (3) copy of TOEFL or IELTS scores for international students whose first language is not English; (4) a 1000-word essay discussing the applicant's background; reasons for wanting to pursue a doctoral degree; and identifying his or her personal, educational and professional goals; (5) an up-to-date resume, including academic and professional accomplishments; (6) three letters of recommendation, at least two from previous instructors, others from instructors or from professional supervisors or colleagues (the letters should indicate the applicant's academic and professional accomplishments and potential); (7) a completed USC Graduate Admission Application, along with the nonrefundable application fee; and (8) samples of work such as a portfolio, publications, software programs, etc. The program is intended for people with considerable intellectual interests. Additional requirements for international students are listed under Admission of International Students.

Upon admission to the program, each student will be assigned a faculty adviser who will oversee his or her program.

Doctoral Admission with Advanced Standing

Students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from USC or another university may be admitted with Advanced Standing. A minimum of 36 units of course work beyond the first graduate degree, exclusive of 794 Doctoral Dissertation preparation, is required for doctoral degree students with a USC Master of Building Science degree admitted with Advanced Standing. For those students entering with a Master of Architecture degree or Master of Building Science degree (or their equivalent) from another university and admitted with Advanced Standing, a minimum of 40 units of course work beyond the first graduate degree is required. Additional course work may be required if deemed necessary by the student's faculty. See Doctoral Admission with Advanced Standing in the Graduate School section.

Transfer Credits

The application of any available transfer credits toward a graduate degree at USC will be determined by the School of Architecture, based on the semester units available for transfer as shown in the Transfer Credit Statement. Work experience in architecture or closely related activities should be of benefit to the students involved, but will not be considered equivalent to academic education. A maximum of 6 units of transfer credit may be applied toward a doctoral degree for those admitted with Advanced Standing. Admission with Advanced Standing is based upon a completed master's degree. The only course work available for transfer credit is course work taken after completion of that degree. No exceptions are allowed.

Students entering the doctoral program with a master's degree or graduate course work in a field other than architecture work may receive up to 12 units of transfer credit toward the PhD

Deferral of Enrollment

Admission to the university is granted for a specified semester, and it is expected that students will begin their programs during that semester. The school will normally allow students to defer their enrollment up to one year from the admission semester. Students who wish to defer enrollment should notify the school in writing no more than 60 days before the beginning of the semester of admission or they may be required to reapply for admission. Please note that more stringent regulations apply to international students. See the Graduate Admission section for further information.

Admission to Candidacy

Acceptance to graduate standing does not in itself imply that the student is admitted or will be admitted to candidacy for an advanced degree. Application for admission as a candidate for an advanced degree is a separate and subsequent step. See the Graduate School section for further information.

General Requirements for the PhD Degree

Screening Procedures

PhD students are required to pass a screening procedure before the student has taken more than 24 units (including research courses). Passing this procedure is prerequisite to continuation in the doctoral program. This is designed to ensure that only those students who have demonstrated intellectual and scholarly potential continue in the program. Students who fail the screening procedure will be advised that they have not been recommended to continue in the PhD program and that any additional work may not be counted toward the degree.

Prior to screening, each student prepares a résumé and a preliminary statement describing the fields of specialization. After passing the written screening examination, the student meets with the committee to discuss the proposal for course work, fields of specialization and research interests. The committee chair serves as the student's principal adviser in preparing for the qualifying examination.

Qualifying Exam Committee

Each student selects a qualifying exam committee, which officially oversees the student's academic program through the qualifying examination. The qualifying exam committee should be established at least one semester prior to taking the qualifying examination. This should be accomplished by the beginning of the second year, following successful screening. An appointment of committee form, which can be obtained from the Graduate School Website (usc.edu/schools/GraduateSchool), should be used to establish the qualifying exam committee. Students initiate the paperwork and submit the signed form to the dean's office.

Five committee members are designated to provide guidance in the field developed by the student. A minimum of three members, including at least one tenured member, must be from among the faculty participating in the PhD in Architecture degree program, and at least one member must be from outside the School of Architecture. This committee bears responsibility for recommending the student for admission to candidacy. After approval of the student's program and time schedule, the program is submitted in writing to the doctoral director. Students will formalize their relationship with their committees through the development of a study plan which specifies all courses completed, date of screening decision, the area of concentration, and which courses will be taken and when, in order to prepare for the qualifying examination. This study plan will be signed by the student, the members of the qualifying exam committee and the faculty doctoral director. It will be filed in the doctoral office.

Qualifying Examination

Students must complete at least 24 units of course work in the doctoral program with a GPA of at least 3.0 before attempting the qualifying exam.

The qualifying exam committee prepares a comprehensive

written examination covering the field of study. The exact format for the written portion is determined by each committee in advance. Answers to the questions in the written portion are graded by all committee members. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the PhD degree.

The objective of the qualifying examination is to evaluate the student's knowledge and to serve as an instrument to demonstrate competence in the student's chosen field of concentration in preparation for candidacy. Qualifying examinations are scheduled once each year during August. The oral phase of the examination must be completed within 60 days following the written segment. Both parts of the examination must be passed in order to qualify. Failure on one of the two parts of the examination does not require retaking both parts. Only the part failed must be redone.

The examination will be collaboratively designed by the instructors of the core courses and oriented toward testing students' ability to integrate material from these courses. A portion of this examination will focus on methodological issues. The written portion of the examination will be administered during a full-day session.

The process of grading examinations will be accomplished in two ways. For the written examination, the grading will be done by a committee comprising the core course instructors and the doctoral director. For the oral examination, grading will stay with the qualifying exam committee. Upon passing both the core and oral portions of the examination, the student will be expected to reduce the qualifying exam committee to a dissertation committee. See General Requirements for the Doctor of Philosophy Degree.

Dissertation Committee

Once students pass the qualifying examination, the qualifying exam committee recommends the student for candidacy and a dissertation topic is approved, a dissertation committee must be formed as soon as possible. The size may range from three to five members, one member of which must be from outside the school.

Dissertation Proposal

After the successful completion of the qualifying examination, the doctoral student will be required to present a complete research proposal for the dissertation. The proposal will be circulated for review and evaluation by the dissertation committee. This proposal should include the methodology, research design, literature review and instrumentation (if applicable). After this step has been completed, further work leading to the completion of the dissertation is authorized.

Defense of the Dissertation

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft. After the dissertation committee has approved the dissertation in substance, the candidate must defend it before the committee and other interested doctoral program faculty and colleagues. Successful completion of the oral defense marks the ultimate step for the candidate within the School of Architecture. The candidate must be certain that the dissertation also meets specific university requirements before acceptance by the Graduate School. See the Graduate School section for further information.

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation.

Unit Requirement and Time Limit

The PhD degree in Architecture requires a minimum of 72 units (including a minimum of 4 units of ARCH 794a, ARCH 794b, or ARCH 794z) of graduate level course work, and has a minimum residency requirement of three years. Students must maintain a 3.0 average GPA and complete all required course work within five years. The maximum time for the completion of all requirements for the doctoral degree is eight years.

A leave of absence can be granted upon approval of the guidance or dissertation committees. There is no automatic readmission if the student fails to maintain continuous registration or fails to meet academic standards.

Core Curriculum

Year 1: Basic and professional studies
Acquire at a minimum the knowledge that is characteristic of the master's degree students or equivalent and define the research program.
Year 2: Advanced studies
Year 3: Research and dissertation
While a Master of Architecture or related degree is not a prerequisite for admission, those students entering the doctoral program without a master's degree in architecture or related field will be required to complete a core curriculum.

Required Courses

- ARCH 419 Architectural Sustainability Tools and Methods Units: 3
- ARCH 513L Seminar: Advanced Structures Units: 4
- ARCH 515L Seminar: Advanced Environmental Systems Units: 4
- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 611 Advanced Building Systems Integration Units: 4
- ARCH 613L Seminar: Structures Research Units: 4
- ARCH 615L Seminar: Environmental Systems Research Units: 4
- ARCH 790 Doctoral Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- ARCH 791 Proposal for Doctoral Dissertation Units: 1

A minimum of 4 units of:

- ARCH 794a Doctoral Dissertation Units: 2
- ARCH 794b Doctoral Dissertation Units: 2
- ARCH 794z Doctoral Dissertation Units: 0
- GRSC 850a The Professoriate: Preparing for the Future Units: 2
- GRSC 850b The Professoriate: Preparing for the Future Units: 2
- Electives Units: 17

Undergraduate Programs

Bachelor of Architecture

The NAAB-accredited professional undergraduate program is designed to provide an exceptional university education. Students study architecture as well as other basic disciplines throughout the five-year program. We encourage students to pursue minors or elective courses to combine their interest in architecture with fields such as entrepreneurship, construction management, real estate development or animation and digital arts.

Beginning in the first semester, students will be immersed in both architectural and general university studies. The first six semesters provides a foundation in understanding architecture through studies in design, technology, and history, concluding with integrative studies that help develop a deeper understanding of becoming an architect. The remaining four semesters provide the opportunity to explore many aspects of architecture and to develop individual strengths and interests. Studies will conclude with a comprehensive project with a component of directed research defined by the student based on choice and initiative.

Bachelor of Science in Architectural Studies

This four-year, non-professional architectural studies degree program provides specialization in related fields and an alternative path to graduate studies in architecture or fields. Students accepted into the professional Bachelor of Architecture program are eligible to elect this degree option at the end of the second year of study.

The curriculum includes a core program in the first two years identical to the Bachelor of Architecture professional degree

program. In the second two years, students explore many aspects of architecture and related fields and develop individual strengths and interests. Students take a specialization course in the second year, which introduces them to related fields and alternative degree options. Students who do not wish to pursue the five-year Bachelor of Architecture, can elect to move into the four-year, non-professional Bachelor of Science in Architectural Studies (BS in A.S.) program with a degree plan identifying electives that fulfill an area of concentration. The four-year program concludes with a capstone seminar, which allows all degree candidates to work collaboratively on areas of common interest.

Global Programs and Other Enrichment Opportunities

Each year, a set of different global programs are offered to our fourth-year undergraduate students during their topic studio semesters. There are typically one to two programs offered each semester (fall, spring and summer), with recent locations being in Italy, China, France and Spain.

Each offering consists of a coordinated 17-unit, full semester program which includes a studio course in design and required seminars in history and theory; technology; and cultural studies. Students must be in good academic standing to be considered and to participate.

Some examples of recent programs include:

Spring Program in Italy: Milan-Como

For many years, selected students have been able to participate in the Anthony A. Marnell II Italian Architecture Studies Program, located in Milan, a city at the forefront of Italian modern architecture and the center of Italian design. Students are housed and have classroom and studio space in Como, a small and pleasant lakeside town about 30 miles from Milan. The Milan-Como Program is one of only two U.S. school of architecture programs in this part of Italy. Strong relationships are fostered with the place, its people and its culture. Visits are planned within Italy and throughout Europe to expose the students to the full range of historical and contemporary architecture.

Fall Program in Spain: Barcelona

The School of Architecture's study abroad program in Barcelona provides a place for fourth year architecture students in a course of study in urbanism and architecture of the city. The goal is to provide a broad overview of that city's major urban and architectural sites, topography and systems of urban organization. Students will be immersed in the issues of urban design and architecture that have shaped the city, and will develop critical thinking and methodologies of analysis by designing in the urban context. The course of study will examine this fascinating culture that is committed to design and architectural practices that engage and challenge European traditional and modernist orthodoxies.

Barcelona is both a modern and historical site, beginning as a small Roman colony from the time of Augustus, and surviving Visigothic, Moorish and Frankish invasions. Its political and economic history has shaped the city, with the most forceful expression of its national aspiration occurring in the 19th century, the time most associated with the architect Antonio Gaudí. It is city committed to a culture of visual design that has realized many ambitious urban plans, growing from its commitment to representing national pride. It is a dynamic site for the study of ancient and contemporary urbanism as it has achieved word-class status among cities as a locus for new world architecture. The program will combine field work, precedent analysis and discussions with the broader design community in Barcelona.

Examples of public space and architecture from antiquity to the 21st century will be studied as part of the context of a city that has successfully projected its future without neglecting its past and present. Visits are planned within Spain and throughout Europe to expose students to the full range of historical and contemporary architecture.

Fall Program in Asia: Emphasis on China and Urbanism

The Asian Architecture and Landscape Urbanism program provides participating students the opportunity to engage and comprehend the full depth and global ramifications of the rapid changes that are taking place in China and other cities in Asia. The complex and multiple factors that inform urbanism and define the built environment will be explored and analyzed both in terms of historical cultural source and contemporary manifestation. Participants in these academic engagements will include regional as well as international professionals, academics, historians, economists and local inhabitants through direct engagements required of the course curriculum. Students will bring this knowledge and point of view back to the school after their semester away to expand the discussion of urbanism to the larger community of students and faculty at the School of Architecture.

Summer Semester in South America: Emphasis on Architecture and Development

The School of Architecture offers a summer program based at the Fundação Armando Alvares Penteado (FAAP), which includes travel throughout Mexico, Argentina and Peru before arriving at São Paolo at the midterm point. USC students work on a studio project in collaboration with students from the FAAP and the Universidad Iberoamericana.

The purpose of this program is to offer students the opportunity to:

- work on a real project in a country where development is a prime goal of the government and where opportunities for architecture students to complete internships and gain employment after graduation are expanding;
- work with the physical requirements, governmental regulations and economic situations that affect the design of projects that can be realized;
- become familiar with local practitioners in order to learn about architectural practice in these areas; and
- expand appreciation of the importance of the rising status of Brazil as a world power in the current market and introduces USC students to current practitioners there.

Exhibits of Student Work

Throughout the year, selected students are given the opportunity to show work in organized exhibitions, as well as to be included in our ongoing student work publication *INDEX*. The school seeks multiple formats and opportunities to have student work shown in the community at large and at cultural institutions throughout the city and the world, with recent exhibits in Shanghai, France, Italy and Washington, DC.

Field Trips

Field trips to locations in the larger California region as well as through the United States are organized each year in support of various aspects of the academic program. In addition, students regularly visit the many sites of significance in the local Los Angeles area on an almost weekly basis for their general course work and personal interest.

Lectures and Exhibitions

The school provides significant service to the community and profession through public programs, and the participation of faculty members in community and professional activities. With the support and cooperation of the Architectural Guild, the school generates a vigorous program of lectures, exhibitions and tours.

Some of the world's most distinguished and emerging architects, landscape architects and designers have lectured at USC. These include Frank Gehry, Zaha Hadid, Mario Botta, Yona Friedman, Peter Cook,Yung Ho Chang, Thom Mayne, Michael Maltzan, Hitoshi Abe, Mia Lehrer, Fumihiko Maki, Jean Nouvel, Will Bruder, Francois Roche, Enrique Norten, Adriaan Geuze, Kazuyo Sejima, Ai Wei Wei, Rem Koolhaas, Shigeru Ban, Hans Hollein, Charles Waldhem, Nader Tehrani, Cesar Pelli, Javier Sanchez, Laurie Olin, Eric Owen Moss and Pei Zhu.

The school also provides the Helen Lindhurst Architecture Gallery and the Verle Annis Gallery for major architectural exhibitions by visiting guests, USC faculty, students and alumni.

Graduate Programs

The school offers interrelated graduate programs in architecture, landscape architecture, building science and heritage conservation as well as three dual degree programs with the USC Price School of Public Policy.

Admission to Graduate Programs

Credentials for admission must include a complete record of all previous college or university work. The applicant must request the registrar of each college or university attended to forward official transcripts of record directly to the Office of Admission.

Following are the basic requirements for admission to the graduate programs: (1) the appropriate degree from an accredited college or university; (2) satisfactory scores on the verbal, analytical and quantitative portions of the aptitude test of the Graduate Record Examinations; (3) intellectual promise and clear study intentions that indicate an ability to do acceptable graduate work; (4) a portfolio of design work*; (5) strong personal qualifications.

All students must speak and write English. Foreign students must demonstrate such ability by taking the TOEFL or IELTS test before leaving their home countries, and, if necessary, by further tests upon arrival on campus.

International students may be required to enroll in American Language Institute (ALI) English courses, based on scores on the English Placement Tests. The cost of these additional courses is the responsibility of the student. In addition, international students should be aware that they may have to defer enrollment in some major courses because of the ALI courses, extending the number of semesters required to complete the program and increasing the overall tuition expense. International students are urged to read with care all information sent to them about English requirements and to take as many English language courses as possible prior to coming to the United States.

**The Master of Building Science and Master of Heritage Conservation programs accept computer programs, papers and other work as portfolio work.*

Correspondence with the dean or individual faculty members does not constitute admission to the Graduate School or to the School of Architecture. Only a letter from the Director of Admissions grants official admission.

Graduate Program Policies

Graduate students are expected to complete between 12 and 16 units per semester, spring and fall, depending on the program in which they are enrolled.

A minimum grade of C (2.0) is required in a course to receive graduate credit. A grade point average of at least B (3.0) on all units attempted at USC toward a graduate degree is required for graduation. A total grade point average of at least a B (3.0) in all courses applied toward completion of a certificate is required prior to being awarded a particular certificate. Course work taken on a pass/no pass basis cannot be applied toward a graduate degree or a certificate. If a student does not meet these minimum grades the faculty member should meet with the student to provide timely advisory reviews.

Failure to complete program course work on schedule will result in the loss of financial awards from the School of Architecture and/or may result in suspension from the program upon recommendation from the program director and approval by the Dean of the School of Architecture and the Associate Vice Provost for Graduate Programs. Additional semesters may be taken to complete the thesis or directed design research when appropriate.

All appeals will be reviewed initially by the director(s) of the appropriate graduate program and then by a committee consisting of all graduate program directors (with the exception that design courses will be reviewed by the design review committee). Their recommendation(s) will be forwarded to the dean for consideration and action, and then forwarded to the Associate Vice Provost for Graduate Programs. All communications must be in writing.

Thesis Committees

In the School of Architecture's master's programs, thesis committees must include a minimum of three members. The chair will be a full-time faculty member in the student's discipline in architecture. The second member must be a full- or part-time USC faculty member, not necessarily from the School of Architecture. The third member may be either a USC faculty member or a practitioner with a special expertise in the field; she or he may be full-time or part-time, tenure track, non-tenure track, or a non-academic practitioner. Thesis committees are ultimately subject to approval by the school dean.

Summer Graduate Studies Abroad

The School of Architecture offers programs for summer graduate study abroad. The purpose of the programs is to offer graduate architecture students the opportunity to study the built fabric of another culture firsthand and engage in a focused urban studies problem in that culture. The programs also strive to expand appreciation of the importance of development in the current world market and show practitioners USC graduates' ability to engage in and contribute to international development.

Exhibits of Student Work

Throughout the year, selected students are given the opportunity to show work in organized exhibitions, as well as to be included in our ongoing student work publication *INDEX*. The school seeks multiple formats and opportunities to have student work shown in the community at large and at cultural institutions throughout the city and the world, with recent exhibits in Shanghai, France, Italy and Washington, DC.

Field Trips

Field trips to locations in the larger California region as well as through the United States are organized each year in support of various aspects of the academic program. In addition, students regularly visit the many sites of significance in the local Los Angeles area on an almost weekly basis for their general course work and personal interest.

Lectures and Exhibitions

The school provides significant service to the community and profession through public programs, and the participation of faculty members in community and professional activities. With the support and cooperation of the Architectural Guild, the school generates a vigorous program of lectures, exhibitions and tours.

Some of the world's most distinguished and emerging architects, landscape architects and designers have lectured at USC. These include Frank Gehry, Zaha Hadid, Mario Botta, Yona Friedman, Peter Cook,Yung Ho Chang, Thom Mayne, Michael Maltzan, Hitoshi Abe, Mia Lehrer, Fumihiko Maki, Jean Nouvel, Will Bruder, Francois Roche, Enrique Norten, Adriaan Geuze, Kazuyo Sejima, Ai Wei Wei, Rem Koolhaas, Shigeru Ban, Hans Hollein, Charles Waldhem, Nader Tehrani, Cesar Pelli, Javier Sanchez, Laurie Olin, Eric Owen Moss and Pei Zhu.

The school also provides the Helen Lindhurst Architecture Gallery and the Verle Annis Gallery for major architectural exhibitions by visiting guests, USC faculty, students and alumni.

Summer Program in Heritage Conservation

This program offers three weeks of classes with noted experts from Southern California and the United States. Taken together the courses act as a general introduction to the field of heritage conservation. In addition to examining the history and philosophy of the conservation movement as it has evolved during the past century, lectures and field trips to historic sites throughout the Los Angeles area will introduce students to a broad range of legal, economic, aesthetic and technical issues associated with the documentation, conservation and interpretation of historic structures, landscapes and communities.

For more information, call (213) 821-2168.

USC Roski School of Art and Design

Founded in 1883, the USC Roski School of Art and Design is a leader in the constellation of influential Los Angeles art schools. Our programs encourage interdisciplinary approaches to studio art, design, curatorial practice and critical studies. USC Roski trains artists, designers and curators in aesthetic acuity, technical ability and critical insight.

Students pursuing a BA have ample opportunity to explore the academic offerings of a world-class research institution, while BFA students immerse themselves fully in studio production. A distinguished and dedicated faculty teaches comprehensive courses in painting, drawing, printmaking, sculpture, ceramics, photography, design, digital media and critical studies. Students work across media to push perceived boundaries and discover their individual voices within increasingly global contexts.

At the graduate level, the MFA program is recognized nationally for its breadth and intensity, and a faculty of renowned practicing artists. Spacious private studios, one-on-one critiques with influential guest lecturers, and the expanded field of production offered by the Roski School's location in Los Angeles attract a highly selective student cohort. The MA program, Curatorial Practices and the Public Sphere, is a platform for scholarship in contemporary art that addresses social questions of public space. In addition to a master's thesis, each class collectively engages in a curatorial practicum, culminating in an exhibition project that explores city-space.

Southern California is an unparalleled creative capital. Leading museums, galleries, advertising agencies, design firms, artist studios, and the music and film industries offer emerging artists and designers a wealth of internship and employment opportunities throughout their course of study.

Watt Hall of Architecture and Fine Arts 104
(213) 740-2787
FAX: (213) 740-8938
Email: roski@usc.edu
roski.usc.edu

Administration

Erica Muhl, DMA, *Dean*

Faculty

Professors: Nao Bustamante, MFA; Patty Chang, MFA; Jud Fine, MFA; Amelia Jones, PhD; Suzanne Lacy, PhD; Margaret Lazzari, MFA*; Keith Mayerson, MFA; Rochelle Steiner, PhD; Ruth Weisberg, MA*
Associate Professor: Bob Alderette, MFA
Associate Professor of Art: Nao Bustamante, MFA
Associate Professors of the Practice of Fine Arts: Shannon Ebner, MFA; David Kelley, MFA; Haven Lin-Kirk, MFA; Ann Page, BFA; Julia Paull, MFA
Assistant Professor of Critical Studies: Andrew Campbell, PhD
Assistant Professors of the Practice of Fine Arts: Sherin Guirguis, MFA; Jennifer West, MFA
Assistant Professors of Teaching, Art: Karen Leibowitz, MFA; Marisa Mandler, MFA
Assistant Professors of Teaching, Design: Jeffrey Cain, MFA; Alexis Zoto, MFA
Visiting Assistant Professors: Edgar Arceneaux, MFA; Kori Newark, MFA
Senior Lecturers: Caroline Clerc, MFA; Ewa Wojciak, MFA
Full-time Lecturers: Steve Child, MFA; Alice Fung, MArch; Osvaldo Trujillo, MFA; Noura Wedell, PhD
Part-time Lecturers: China Adams, MFA; Tanya Batura, MFA; Ian Besler, MA; Maura Brewer, MFA; Paul Donald, MVA; Jason Ellenburg, MFA; Xavier Fumat, MFA; Patrick Jackson, MFA; Helen Kim, MFA; Andrew Kutcher, MFA; Tala Madani, MFA; Karen Moss; Brian O'Connell, MFA; Brian Olson, BA; Joseph Potts, MFA; Jean Robison, MFA; Stephanie Sabo, MFA; Julie Schustack, MFA; Aaron Siegel, MFA
Adjunct Instructors: Andrew Byrom, MFA; John Tain, BA
Emeritus Professors: Ron Rizk, MFA; Jay Willis, MA
Emeritus Associate Professors: Karen Koblitz, MFA; Ann Page, BFA
**Recipient of university-wide or school teaching award.*

General Information

Degrees Offered

At the undergraduate level, the school offers the Bachelor of Fine Arts in Art and the Bachelor of Fine Arts in Design. The Bachelor of Arts in Art is offered in conjunction with the Dornsife College of Letters, Arts and Sciences. The Roski School of Art and Design also offers eleven minor programs in studio arts and design and participates in a 3-D animation minor in conjunction with the Viterbi School of Engineering's Information Technology Program, a communication design minor in conjunction with the Marshall School of Business and the Annenberg School for Communication and Journalism, and a 2-D art for games minor and 3-D art for games minor with the Viterbi School of Engineering and the School of Cinematic Arts.

Degrees offered at the graduate level are: Master of Fine Arts, Master of Fine Arts in Design, Master of Arts, Curatorial Practices and the Public Sphere, and Master of Science, Integrated Design, Business and Technology. A dual degree is also available: Master of Planning/Master of Arts, Curatorial Practices and the Public Sphere.

Minimum Grade Point Average Requirements

A minimum grade of C (2.0) or higher is required in all studio and art history courses for all undergraduate majors and minors in the Roski School of Art and Design. A grade of C- or lower will not satisfy a major or minor requirement. A minimum grade point average of 3.0 must be maintained by all candidates for the Master of Fine Arts and Master of Arts.

Undergraduate Admission

Admission to the Roski School of Art and Design at the undergraduate level is granted through the USC Office of Admission. Freshman applicants applying by December 1 for the fall semester will receive priority consideration for admission to the university. The deadline for transfer applicants for the fall semester is February 1.

Undergraduate applicants must upload a portfolio of images and an artist statement at the school's Website. Specific requirements and additional information are available at roski.usc.edu/undergrad or email finearts@usc.edu.

Students who have not been admitted to the Roski School of Art and Design may complete a maximum of 20 units of fine arts course work at USC. No further course work may be taken until admitted. Students who are interested in becoming fine arts majors or minors should meet with the Roski School's advisers as soon as possible, preferably during their first semester taking art classes. Advisers can be contacted through the school's Advisement Office, Hazel and Stanley Hall 101, (213) 821-1290, for assistance.

Graduate Admission

Applications for admission to the graduate programs are evaluated by the USC Office of Graduate Admission before being forwarded to the school. Students must be admitted by both the USC Graduate School and the Roski School of Art and Design. The Graduate School's general admission requirements include official transcripts of all previous college and university work, and three letters of recommendation from instructors or persons able to comment on the applicant's creative work and/or scholarly potential.

Applicants to the MFA degree must upload a portfolio of images and an artist statement at the school's Website. Specific requirements and additional information are available at roski.usc.edu/academic/mfa.

Advisement

Academic advisement is provided to fine arts majors, minors

and graduate students through the Advisement Office in Hazel and Stanley Hall 101, (213) 821-1290. All students who are interested in taking art courses are welcomed and encouraged to make an appointment for advisement as well. The staff advisers provide information regarding academic life at the university, program requirements, policies and procedures to assist students with their degree completion. Majors are required to meet with advisers before registering each semester. Appointments may be scheduled at most times during the academic year.

International Study Options

Fine arts majors may take advantage of art courses offered through study abroad programs in Canberra, Australia; Cape Town, South Africa; Florence or Cortona, Italy; and London, England. These options are described on the International Study Options page.
Please contact the USC Overseas Studies Office in CAS 104, (213) 740-3636, or dornsife.usc.edu/overseas-studies/ for complete information, program requirements and applications.

Minor Programs

The Roski School of Art and Design offers minors in art and design as supplements to major fields of specialization in other departments and schools for students whose academic programs do not permit the opportunity to pursue one of the school's regular degree options. There are eight intensive studio minors — in painting, drawing, photography, ceramics, sculpture, two-dimensional studies, digital media-based imaging and 3-D design — as well as interdisciplinary minors in communication design, 2-D art for games and 3-D art for games. There is a separate application for fine arts minors available at roski.usc.edu/academic/minors.

Candidates for the minors in the Roski School of Art and Design will be counseled by an academic adviser in the school.

Bachelor's Degree

Art (BA)

The Bachelor of Arts program offers a more flexible and broad academic education than the Bachelor of Fine Arts (BFA) degree while still providing a meaningful experience in the studio area and preparation for many design and art-related careers. The degree provides the student with the opportunity to double major or to combine an art major with a minor in various fields. Some possibilities for minors include communication, multimedia, education, business, film, animation and many other options.

Curriculum Requirements

The Bachelor of Arts (BA) requires a total of 128 units including 68 units of major requirements (52 units in Art courses and 16 units in Critical Studies courses, some of which overlap with the university's required GE courses). In addition to the required courses, BA students have a minimum of 24 non-specific elective units that can be selected from a variety of university courses, based on their personal and professional goals and in consultation with their academic advisor. Electives are typically clustered in a particular field as in a minor, but may be spread across different areas.

Required Courses

Three 4-unit foundation courses are required for students admitted to the BA, Art:

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4

Two 2-unit Studio Critique courses are required in the second and third year:

- ART 280 Studio Critique I Units: 2
- ART 380 Studio Critique II Units: 2

In the senior year, the following 4-unit course is required.

- ART 485 Studio Capstone Units: 4

The following Critical Studies courses are required:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
  and
  one 400-level Critical Studies seminar (4)

Art Electives

Select 12 additional units from any 100–299 ART courses, and 20 additional units from any 300-499 ART courses. BA students may select up to 12 units of DES courses toward their art degree requirements.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See the General Education for more information.

Design (BFA)

The **Bachelor of Fine Arts (BFA) in Design** requires a total of 128 units, including 74 units of DES and CRIT requirements.

In addition to the required courses, BFA Design students are encouraged to explore in greater depth an area of design in which they have an interest. Students should select electives based on their personal and professional goals and in consultation with academic advisers. Electives are typically clustered in a particular field, but may be spread across different areas

Required Lower-Division Courses

28 units of lower-division Roski DES courses are required as follows:

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4
- DES 102 Design Fundamentals Units: 4
- DES 202 Design II Units: 4
- DES 203 Digital Tools for Design Units: 2
- DES 213 Digital Tools in 3D Design Units: 2
- DES 230 3D Design: Materials and Tools Units: 4

Required Upper-Division Courses

34 units of upper-division Roski DES courses are required as follows:

- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 322 Publication Design Units: 4
- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 332b Typography Units: 2
- DES 402 Advanced Design Projects Units: 4
- DES 413 Professional Practice in Design Units: 4
- DES 419 Professional Internship in the Arts Units: 2
- DES 432 Special Projects in Design Units: 2
- DES 494a Senior Thesis Units: 2
- DES 494b Senior Thesis Units: 2

Required Critical Studies Courses

The following Critical Studies courses are required for the BFA major that also satisfy up to five categories of General Education requirements:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Electives

26 units of electives are required, to be chosen from either Roski courses or non-Roski courses from across the university, allowing for a minor to complement the design course work.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See the General Education page for more information.

Fine Arts (BFA)

The BFA is a four-year studio intensive program in preparation for a career in the fine arts, design and/or related fields or pursuit of a master of fine arts degree. With few required courses or electives and a wide variety of media from which to choose, the BFA provides ample opportunity to explore and develop a strong personal vision in art.

Introductory courses focus on technique and conceptual context while building a solid grounding in critical theory. Advanced students work on self-generated independent projects under the guidance and mentoring of individual faculty members. Emphasis in the last year is on the production of a major body of work and professional quality portfolio.

Curriculum Requirements

The Bachelor of Fine Arts (BFA) requires a total of 128 units, including 88 units of major requirements (72 units in Art courses and 16 units in Critical Studies courses, some of which overlap with the university's required GE courses). In addition to the required courses, BFA students have a minimum of 12 non-specific elective units that can be selected from a variety of university courses, based on their personal and professional goals and in consultation with their academic advisor. Electives are typically clustered in a particular field as in a minor, but may be spread across different areas.

Required Courses

Three 4-unit foundation courses are required for students admitted to the BFA, Fine Arts

- ART 105 Art and Design Studio I Units: 4
- ART 106 Art and Design Studio II Units: 4
- ART 110 Drawing for Art and Design Units: 4

Two 2-unit Studio Critique courses are required in the second and third year:

- ART 280 Studio Critique I Units: 2
- ART 380 Studio Critique II Units: 2

In the senior year, a 4-unit capstone and two 2-unit thesis courses are required:

- ART 485 Studio Capstone Units: 4
- ART 494a Senior Thesis Units: 2
- ART 494b Senior Thesis Units: 2

The following 4-unit Critical Studies courses are required:

- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 160g Critical Theory in Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
  and
  one 400-level Critical Studies seminar (4)

Fine Arts Electives

Select 18 additional units from any 100–299 ART courses, and 30 additional units from any 300–499 ART courses. Up to 16 units of DES courses may be counted toward the Art requirements in the BFA degree.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. See the General Education for more information.

Minor

2-D Art for Games Minor

This interdisciplinary minor integrates three major disciplines (fine arts, computer science and interactive media) to develop the 2-D visual skills necessary to conceptualize and illustrate images for games. Skills include figure drawing, perspective, camera angles, point of view, story boarding, character development and illustration techniques. Software programs such as Illustrator, InDesign and Flash will be utilized in basic interface and interactive design assignments. Although game genres include 3-D examples, this minor will focus on the 2-D graphics for 2-D games and 3-D interface design. The minor includes fine arts courses as well as game design, game technology, production pipelines and play testing courses in computer science and interactive media. A minimum of 24-26 units is required for this minor.

Required Lower-Division Courses (8 units)

- ART 110 Drawing for Art and Design Units: 4
- DES 102 Design Fundamentals Units: 4

Required Upper-Division Courses (12-14 units)

- ART 442 Art and Technology Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4 (max 8) or
- CSCI 491aL Final Game Project Units: 4
  and
- CSCI 491bL Final Game Project Units: 2

Electives (4 units)

Choose four units from the following:

- ART 120 Painting I Units: 4
- ART 151 Digital Photography Units: 4
- ART 210 Drawing II Units: 4
- ART 310 Advanced Drawing Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CSCI 281 Pipelines for Games and Interactives Units: 4
- CTAN 330 Animation Fundamentals Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTIN 484L Intermediate Game Development Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2
- CTIN 491L Advanced Game Project I Units: 4 * max 8
- DES 203 Digital Tools for Design Units: 2
- ITP 280 Video Game Production Units: 4

Note:

**Can be taken as an elective if not taken as upper-division requirement*

3-D Art for Games Minor

The focus of the 3-D art for games minor is a trans-disciplinary approach that incorporates the creative, technological and team-based communication skills necessary to develop 3-D art skills for video games. It includes a choice of courses from fine arts, computer science, information technology, interactive media and animation and digital arts. In preparation for the transition from the theoretical assignment to professional practice, students will present game prototypes to outside professionals at "Demo Days" at the end of each semester. The minimum number of units is 25-27.

Required Lower-Division Courses (10 Units)

- ART 140 Sculpture I Units: 4
- CSCI 281 Pipelines for Games and Interactives Units: 4
- ITP 215L 3-D Modeling, Animation, and Special Effects Units: 2

Required Upper-Division Courses (12-14 Units)

- ART 442 Art and Technology Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4
- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2

Electives (4 Units Chosen From the Following)

- ART 151 Digital Photography Units: 4
- ART 260 Video and Time-based Media Units: 4
- ART 361 Internet Studio and Online Experimentation Units: 4
- ART 362 Ideas in Intermedia Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- CTAN 330 Animation Fundamentals Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 488 Game Design Workshop Units: 4 *
- CTIN 489 Intermediate Game Design Workshop Units: 2
- CTIN 491L Advanced Game Project I Units: 4 * max 8
- CTIN 493L Advanced Game Project II Units: 2 max 4
- ITP 280 Video Game Production Units: 4

Note:
**Can be taken as an elective if not taken as upper-division requirement.*

3-Dimensional Design Minor

A minor in 3-Dimensional Design offers USC students in all fields of studies the opportunity to gain knowledge and skills in 3-D thinking, imaging and production. Course work will focus on the process behind creating well-designed, expressive functional objects and spaces (both actual and virtual). The minor would be of particular interest to students wishing to further develop specializations such as package design, product design, and environmental design (way-finding, signage, display).

Lower-Division Courses (8 Units)

Required lower-division courses (8 units):

- DES 102 Design Fundamentals Units: 4
- DES 230 3D Design: Materials and Tools Units: 4

Optional lower-division course, chosen from the following:

- ART 142 Modeling and Mold Making Units: 2
- ART 240 Sculpture II Units: 4
- DES 202 Design II Units: 4 **
- DES 203 Digital Tools for Design Units: 2 *
- ITP 215L 3-D Modeling, Animation, and Special Effects Units: 2

Note:
**Prerequisite required*
***Corequisite required*

Upper-Division Courses (12 units) chosen from the following:

- ART 442 Art and Technology Units: 4
- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 402 Advanced Design Projects Units: 4
- ITP 415 3-D Design and Prototyping Units: 2
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

Total units: 20

Ceramics Minor

Students enrolled in this minor will be introduced to the rich traditions of ceramic practice — from wheel throwing to 3-D modeling — while encouraging the use of materials and methods as vehicles for individual expression in contemporary art. They will be exposed to lectures and readings in the history of clay and critical writings on the subject. A variety of classes is offered including beginning and advanced ceramics, wheel throwing, clay and glaze formulation, art and technology, modeling and mold making, sculpture, visual literacy and theory and criticism. As students advance in the level of their studies, they can choose to follow a traditional approach to clay and/or pursue exploration and experimentation with the medium including freedom to create mixed-media pieces or to bring technology in to their work. The goal is to create a strong foundation in clay significant to the career path of their choosing. The total number of units is required for this minor is 22.

Required Lower-Division Courses (6 Units)

- ART 130 Ceramics Units: 4
- ART 142 Modeling and Mold Making Units: 2

Four lower-division units chosen from the following:

- ART 140 Sculpture I Units: 4
- ART 230 Wheel Throwing Units: 4

Three upper-division courses (12 units) chosen from the following:

- ART 330 Advanced Ceramics Units: 4
- ART 331 Clay and Glazes Units: 2
- ART 430 Topics in Advanced Ceramics Units: 4 max 12
- ART 434 Sound Art Units: 2
- ART 442 Art and Technology Units: 4

Communication Design Minor

The core of this minor is communication design. In addition to courses in design, visual literacy and digital imaging, this minor includes optional courses in business, communication, public relations and marketing, allowing students to translate their design foundation in ways that are directly relevant to their career paths. The total number of units required for the minor is 24.

Required Course (4 units)

- DES 102 Design Fundamentals Units: 4

One lower-division course (4 units), chosen from the following:

- ART 151 Digital Photography Units: 4
- ART 260 Video and Time-based Media Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- DES 202 Design II Units: 4 (corequisite: DES 203 or former FADN 203)

Four upper-division courses (16 units), chosen from the following:

- ACCT 410x Foundations of Accounting Units: 4
- ART 360 Video Studio Units: 4
- ART 361 Internet Studio and Online Experimentation Units: 4
- ART 362 Ideas in Intermedia Units: 4
- BAEP 423 Management of Small Businesses Units: 4
- BAEP 451 The Management of New Enterprises Units: 4
- BAEP 452 Feasibility Analysis Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 375 Business and Professional Communication Units: 4
- DES 302 Design III Units: 4
- DES 303 Web Design Units: 2
- DES 313 Graphic Design in Fashion Units: 4

- DES 323g Design Theory Units: 4
- DES 332a Typography Units: 2
- DES 332b Typography Units: 2
- DES 333 New York Design Study Tour Units: 2
- DES 402 Advanced Design Projects Units: 4 max 12
- DES 432 Special Projects in Design Units: 2
- DES 433 International Design Study Tour Units: 2
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
  or
- BUAD 307 Marketing Fundamentals Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 406 Practicum in Advertising and Promotion Design Units: 4.0
- MKT 450 Consumer Behavior and Marketing Units: 4
- PR 340 Introduction to Advertising Units: 4
- PR 342 Advertising Media and Analysis Units: 4

Digital Studio Minor

This minor deals with technology in art making including digital photography, digital video and the Internet. Course work includes choice of classes in history of photography, digital media, visual literacy and computer imaging. The professional aspects of this minor assist students in developing careers in fine arts, communication, design, engineering, film, journalism and in any area where there is a need for flexible and creative imaging using digital media. The total number of units required for the minor is 24.

Required Lower-Division Courses (12 Units)

- ART 151 Digital Photography Units: 4
- ART 250 Photography II Units: 4
- ART 260 Video and Time-based Media Units: 4

Three Upper-Division Courses (12 units)

Choose from the following courses:

- ART 350 Advanced Photography Units: 4
- ART 360 Video Studio Units: 4
- ART 361 Internet Studio and Online Experimentation Units: 4
- ART 362 Ideas in Intermedia Units: 4 max 8
- ART 460 Post-Material Studio Units: 4 max 8
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Drawing Minor

Students enrolled in the minor in drawing will develop their creativity and technical drawing skills, as well as deepen their understanding of contemporary art. Foundation courses provide the fundamentals of spatial rendering, composition, figure drawing and visual expression. Advanced courses require more ambitious projects, personal direction, research and sustained focus. The minor is available to all USC students who wish to develop their abilities to communicate through visual means, or who wish to develop skills for conceptualization and problem solving. The minor in drawing can assist the students in art-related work, as well as creative pursuits such as printed works with images, games and animation. A total of 20 units are required for this minor.

Required Lower-Division Courses (8 Units)

- ART 110 Drawing for Art and Design Units: 4
- ART 210 Drawing II Units: 4

Three Upper-Division Courses (12 units) chosen from the following:

Three upper-division courses (12 units) chosen from the following:

- ART 310 Advanced Drawing Units: 4
- ART 312 Comics Project Units: 4
- ART 315 Studies in Drawing and Painting Units: 4 (max 12)
- ART 370 Printmaking Units: 4
- ART 410 Topics in Advanced Drawing Units: 4 (max 12)
- ART 470 Topics in Advanced Printmaking Units: 4 (max 12)
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Painting Minor

Within both western and non-western traditions, painting has a long history as a site for aesthetic experience and cultural questioning. This minor allows students to immerse themselves in painting, as well as developing a grasp of the critical issues surrounding it. Foundation courses provide the fundamentals of color, composition, medium and drawing. Advanced courses require more ambitious projects, personal direction, research and sustained focus. Students majoring in many areas of the humanities may pursue this minor to augment their understanding of one of the key media in the arts. The minor is available to all USC students who wish to develop their painting skills. A total of 24 units are required for this minor.

Required lower-division courses (12 units):

- ART 110 Drawing for Art and Design Units: 4
- ART 120 Painting I Units: 4
- ART 220 Painting II Units: 4

Three upper-division courses (12 units) chosen from the following:

- ART 312 Comics Project Units: 4
  max 8
- ART 315 Studies in Drawing and Painting Units: 4 (max 12)
- ART 320 Advanced Painting Units: 4
- ART 370 Printmaking Units: 4
- ART 420 Topics in Advanced Painting Units: 4 (max 12)
- ART 470 Topics in Advanced Printmaking Units: 4 (max 12)
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Photography Minor

The photography minor provides an in-depth experience in all aspects of photography. The well-equipped darkrooms allow individual hands-on exploration of black and white and color processes, camera types, historical and traditional printing methods, lighting and film processing as well as digital technologies and issues. It also includes a foundation in photo theory and criticism. This minor is appropriate for students interested in an intense experiential exploration of the medium of photography. The total number of units required for the minor is 24.

Two lower division courses (8 units) chosen from the following:

- ART 150 Introduction to Photography Units: 4
  or
- ART 151 Digital Photography Units: 4
- ART 250 Photography II Units: 4

Required upper-division course (4 units):

- ART 350 Advanced Photography Units: 4

Three upper-division courses (12 units) chosen from the following:

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ART 362 Ideas in Intermedia Units: 4
- ART 450 Topics in Advanced Photography Units: 4 max 12
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4

Sculpture Minor

This minor focuses on making, organizing and manipulating objects and their spatial relationships in a range of materials such as wood, fiberglass, clay, plaster, latex and metal. Course work includes choice of classes in sculpture, ceramics, visual literacy, public art, moldmaking, metal and casting. The three-dimensional skills taught in this minor intersect with many other disciplines including architecture, cinematic arts, special effects, engineering design, urban planning and any other areas where skills in maquette and model building are relevant. The total number of units required for the minor is 24.

Required Courses (8 Units)

- ART 140 Sculpture I Units: 4
- ART 240 Sculpture II Units: 4

Four Lower-Division units chosen from the following:

- ART 110 Drawing for Art and Design Units: 4
- ART 130 Ceramics Units: 4
- ART 142 Modeling and Mold Making Units: 2
- ART 242 Metal Units: 2
- ART 243 Construction Techniques Units: 2

Required Upper-Division Courses (12 units)

- ART 340 Advanced Sculpture Units: 4
- ART 440 Topics in Advanced Sculpture Units: 4
- ART 442 Art and Technology Units: 4

Two-Dimensional Studies Minor

This minor is designed for students who wish to augment their understanding of art in general in two-dimensional areas, rather than complete a minor that focuses on one medium. This minor provides a broad scope of courses in 2-D media and studies. This minor is open to any USC student, especially those interested in animation to sharpen their drawing, color and compositional skills. Students interested in the vast varieties of digital visual communication can develop better color and compositional skills. Total number of units required is 24.

Required Courses (24 Units)

Three lower division courses (12 units) chosen from the following:

- ART 110 Drawing for Art and Design Units: 4
- ART 120 Painting I Units: 4
- ART 150 Introduction to Photography Units: 4
- ART 151 Digital Photography Units: 4
- ART 210 Drawing II Units: 4
- ART 220 Painting II Units: 4
- ART 250 Photography II Units: 4
- DES 102 Design Fundamentals Units: 4

Three upper division courses (12 units) chosen from the following:

- ART 310 Advanced Drawing Units: 4
- ART 312 Comics Project Units: 4
  max 8
- ART 315 Studies in Drawing and Painting Units: 4 max 12
- ART 320 Advanced Painting Units: 4
- ART 370 Printmaking Units: 4
- ART 410 Topics in Advanced Drawing Units: 4 max 12
- ART 420 Topics in Advanced Painting Units: 4 max 12
- ART 470 Topics in Advanced Printmaking Units: 4 max 12

Master's Degree

Curatorial Practices and the Public Sphere (MA)

The MA Curatorial Practices and the Public Sphere is an intensive master's-level program in the practice and history of curating studied through the lens of critical theory and the history of art. With a focus on the research and exhibition of contemporary art, as well as attending to art historical curating and broader conceptions of curating such as performance art programming, instructors with international careers lead students in asking social questions about the exhibition of art (broadly construed) in relation to its publics. Over two years of full-time academic study, students explore modes of curatorial practice in a curriculum combining seminars and professional training. Courses are led by USC Roski's internationally acclaimed faculty, which includes renowned artists, scholars, critics and curators.

The MA features courses that focus on the history of art, exhibitions and aesthetics, with a focus on contemporary art and theory. Other courses emphasize direct practical experience leading toward the realization of art exhibitions, but also performance art programming and other hybrid modes of arts curating.

Admission Requirements

Requirements for admission: (1) a Bachelor of Arts or Bachelor of Fine Arts degree, or equivalent, from an accredited school; (2) a minimum 3.0 overall GPA; (3) three letters of recommendation; (4) two writing samples (one academic paper and the admission essay). The GRE General Test is required. International applicants are required to take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Thesis Requirements

The thesis committee is established and contingent upon satisfactory completion of the second semester's course work. Advancement to candidacy is determined by the director of the program, in consultation with other faculty.

Roski MA thesis committees will comprise three faculty members. Two members will be Roski faculty, defined as any faculty currently teaching in either the MA or the MFA program with either full-time, part-time or adjunct appointments, tenure track or non-tenure track. The third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Curatorial Practicum Requirement

All students participate in the group curatorial practicum course for three consecutive terms (which complements the thesis requirement).

Program Requirements

A minimum of 39 units is required, taken during a consecutive two-year period, distributed as follows:

Required Courses

- ART 515 Visiting Artist and Scholar Seminar Units: 2 – must be taken twice for a total of 4 units
- CRIT 510 History and Theory of Art and Exhibitions Units: 4
- CRIT 512 Art and Curatorial Visits Units: 2
- CRIT 525 Making and Curating Art: Pedagogy and Praxis Units: 4
- CRIT 555 Methods of Curating: Introduction to Curatorial Practicum Units: 4
- CRIT 556 Curatorial Practicum: Individual/Group Projects Units: 4
- CRIT 557 Curatorial Practicum: Group Project Summation Units: 4
- CRIT 591 Field Internship Experience Units: 1
- CRIT 594a Master's Thesis Units: 2
- CRIT 594b Master's Thesis Units: 2
- CRIT 594z Master's Thesis Units: 0
  Electives (4 units of which must be Roski electives)

Units: 39

Elective Requirement

Candidates for the Master of Arts, Curatorial Practices and the Public Sphere must complete a minimum of 8 units of 400- or 500-level electives, 4 units of which must be from the Roski School and 4 units of which can be from another relevant area in the university (with departmental approval).

Design (MFA)

A five-term program administered in collaboration with the Graduate School, the Master of Fine Arts in Design is a professional degree in the practice of design. A progressive degree option is available on a competitive basis to current Roski undergraduate students. With a faculty of influential design professionals and an expansive, retrofitted building in the downtown arts district, the MFA Design program seeks to be an ambitious and far-reaching addition to educational design community in Southern California.

In addition to mentored relationships with the design faculty, students participate in regular seminars, discussions and studio visits

with leading visiting designers, writers and theorists from around the world. The Roski School's partnership and affiliation with the contemporary design community in Los Angeles, such as American Institute of Graphic Arts (AIGA), is a critical component of the MFA Design program.

The opportunity to gain experience as a teaching assistant is available on a competitive basis. All incoming students, regardless of country of citizenship, are considered for departmental funding and teaching assistantships.

THESIS AND COMPLETION

The Roski MFA Design thesis committee will comprise three faculty members. Two members will be Roski faculty, defined as currently teaching in the Roski graduate program with either full-time, part-time or adjunct appointments, tenure-track or non-tenure track. A third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Master of Fine Arts Design students are evaluated by faculty during reviews held near the end of each semester.

Before a student is recommended for the Master of Fine Arts, a comprehensive review of past work and professional goals is held. A written thesis, documented with visual material, and a practice-based component, such as an exhibition of work, a public presentation, community project or a course syllabus at the end of the course of study, complete the Master of Fine Arts program. A minimum grade point average (GPA) of 3.0 on all graduate work is required for the Master of Fine Arts degree.

ADMISSION

Admission is competitive and based on an application and portfolio submission at Slideroom.com.

An undergraduate degree in Design or its equivalent with a GPA of at least 3.0 is required. Applications are accepted in the spring for the fall. Preference will be given to full-time students, although part-time study can be accommodated with the director's approval.

Application materials include the following:

1. USC Graduate Application
2. Transcripts (waived for Progressive Degree applicants)
3. Three letters of recommendation
4. Personal statement and CV
5. A portfolio of 20 images, submitted at slideroom.com
6. Results of the TOEFL or IELTS (international students only)

See the Roski Website roski.usc.edu for additional information about the MFA Design program.

Program Requirements

At least 56 units are required for the Master of Fine Arts in Design, to be distributed as follows:

Required Courses

- DES 503 Contemporary Issues in Design Units: 4
- DES 513 Visiting Designers Forum Units: 2 (2, 2)
- DES 514 Designers in Residence Forum Units: 2 (2, 2)
- DES 520 Individual Studies Units: 2 (max 6)
- DES 523 Design Theory Units: 4
- DES 530 Design Studio Co-Lab Units: 2 (max 6)
- DES 550 Advancement Units: 2
- DES 591 Field Internship Experience Units: 2
- DES 594a Master's Thesis Units: 2
- DES 594b Master's Thesis Units: 2
- DES 594z Master's thesis Units: 0

Elective Courses

16 units of 400-500-level electives: 8 units within the Roski School and 8 units from across the university.

Eight Units within the Roski School

DES 543 Design Study Tour (2 units) OR DES 433 International Design Study Tour (2 units) are suggested electives.

- DES 433 International Design Study Tour Units: 2
- DES 540 Design Pedagogy Units: 4 *
- DES 543 Design Study Tour Units: 2
- DES 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DES 599 Special Topics Units: 2, 3, 4

Note:

* DES 540 Design Pedagogy (4 units) is required in the spring of the first year, for students interested in applying for a teaching assistantship in their second year.

Eight Units outside of the Roski School

Fine Arts (MFA)

A two-year program administered in collaboration with the Graduate School, the Master of Fine Arts is a professional degree in the practice of art preparing students to pursue careers as professional artists. With an influential and innovative faculty and expansive facilities, the MFA program is one of the most ambitious, energetic and forward-thinking MFA programs in the United States. In addition to close, constant interaction with the faculty artists, students participate in regular seminars, lectures, discussions, and studio visits with leading visiting artists, critics, curators and theorists from around the world. The school's immersion in the contemporary art community is a critical component of the MFA program.

The opportunity to gain experience as a teaching assistant is available on a competitive basis. All incoming students, regardless of country of citizenship, are considered for departmental funding and teaching assistantships.

Program Requirements

At least 52 units are required for the Master of Fine Arts, to be distributed as follows:

- CRIT 510 History and Theory of Art and Exhibitions Units: 4
- ART 515 Visiting Artist and Scholar Seminar Units: 2 (4 units required)
- ART 520 Individual Studies Units: 2 (8 units required)
- ART 525 Making and Curating Art: Pedagogy and Praxis Units: 4 (Enroll in CRIT 525)
- ART 530 Global Art Seminar: the Globalization of Art and Culture Units: 4
- ART 535 Group Critique Units: 2 (8 units required)
- ART 594a Master's Thesis Units: 2
- ART 594b Master's Thesis Units: 2
- ART 594z Master's Thesis Units: 0

and 16 units of 400- or 500-level electives:

- 8 units outside of the Roski School and
- 8 units of departmental electives within the Roski School

Note:

Roski MFA thesis committees will comprise three faculty members. Two members will be Roski faculty, defined as any faculty currently teaching in either the MA or the MFA program with either full-time, part-time or adjunct appointments, tenure track or non-tenure track. The third member can be any full-time tenure track or non-tenure track USC faculty member, either within the Roski School or from outside Roski. Thesis committees are ultimately subject to approval by the school dean.

Master of Fine Arts students are evaluated by faculty during reviews held near the end of each semester. Before a student is recommended for the Master of Fine Arts, a comprehensive review of past work and professional goals is held. An exhibition of work at the end of the course of study and a written thesis, documented with visual material, complete the Master of Fine Arts program. A minimum grade point average of 3.0 on all graduate work is required for the Master of Fine Arts degree.

Integrated Design, Business and Technology (MS)

The Master of Science in Integrated Design, Business and Technology is an online graduate degree program that provides a first-of-its-kind interdisciplinary education at the intersection of the educational and professional disciplines central to our changing

world. The program creates leaders with diverse and creative ways of thinking and doing – trained to recognize and cultivate innovation, catalyze change, and leverage new opportunities to not only support, but also help shape and build our rapidly evolving economy.
This program brings together faculty and experts from across the USC campus. Instructors work in cross-disciplinary teams, covering subjects that include conceiving and developing solutions to complex design, business and technological challenges; using data and research to create a portfolio of problem-solving approaches, and how to manage and adapt to uncertainty.
The Master of Integrated Design, Business and Technology is a master of science degree conferred by the USC Roski School of Art and Design. The degree is offered predominantly online and is composed of both asynchronous and synchronous sessions. Students also participate in two week long residential experiences – the first to be held on the University of Southern California's campus in Los Angeles and the second at locations across the United States.

Program Requirements

At least 38 units are required for the Master of Science in Integrated Design, Business and Technology. The course of study can be completed in 18 months, or five semesters, and must include:

Required Residential Courses

- IDSN 510 Integrative Practices Residential Units: 2
- IDSN 515 Professional Practices Residential Units: 2

Required Core Courses

- ACAD 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- IDSN 540 Processes and Perspectives Units: 4
- IDSN 545 Integrative Project Units: 2 (6 units required)
- IDSN 550 Opportunity and Uncertainty Units: 4
- IDSN 560 Narrative and Storytelling Units: 4
- IDSN 570 Decisions and Solutions Units: 4
- IDSN 585 Capstone Units: 3

6 Units from the Following Courses

- IDSN 520 Design Essentials Units: 3
- IDSN 525 Business Essentials Units: 3
- IDSN 530 Technology Essentials Units: 3

Optional

- IDSN 505 Intensive Units: 0.5, 1, 1.5, 2 (1-4 units)

Dual Degree

Master of Planning/Master of Arts, Curatorial Practices and the Public Sphere (MPI/MA)

The Master of Planning/Master of Arts, Curatorial Practices and the Public Sphere offers an unusually rich opportunity for students interested in developing a new knowledge base to become successful professionals working in the arena of organizing art projects in urban public space, planning and community development. Los Angeles and the facilities at USC provide a unique learning laboratory to educate a more competitive professional with a better understanding of both the administration of public art and issues of urban planning.

Required Roski courses

The following Roski courses are required for the degree (26 units):

- ART 515 Visiting Artist and Scholar Seminar Units: 2
- CRIT 510 History and Theory of Art and Exhibitions Units: 4
- CRIT 512 Art and Curatorial Visits Units: 2
- CRIT 555 Methods of Curating: Introduction to Curatorial Practicum Units: 4
- CRIT 556 Curatorial Practicum: Individual/Group Projects Units: 4
- CRIT 557 Curatorial Practicum: Group Project Summation Units: 4
- CRIT 594a Master's Thesis Units: 2
- CRIT 594b Master's Thesis Units: 2

Required Planning Courses

The following Planning courses are required for the degree (26 units):

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 533 Planning History and Urban Form Units: 2

Concentration Gateway

Choose one course from the following:

Economic Development:
- PPD 639 Introduction to Community and Economic Development Units: 4

Preservation and Design:
- PPD 644 Shaping the Built Environment Units: 4

Social and Community Planning:
- PPD 628 Urban Planning and Social Policy Units: 4

Sustainable Land Use:
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4

Transportation:
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Concentration Methodology

Choose one course from the following:

Economic Development:
- PPD 625 Planning and Economic Development Finance Units: 4

Preservation and Design:
- PPD 627 Design Skills for Urban Planners Units: 4

Social and Community Planning:
- PPD 616 Participatory Methods in Planning and Policy Units: 4

Sustainable Land Use:
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Transportation:
- PPD 633 Urban Transportation Planning and Management Units: 4, 2 years

Additional requirements for the dual degree

There are 6 units of open electives;
There is a required comprehensive exam for Planning in the spring of the second year (fourth semester);
There are 400 hours of internship required for the degree, usually pursued in the summer of the second year (fifth and final semester).

USC Marshall School of Business

The USC Marshall School of Business is a preeminent destination for understanding and advancing the role of business in society. USC Marshall offers critical education and insight in disciplines including communication, business economics, entrepreneurship, finance, information systems, business analytics, marketing, management, operations, real estate and statistics. The Leventhal School of Accounting, one of the nation's top ranked accounting schools and housed within Marshall, educates the next generation of leaders in that field.

Leveraging a world-class faculty, international student body and strategic location at the gateway to the Pacific Rim, USC Marshall is a pioneer in global business education. International experience is a required component of all MBA degree programs. Undergraduates have access to numerous overseas programs including study abroad and international internships, in addition to week-long global learning experiences.

USC Marshall prepares globally focused thought leaders and hands-on practitioners at every career level, in multiple locations and on a full-time, part-time or weekend schedule. It offers focused specialization through its seven one-year master's degrees in disciplines across the business spectrum, including business analytics, entrepreneurship and innovation, social entrepreneurship, marketing and global supply chain management. The UT Dallas rankings place Marshall faculty seventh worldwide for research. The school's entrepreneurship program is consistently ranked as one of the best, as is its alumni network.

Nearly 100 years after its founding in 1920 as USC's College of Commerce and Business Administration, Marshall's broad range of academic offerings and trailblazing Centers of Excellence continue to foster a dynamic academic environment that sets the standard for extraordinary leadership development and scholarship in business.

Senior Administration

James G. Ellis, MBA, *Dean, Robert R. Dockson Dean's Chair in Business Administration*
Nandini Rajagopalan, PhD, *Vice Dean, Faculty and Academic Affairs*
Suh-Pyng Ku, PhD, *Vice Dean, Graduate Programs*
Sandra Chrystal, PhD, *Vice Dean, Online Education*
Tyrone Callahan, PhD, *Vice Dean, Undergraduate Programs*
Sunny Donenfeld, MILR, MBA, *Senior Associate Dean, Finance and Administration and Chief Financial Officer*
Evie Lazzarino, BA, *Associate Dean, Communications*
Matthew De Vecchi, EdM, *Senior Associate Dean for External Relations*

Undergraduate Programs Administration

Tiffiani Frye, *Director, Undergraduate Admissions*
Maureen McHale, PhD, *Assistant Dean and Director, Undergraduate Advising and Student Affairs*
Sean O'Connell, *Director, Undergraduate International Programs*
Jerry Giaquinta, PhD, JD, *Academic Director, World Bachelor in Business Program*
Cynthia McCloud, MBA, *Director, Food Industry Programs*

Graduate Programs Administration

Evan Bouffides, MBA, MPW, MA, *Assistant Dean and Director, Graduate Admissions*
Yurigrace Kim, MBA, *Senior Associate Director, MBA Admissions*
Mark Brostoff, MHA, *Assistant Dean and Director, MBA Career Services*
Susan Hunt, MA, PhD, *Assistant Dean, Graduate Programs*
Anakkarat Barth, MA, *Director, Office of Global Programs and Partnerships*

Anne Ziemniak, EdD, *Assistant Dean and Director, Full-Time MBA Program*
Peter Cardon, PhD, *Academic Director, MBA.PM Program*
Jeanette L. Christensen, MA, *Director, MBA.PM Program*
Dawn Porter, PhD, *Academic Director, Executive MBA (EMBA) Program*
Brigitte M. Engel, BS, *Director, EMBA Program*
Baizhu Chen, PhD, *Academic Director, Global Executive MBA (GEMBA) Program*
John D. Van Fleet, MBA, *Assistant Dean and Executive Director, Global Executive MBA (GEMBA) Program*
Fatemeh Ibrahimi Nazarian, PhD, *Academic Director, IBEAR MBA Program*
Richard Drobnick, PhD, *Director, IBEAR MBA Program*
Miriam Burgos, MBA, *Academic Director, Online MBA Program*
Brittany Hawkins, MEd, *Assistant Director, Online MBA Program*

Rex Kovacevich, MBA, *Assistant Vice Dean, Graduate Programs*
Shirley Maxey, BA, *Associate Dean, Master of Accounting and Master of Business Taxation*
Sara McLachlan, MA, *Assistant Director, Master of Accounting and Master of Business Taxation*
Abbas Sharif, PhD, *Academic Director, Master of Science in Business Analytics*
Hillary Primack, MSW, *Associate Director, Master of Science in Business Analytics*
Thomas Knapp, MBA, *Academic Director, Master of Science in Entrepreneurship and Innovation*
Jeymi Choi, MEd, *Assistant Director, Master of Science in Entrepreneurship and Innovation*
Rahsan Akbulut, PhD, *Academic Director, Master of Science in Finance*
Marina Mesin Zagar, PhD, *Associate Director, Master of Science in Finance*
Murat Bayiz, PhD, *Academic Director, Master of Science in Global Supply Chain Management*
Nick Vyas, MBA, *Program Director, Global Supply Chain Management*
Katy Lin, MEd, *Associate Director, Master of Science in Global Supply Chain Management (On Campus/Residential)*
Brittany Hawkins, MEd, *Assistant Director, Online Learning, Master of Science in Global Supply Chain Management for Executives*
Gary Shaffer, PhD, *Director, Master of Management in Library and Information Science*
Alexis Hackathorn, MA, *Coordinator of Student Services, Master of Management in Library and Information Science and Graduate Certificate in Library and Information Management*
Diane Badame, PhD, *Academic Director, Master of Science in Marketing*
Shirin Razi, MEd, *Associate Director, Master of Science in Marketing*
Maeleine Mira, EML, *Director, Master of Medical Management*
Adlai Wertman, MBA, *Academic Director, Master of Science in Social Entrepreneurship*
Nadine Bentis, EdD, *Director, Master of Science in Social Entrepreneurship*
Robert Turrill, PhD, *Academic Director, Master of Business for Veterans*
James Bogle, MBA, *Associate Director, Master of Business for Veterans*

K. R. Subramanyam, PhD, *Associate Dean, PhD Program*
Julie Phaneuf, BS, *Associate Director, PhD Program*

Office of Executive Education

The Office of Executive Education offers two- to seven-day, non-degree professional development programs designed to help working professionals excel in their career. The Office of Executive Education is located at the USC Center in Downtown Los Angeles, (213) 740-8990; Fax (213) 740-6406 or email: execed@marshall.usc.edu.

Arvind Bhambri, PhD, *Academic Director, Executive Education*
Sandra Fritz, BS, *Assistant Dean and Director, Executive Education*

Bachelor's Degree

Business Administration (BS)

Business Core Requirements

Business Administration majors must complete the business core. The business core contains foundational courses that provide analytical skills and theoretical knowledge in math, statistics, accounting and business economics as well as communication skills pertinent to the business field; functional courses in business disciplines such as finance, marketing, organizational behavior and operations; and integrative courses in strategy and data analysis.

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic advisers for additional information.*

Business Electives Requirement

In addition to business core courses, students are required to gain a deeper understanding of a specific aspect of business in which they have an interest. Business administration majors must complete 12 units of upperdivision elective courses (typically three 4-unit courses) offered by the Marshall School, specifically 300- or 400-level courses with a prefix ACCT, BAEP, BUCO, DSO, FBE, FIM, MKT or MOR. Students can also satisfy the business electives requirement through participation in a Marshall School sponsored international exchange program. FIM courses are open only to students in the non-degree FIM certificate program.

Electives should be selected based on a student's personal and professional goals and in consultation with an academic adviser. The Marshall School's academic departments and centers can also help students select courses that are particularly useful for careers in fields covered by the department or center. Electives are normally clustered in a particular field, but may be spread across different fields.

Non-Business Course Work

Sixty units of non-business course work are required for any of the undergraduate degrees conferred by the Marshall School of Business.

MATH 118, WRIT 150, WRIT 340, ECON 351, ECON 352 and all courses required for the major must be taken for a letter grade. ECON 351 and ECON 352 must be taken in residence at USC.

In addition to meeting university GPA requirements, a minimum overall/cumulative grade point average of 2.0 (A = 4.0) in upper-division business courses is required for graduation.

Free Electives

The business curriculum allows for 32 units of free electives. Students are strongly encouraged to pursue a minor, study a language and/or take advantage of the university's many opportunities to study abroad.

Minors

USC offers more than 150 minors, spanning a wide variety of fields. The business curriculum is designed to allow every student enough flexibility to pursue a minor outside of business, in the belief that a strong undergraduate education must be well-rounded and incorporate the liberal arts as well as business classes. Minors allow students to gain substantial expertise in a field outside of business by taking classes in another of USC's top-ranked departments and schools. Students with an officially declared minor may apply for the honor of being named a Renaissance Scholar if they meet the other program conditions.

Because some classes required for particular minors may have limited availability, students are encouraged to work closely with their academic advisers to develop plans for their minors. The Marshall Office of Undergraduate Advising can help plan for minors and provide information on the various minors offered throughout the university and how they complement different business tracks.

Business Administration (Cinematic Arts) (BS)

This program consists of courses offered by both the Marshall School and the School of Cinematic Arts. Students completing the program receive a Bachelor of Science in Business Administration with an emphasis in Cinematic Arts. The program is available to entering freshmen only.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business as well as an additional 24 units in cinematic arts, which specifically address the business side of the industry.

Business Requirements

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or *
- MATH 125g Calculus I Units: 4 **

- Electives-Business 300- or 400-level ACCT, BAEP, non-core BUAD, BUCO, DSO, FBE, MKT or MOR Units: 12

Total business units: 60

Note:

*Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam or AP calculus or IB mathematics exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher, or an IB math score of 5 or higher.

**A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic adviser for additional information.

Cinematic Arts Requirements

- CNTV 441 Business and Cinematic Arts Entertainment Practicum Units: 2
- CNTV 463 Television: Integrating Creative and Business Objectives Units: 2
- CNTV 467 The Future of Digital Media and the Entertainment Industry Units: 2
- CTCS 190g Introduction to Cinema Units: 4

- CTCS 191 Introduction to Television and Video Units: 4
- CTIN 458 Business and Management of Games Units: 2
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- CNTV 458 Producing and Marketing Feature Length Films Units: 2

Total cinematic arts units: 24

Total program units: 84

Business Administration (International Relations) (BS)

This program consists of courses offered by both the Marshall School of Business and the School of International Relations. Students completing the program receive a Bachelor of Science in Business Administration with an emphasis in International Relations.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business as well as an additional 24 units in international relations from the courses listed below.

Business Requirements

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

- Electives-300- or 400-level ACCT, BAEP, non-core BUAD, BUCO, FBE, DSO, MKT or MOR Units: 12

Total business units: 60

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher, or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic adviser for additional information.*

International Relations Requirements

- IR 210gw International Relations: Introductory Analysis Units: 4

International Political Economy Courses (4 units)

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4

International Relations Regional Courses (8 units)

- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 383 Third World Negotiations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 468 European Integration Units: 4

International Relations Electives (8 units)

Choose two from the list below or the two lists immediately above:

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 327 International Negotiation Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 402 Theories of War Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 444w Theories of Global Society Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4

Total international relations units: 24

Total program units: 84

Business Administration (Real Estate Finance) (BS)

The Bachelor of Science in Business Administration with an emphasis in Real Estate Finance provides specialized skill sets for students wishing to work in real estate finance and development. The degree signals to potential employers that the graduate is ready to perform complex tasks involving real estate finance, economics and state-of-the-art computer modelling.

Requirements for Admission

This program is available only to current Marshall and Leventhal undergraduates who have attained sophomore standing and have completed at least one semester in residence at USC. Students who wish to transfer to this program should visit the Marshall Undergraduate Advising office (see http://students.marshall.usc.edu/undergrad/advising/).

Students who wish to pursue the Bachelor of Science in Business Administration (Real Estate Finance) as a second bachelor's degree must satisfy all university requirements for a second bachelor's and complete 32 units unique to the Business Administration (Real Estate Finance) major.

Requirements for Completion

To complete the program, students must satisfy all requirements for the Bachelor of Science degree in business administration and 16 upper division units in the emphasis.

Business Core Courses

- BUAD 280 Introduction to Financial Accounting Units: 3
- BUAD 281 Introduction to Managerial Accounting Units: 3
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 310g Applied Business Statistics Units: 4
- BUAD 311 Operations Management Units: 4

- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 *
  or
- MATH 125g Calculus I Units: 4 **

Note:

**Placement into MATH 118 is contingent on successful completion of MATH 117 or obtaining an acceptable score on the math placement exam. The MATH 118 requirement may be waived with an AP Calculus AB or BC score of 4 or higher or an IB math score of 5 or higher.*

***A-level mathematics examination scores of A or B may receive subject credit for MATH 125. Eligible students should speak with their academic advisers for additional information.*

Real Estate Finance Emphasis Requirements

Required Course (4 units)

- FBE 391 Real Estate Finance and Investment Units: 4

Electives (12 units)

A minimum of 8 units must come from the Real Estate Finance Electives list. The sum of units from Real Estate Finance Electives and Non-Real Estate Electives must total at least 12.)

Real Estate Finance Electives: 8-12 units

- FBE 427 Real Estate Law Units: 4 ***
- FBE 465 Real Estate Analysis and Computer Modeling Units: 2 ***
- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4 ***
- FBE 470 Advanced Real Estate Analysis Units: 4 ***
- FBE 489 Real Estate Capital Markets Units: 4 ***
- FBE 491 Real Estate Finance Colloquium Units: 2 ***

Non-Real Estate Electives: 0-4 units

- BAEP 423 Management of Small Businesses Units: 4
- DSO 455 Project Management Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4 ***
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4 ***
- FBE 435 Applied Finance in Fixed Income Securities Units: 4 ***
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4 ***
- FBE 441 Investments Units: 4 ***
- FBE 459 Financial Derivatives Units: 4 ***
- MOR 469 Negotiation and Persuasion Units: 4

  ****Prerequisites required. Plan carefully.*

Business Administration (World Program) (BS)

The World Bachelor in Business (WBB) Program offers students the opportunity for immersive study at three highly regarded business schools, one in each of the major economic/cultural zones of the world: the Americas, Asia and Europe. The program is designed and offered in cooperation with the Hong Kong University of Science and Technology (HKUST) and Bocconi University. Students spend at least one year at each campus and receive a degree from each university. The program is available to entering freshmen only. Prospective students should consult with the USC Marshall Undergraduate Admissions office for program and admissions information.

Requirements for Completion

To complete the program and receive a degree from each university, students must satisfy the degree requirements of each institution, which include language requirements. The USC degree requirements are those of the USC Marshall Bachelor of Science in Business Administration program, with the exception that WBB students do not need to complete 60 units of non-business course work. Students should consult with the WBB program academic adviser at each university. Specific courses completed at each university are used to fulfill specific requirements at the other universities.

Students should note the following USC degree requirements for the WBB program:

- A minimum of 32 units must be taken in residence at USC. The units applied toward this requirement must be taken for a letter grade and cannot be taken on a P/NP or CR/NC basis.
- In addition to meeting university GPA requirements, a minimum grade of C- must be earned on all upper division course work taken at USC and required for the major.
- A minimum grade of C- for course work completed at HKUST and Bocconi University must be earned for the course credits to transfer to USC.
- USC GPA calculations will be based on course work completed at USC.

Sample Program

WBB students spend the first year taking classes in Los Angeles at USC, the second year taking classes in Hong Kong at HKUST and the third year taking classes in Milan at Bocconi University. In the final year, students choose their location of study in consultation with the program directors. Each year includes at least one cohort class designed specifically for the WBB program.

The following sample program does not represent a required sequence of study; rather, it serves as a guideline. Students will meet with a WBB program academic adviser at each location to ensure that each student's program of study will fulfill WBB program requirements.

Year One - USC

Semester one

- BUAD 304 Organizational Behavior and Leadership Units: 4
- GE VI-Social Issues Units: 4 *
- MATH 118gx Fundamental Principles of Calculus Units: 4
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4

Semester two

- BUAD 104 Learning About International Commerce Units: 2
- ECON 351x Microeconomics for Business Units: 4
- GE IV-Science and Its Significance Units: 4
- GE V-Arts and Letters Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 34

**Students should choose an 'm' designated class for GE VI to fulfill the diversity requirement.*

Year Two - HKUST

Semester one

- ECON 2123-Macroeconomics Units: 3
- ECON 2174-Mathematics for Economists Units: 4
- HLTH 1010-Healthy Lifestyle Units: 0
- USC GE III-Scientific Inquiry [HKUST: Science and Technology] Units: 3
- Chinese Communications Units: 3
- Understanding Business in Asia Units: 2

Semester two

- ACCT 2010-Principles of Accounting I Units: 3
- ISOM 2010-Introduction to Information Systems Units: 3
- ISOM 2500-Business Statistics Units: 3
- ISOM 2700-Operations Management Units: 3
- USC GE II-Global Cultures and Traditions [HKUST: Humanities] Units: 3
- Seminars in Asia's Business Units: 1

Total units: 31

Year Three - BOCCONI

Semester one

- 30006-Financial Markets and Institutions Units: 3
- 30015-Marketing Units: 3
- 30017-Corporate Finance Units: 3
- 30047-Introduction to the Legal System I Units: 3
- 30152-Public Management Units: 3

Semester two

- 30007-Managerial Accounting Units: 3
- 30048-Introduction to the Legal System II Units: 3
- 30056-European Economic Policy Units: 3
- USC GE I-Western Cultures and Traditions [Bocconi Economic History requirement] Units: 3
- Doing Business in Europe Units: 1
- Language 2 Units: 3

Total units: 31

Year Four, Option One - USC

Semester one

- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 497 Strategic Management Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- Free electives Units: 8

Semester two

- BUAD 425 Data Analysis for Decision Making Units: 2
- BUAD 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (2 units required)
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- Free electives Units: 8

Total units: 32

Year Four, Option Two - HKUST

Semester one

- MGMT 4110-Business Ethics and Policy Units: 4
- MGMT 4210-Corporate Strategy Units: 4
- Best Practices in Corporate Communication Units: 3
- Free electives Units: 6

Semester two

- ACCT 3610-Functions of Law in Society and Business Units: 3
- Capstone project Units: 4
- Free electives Units: 8

Total units: 32

Year Four, Option Three - Bocconi

Semester one

- 30012-Business Strategy Units: 4
- 30223-Marketing Communication Units: 3
- Free electives Units: 9

Semester two

- 30058-Comparative Business and European Law Units: 4
- 30216-Social Responsibility in Business, Government and Non-Profit Units: 3
- Final report Units: 2
- Free electives Units: 7

Total units: 32

Total units: 128

Undergraduate Certificate

Food Industry Management Program

Certificate Program

The Food Industry Management Program offers undergraduate and graduate courses emphasizing marketing, retailing, financial and management aspects of the food industry. Completion of the program is acknowledged by a Food Industry Management Certificate.

To qualify for admission and a scholarship grant for the undergraduate food industry management program, students must be currently employed in a management position in the food retailing, wholesaling or manufacturing industry and recommended by their employer. Also, they must have completed at least 64 undergraduate units (or have completed a bachelor's degree) with an academic standing adequate for admission to USC.

To receive a certificate, students must complete 16 units during the one-semester program. Students must take all required FIM courses for the time they are in the program.

Spring Semester

- FIM 420 Food Retailing Management Units: 4
- FIM 480 Food Industry Financial Accounting and Analysis Units: 4
- FIM 481 Food Marketing Research Units: 4
- FIM 582 Food Industry Decision-Making Units: 4

Total units: 16

Minor

Business Economics Minor

This minor is available to students of all majors except business, accounting and economics. This minor teaches students to think strategically about business. It integrates economic ideas with practical applications in the real world. Students who minor in business economics learn to think like leaders in business firms. This minor approaches problems conceptually, proceeding from the general economic theories to specific real world applications. This gives students a higher level of understanding of business opportunities and problems.

Many students in disciplines other than business need economic skills that focus on business. This minor teaches a combination of the ideas, skill sets and methodological approaches used in business economics. Students develop economic reasoning skills related to real-world problems and opportunities.

To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75. Completion of this minor requires a minimum GPA of 2.0 for the 20 units applied to the minor.

Required Courses (12 Units)

- MATH 118gx Fundamental Principles of Calculus Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

Electives

Choose two from the list below:

- FBE 324 The Financial System Units: 4
- FBE 402 Government and Business Units: 4
- FBE 416 Managerial Economics Units: 4 *
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4 *
- FBE 445 Topics in Economic Analysis of Business Strategy and Policy Units: 4
- FBE 462 International Trade, Finance and Commercial Policy Units: 4

Note:

**Prerequisite required*

Business Finance Minor

The minor in business finance offers non-business/non-accounting majors an opportunity to expand their career opportunities by gaining a background in financial concepts, valuation and financial strategy. It provides students with the necessary tools to measure benefits and related costs that will enable them to make better business decisions. Problem-solving and quantitative skills that are widely used in business will enable students to work on special projects or management teams — opportunities that might not have been available had it not been for this minor. Eighteen units are required.

To enroll students must have completed a minimum of 32 units

of college-level course work and have a minimum overall GPA of at least 2.75. Completion of this minor requires a minimum of 18 units.

Required Courses

Economics

Choose one of the following five options (units 2-8):

- BUAD 200x Economic Foundations for Business Units: 2 *
  or
- BUAD 201x Introduction to Business for Non-Majors Units: 4
  or

- ECON 203g Principles of Microeconomics Units: 4 and
- ECON 205g Principles of Macroeconomics Units: 4
  or

- ECON 303 Intermediate Microeconomic Theory Units: 4 and
- ECON 305 Intermediate Macroeconomic Theory Units: 4
  or

- ECON 351x Microeconomics for Business Units: 4 and
- ECON 352x Macroeconomics for Business Units: 4

Accounting

- ACCT 410x Foundations of Accounting Units: 4 **

Finance

- BUAD 215x Foundations of Business Finance Units: 4 **

Electives

Choose two from the list below:

- FBE 421 Financial Analysis and Valuation Units: 4
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4
- FBE 425 Management of Financial Institutions Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- FBE 432 Corporate Financial Strategy Units: 4
- FBE 433 Corporate Governance and CEO Pay Units: 4
- FBE 435 Applied Finance in Fixed Income Securities Units: 4
- FBE 436 Financial Management of Multinational Corporations Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 440 Trading and Exchanges Units: 4
- FBE 441 Investments Units: 4
- FBE 458 Law, Finance and Ethics Units: 4
- FBE 459 Financial Derivatives Units: 4
- FBE 460 Mergers, Acquisitions and Restructuring Units: 4
- FBE 462 International Trade, Finance and Commercial Policy Units: 4 **

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first requirement (BUAD 200, BUAD 201 or ECON).*
***Prerequisite or corequisite required*

Business Law Minor

A minor in business law is available to students in all schools and departments except business majors. The minor in business law will provide students with practical legal knowledge of substantive business law topics and current legal issues. The minor provides skill sets to identify and manage issues encountered within personal and business contexts including litigation, contract law, employment and human resources, real and personal property law. This minor exposes students to such topics as: commercial transactions, constitutional law, Internet and online commerce; intellectual property and entertainment law; bankruptcy and securities law; law of business and non-profit organizations; and international law. It also prepares students for career opportunities in management, technology and politics. The minor is an excellent preparation for further legal education. To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

Required Courses

- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 458 Law, Finance and Ethics Units: 4

Choose two of the following:

- FBE 427 Real Estate Law Units: 4
- FBE 428 Principles of Employment Law Units: 4
- FBE 429 International Business Law Units: 4
- FBE 430 Online Commerce and Intellectual Property Units: 4

Business Minor

The minor in business is available to students in all schools and departments except the Marshall School of Business and the Leventhal School of Accounting. The minor provides the opportunity for students to gain understanding of key concepts and tools of business.

To enroll in the business minor, students must have completed a minimum of 32 units of college-level courses and attained a minimum overall GPA of 2.75.

Successful completion of the business minor requires a minimum cumulative GPA of 2.0 in the courses applied to the minor.

Minor Course Requirements

Choose one of the following five options: (units 2-8)

- BUAD 200x Economic Foundations for Business Units: 2 *
  or
- BUAD 201x Introduction to Business for Non-Majors Units: 4
  or

- ECON 203g Principles of Microeconomics Units: 4 and
- ECON 205g Principles of Macroeconomics Units: 4
  or

- ECON 303 Intermediate Microeconomic Theory Units: 4 and
- ECON 305 Intermediate Macroeconomic Theory Units: 4
  or

- ECON 351x Microeconomics for Business Units: 4 and
- ECON 352x Macroeconomics for Business Units: 4

Required:

- ACCT 410x Foundations of Accounting Units: 4 or
- BUAD 280 Introduction to Financial Accounting Units: 3 or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4

- BUAD 215x Foundations of Business Finance Units: 4 ** or
- BUAD 306 Business Finance Units: 4

- BUAD 302 Communication Strategy in Business Units: 4

- BUAD 304 Organizational Behavior and Leadership Units: 4

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2 or
- BUAD 311 Operations Management Units: 4

Notes:

**Students who have earned scores of 4 or 5 on both the AP Microeconomics and the AP Macroeconomics exams will be waived out of the first requirement (BUAD 200, BUAD 201 or ECON).*

***ACCT 410 or BUAD 280 or BUAD 285a or BUAD 305 must be taken before BUAD 215.*

Business Technology Fusion Minor

The minor in business technology fusion is available to students in all schools and departments except business majors. This

minor requires 20 units to complete. To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

Course Requirements

- DSO 431 Foundations of Digital Business Innovation Units: 4
- DSO 433 Business Process Design Units: 4
- DSO 435 Enterprise Data Architecture Units: 4

Electives

Choose from the following to achieve a total of at least 8 units:

- DSO 401 Business Information Systems – Spreadsheet Applications Units: 2
- DSO 402 Business Information Systems – Database Applications Units: 2
- DSO 443 The Business of Digital Entertainment Units: 4
- DSO 455 Project Management Units: 4
- DSO 462 Managing a Small Business on the Internet Units: 2

Consumer Behavior Minor

Consumer behavior studies inform decision makers in the business, government and non-profit sectors on how consumer decisions, preferences, activities and other behaviors are influenced by factors such as culture, subculture, demographics, sensation, thinking, conscious and unconscious information processing, knowledge organization, beliefs, interpersonal communication, learning from experience and values. This is an interdisciplinary field, drawing on such disciplines as marketing, psychology, sociology, anthropology, economics, linguistics, ethnic studies, gender studies, geography, history, cognitive science and communications to understand the experiences of contemporary consumers across the world.

To enroll in this minor, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75.

Requirements

This minor requires 18-20 units.

- MKT 450 Consumer Behavior and Marketing Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

Complete at least 10 units consisting of at least three courses from the list below subject to the following constraints:

- A minimum of 18 units (including MKT 450 and PSYC 100) must be unique to the minor (i.e., not be countable toward requirements for the major). This does not include any prerequisites for courses listed.
- At least 16 units of all courses taken for the minor are not offered by the student's major department. For Business Administration and Accounting majors, courses with prefixes of BUAD and MKT are considered to be offered by the student's major department.
- No more than two of the courses chosen from the list below may be offered by the same department.
- At least one of the courses chosen below has a prefix other than COMM, MKT and BUAD.
- *Courses taken at institutions other than USC (i.e., International Exchange programs and transfer credits) cannot substitute for any of the minor requirements.*

American Studies

- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 380 American Popular Culture Units: 4

Anthropology

- ANTH 355 Urban Anthropology Units: 4 **
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 375 Applied Anthropology Units: 4, 2 years
- ANTH 445 African American Anthropology Units: 4
- ANTH 460 Economic Anthropology Units: 4 **

Business Administration

- BUAD 307 Marketing Fundamentals Units: 4

Comparative Literature

- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

Communication

- COMM 302 Persuasion Units: 4
- COMM 340 The Cultures of New Media Units: 4 *
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 396 Fashion, Media and Culture Units: 4 **

Computer Science

- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 110 Introduction to Digital Logic Units: 3
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4 *
- CSCI 360 Introduction to Artificial Intelligence Units: 4 *

Economics

- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 346 Economics of Transition and Development: China Units: 4 *
- ECON 405 Neuroeconomics Units: 4 *
- ECON 415 Behavioral Economics Units: 4 *
- ECON 420 Experimental Economics Units: 4 *
- ECON 432 Economics of Happiness Units: 4 *

English

- ENGL 392 Visual and Popular Culture Units: 4

History

- HIST 380 American Popular Culture Units: 4

Marketing

- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
- MKT 402 Research Skills for Marketing Insights Units: 4 *
- MKT 405 Advertising and Promotion Management Units: 4 *
- MKT 410 Professional Selling Units: 4 *
- MKT 465 Global Marketing Management Units: 4 *

Policy, Planning, and Development

- PPD 245g The Urban Context for Policy and Planning Units: 4

Psychology

- PSYC 240gx Scientific Inquiry and Reasoning in Health Care Units: 4
- PSYC 355 Social Psychology Units: 4 *
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 451 Formation and Change of Attitudes Units: 4 * **
- PSYC 454 Social Cognition Units: 4 * **
- PSYC 456 Conservation Psychology Units: 4 *

Sociology

- SOCI 155gm Immigrant America Units: 4
- SOCI 210g Science, Technology, and Social Conflict Units: 4
- SOCI 242g Sociology, Demography, and Health Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 331 Cities Units: 4 **

Total requirements: at least five courses: 18-20 units

Notes:

* *Prerequisites required*
** *Courses not offered regularly*

(Prerequisites will not be waived for upper-division courses; students must complete the prerequisite courses needed in addition to the courses for this minor.)

Entrepreneurship Minor

The minor in entrepreneurship is available to students in all schools and departments except business majors. It provides an understanding of entrepreneurship and the entrepreneurial mindset. To enroll in this minor, students must have completed a minimum of 32 units of college-level course work and have a minimum overall

GPA of 2.75.
The minor requires a minimum of 17 units to complete.

Core Requirements

- BAEP 423 Management of Small Businesses Units: 4
  or
- BAEP 450 Fundamentals of Entrepreneurship Units: 4
  or
- BAEP 451 The Management of New Enterprises Units: 4
  or
- BUAD 301 Technology Entrepreneurship Units: 3

- BAEP 452 Feasibility Analysis Units: 4

- BAEP 453 Venture Management Units: 4
  or
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4

Electives

Choose from the following to achieve a total of at least 17 units for the minor:

- BAEP 455 Founder's Dilemmas Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- BAEP 491 Introduction to Social Entrepreneurship Units: 4
- BAEP 495 Practicum in Business Issues (Internship) Units: 1
- BAEP 499 Special Topics Units: 2, 3, 4
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- BUAD 315x Basics of Project and Operations Management for Non-Majors Units: 2
- FBE 400x Introduction to Real Estate Finance and Development Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4

Human Resource Management Minor

The minor in human resource management is available to students in all schools and departments except business majors. It is appropriate for students pursuing careers in human resource management, as well as for students pursuing management positions where they will be interfacing with or relying on the human resource function for support. To enroll in this minor, students must have completed a minimum of 32 units of collegelevel courses and have a minimum overall GPA of 2.75. Completion of the human resource management minor requires a minimum GPA of 2.0 in the following business minor courses:

Minor Course Requirements

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 471 Managing and Developing People Units: 4

Electives

Choose three courses from the following (12 units):

- FBE 428 Principles of Employment Law Units: 4
- FBE 433 Corporate Governance and CEO Pay Units: 4 *
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4

Note:

**Prerequisite that is not part of this minor required*

Management Consulting Minor

The minor in management consulting is available to students in all schools and departments except business majors. The minor develops skills used by professional consultants to assist organizations and businesses in identifying and addressing their issues and problems. To enroll, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75. Completion of this minor requires a minimum GPA of 2.0 in the following courses:

Course Requirements

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 462 Management Consulting Units: 4

Electives

Choose three courses from the following (12 units):

- DSO 455 Project Management Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 465 Dynamic Strategies for the Business Lifecycle Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 473 Designing and Leading Teams Units: 4

Marketing Minor

Minor in Marketing

The minor in marketing is available to students in all schools and departments except business majors. Marketing studies processes that organizations use to identify and serve the needs of customers.

The marketing minor provides a business-related education that will supplement many undergraduate majors, and enhance the career prospects for students whose majors could incorporate a marketing dimension or application. This minor should appeal to any student interested in an early marketing career, which includes, but is not limited to, professional sales, retailing, marketing research, product management and advertising.

Eligible students must have completed a minimum of 32 units of college-level course work and have a minimum GPA of 2.75. Either BUAD 307 Marketing Fundamentals or MKT 385 Marketing of Creative Disruption and Innovation must be completed as a required prerequisite. Students must successfully complete 16 units of MKT electives to satisfy this minor.

Operations and Supply Chain Management Minor

The minor in operations and supply chain management is available to students in all schools and departments except business majors. This minor requires 20 units to complete. To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of at least 2.75.

Minor Course Requirements

- BUAD 311 Operations Management Units: 4
- DSO 482 Supply Chain Management Units: 4
- DSO 483 Operations Consulting Units: 4

Electives

Choose from the following to achieve a total of at least 8 units:

- DSO 401 Business Information Systems – Spreadsheet Applications Units: 2
- DSO 427 Designing Spreadsheet-Based Business Models Units: 4
- DSO 433 Business Process Design Units: 4
- DSO 455 Project Management Units: 4

Organizational Leadership and Management Minor

The minor in organizational leadership and management is available to students in all schools and departments except business majors. Students in the minor learn about personal and organizational leadership, ethics of the workplace, leading in a global context and organizing and planning for effective personal and organizational performance. To enroll, students must have completed a minimum of 32 units of college-level courses and have a minimum overall GPA of 2.75. Completion of this minor requires a minimum GPA of 2.0 in the following courses:

Course Requirements

- BUAD 304 Organizational Behavior and Leadership Units: 4
- MOR 470 Global Leadership Units: 4

Electives

Choose three courses from the following (12 units):

- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 471 Managing and Developing People Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4
- MDA 365 The Art and Adventure of Leadership Units: 4

Performance Science Minor

The minor in Performance Science teaches the science, best practices and applied processes to instill a high-performance mindset though a multi-disciplinary curriculum spanning business, psychology, biology, philosophy and athletics. This interdisciplinary minor will enable students to understand brain and body function, human behavior, psychology, emotion and leadership, all with the goals of optimizing individual mindsets, maximizing performance and creating a culture of high performance within their organizations. To enroll in this Performance Science minor, students must have completed 32 units of college-level courses and attain a minimum overall GPA of 2.75.

Completion of the minor requires 20 units.

Core Requirement

- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BAEP 472 The Science of Peak Performance Units: 2

Complete at least four units from each of the following categories: Mind, Business, Body.

MIND:

- PSYC 201Lg The Science of Happiness Units: 4
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4 *

BUSINESS:

- MOR 451 Mastering Decision Making Units: 4
- MOR 471 Managing and Developing People Units: 4

BODY:

- BISC 230Lgx The Biology of the Brain: Current Topics in Neuroscience Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4 *

**Prerequisite required.*

Total Core: 16 units

Electives

Complete at least 4 units from the list of courses below or the courses listed above that are not applied as a "required course."

MIND:

- GESM 140g Seminar in the Life Sciences Units: 4
- PHIL 258g Probability and Rational Choice Units: 4
- PSYC 301L Cognitive Processes Units: 4 *
- PSYC 499 Special Topics Units: 2, 3, 4

BUSINESS:

- BAEP 450 Fundamentals of Entrepreneurship Units: 4
  or
- BAEP 451 The Management of New Enterprises Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4 *
- MOR 461 Design of Effective Organizations Units: 4 *
- MOR 469 Negotiation and Persuasion Units: 4

BODY:

- HBIO 202Lg Nutrition for Life Units: 4
- HBIO 205Lgx The Science of Sport Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- PHED 106a Physical Conditioning Units: 1
- PHED 160 Stress Management for Healthy Living Units: 2

**Prerequisite required.*

Total Units Required: 20

Real Estate Finance Minor

The minor in real estate finance is available to all majors except business and real estate development. It provides students with training in the areas of business, finance, real estate law, design, and urban economics. It provides an opportunity for students to gain thorough exposure to the topics of real estate investing, finance and development. Upon successful completion of this minor, students will have achieved a basic understanding of the interplay of the various disciplines involved in contemporary real estate ownership and investment and how they impact the areas of the student's specific interests and expertise.

Those completing this minor will master techniques in valuing income-producing properties, analyze financial instruments such as mortgages and loans, understand the roles of debt and equity, gain insights into the processes of design and construction, as well as understand the dynamics of how real estate markets affect the underlying values of real property assets, as well as the role real estate markets play in the overall economy.

To enroll, students must have completed a minimum of 32 units of college-level course work and attained a minimum overall GPA of at least 2.75. Successful completion of this minor requires 24-26 units including a minimum of 16 upper-division units in the minor and a cumulative GPA of 2.0 for the 24-26 units.

Required Courses (12-14 Units)

Accounting: 4 or 6 units

Choose one option from the following *: Units: 4-6

- ACCT 410x Foundations of Accounting Units: 4 or
- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3

Business Finance: 4 units

- BUAD 215x Foundations of Business Finance Units: 4 *

Real Estate Finance: 4 units

- FBE 391 Real Estate Finance and Investment Units: 4 ** or
- FBE 400x Introduction to Real Estate Finance and Development Units: 4

Electives (12 Units with no more than 4 units of Non Real Estate electives)

Real Estate Electives: 8 - 12 units

Choose 8 - 12 units from the following. (The number of units of Real Estate Electives plus Non-Real Estate Electives will total 12.)

- FBE 427 Real Estate Law Units: 4
- FBE 465 Real Estate Analysis and Computer Modeling Units: 2 **

- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4 **
- FBE 470 Advanced Real Estate Analysis Units: 4 **
- FBE 489 Real Estate Capital Markets Units: 4 **
- FBE 491 Real Estate Finance Colloquium Units: 2 **

Non-Real Estate Electives: 0 - 4 units

Choose 0 - 4 units from the following:

- BAEP 423 Management of Small Businesses Units: 4
- DSO 455 Project Management Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4 **
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4 **
- FBE 435 Applied Finance in Fixed Income Securities Units: 4 **
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4 **
- FBE 441 Investments Units: 4 **
- FBE 459 Financial Derivatives Units: 4 **
- MOR 469 Negotiation and Persuasion Units: 4

Notes:

**ACCT 410 or BUAD 280 and BUAD 281 must be taken before BUAD 215.*

***Prerequisites required. Plan carefully.*

Social Entrepreneurship Minor

The minor in social entrepreneurship provides students from all undergraduate majors with a foundation in the context and practice of social entrepreneurship, nationally and internationally. The minor provides an understanding of social entrepreneurship and its relationship to government and public policy as well as an understanding of management skills specific to starting and maintaining a social enterprise. The curriculum includes options allowing the student to tailor course work to his or her individual academic interests and professional aspirations.

To enroll in this minor, students must have completed 48 units of college level courses with a cumulative USC GPA of at least 2.75.

Course Requirements (14 Units)

- BAEP 451 The Management of New Enterprises Units: 4
- BAEP 491 Introduction to Social Entrepreneurship Units: 4

- BAEP 460 Seminar in Entrepreneurship Units: 2 or
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2 or
- BAEP 497 Field Project in Entrepreneurship Units: 2

- PPD 371 The Nonprofit Sector and the Public Interest Units: 4

Electives

Complete at least 7 units from the following:

- BAEP 452 Feasibility Analysis Units: 4 *
- BAEP 471 Social Innovation Design Lab Units: 4
- BUCO 485 Business Communication Management for Nonprofits Units: 4
- CE 469 Sustainable Design and Construction Units: 3
- COMM 402 Public Communication Campaigns Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- PPD 478 Social Innovation Units: 4
- PSYC 456 Conservation Psychology Units: 4 **
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4

Notes:

**Prerequisite: BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301*

***Prerequisite: PSYC 100*

Technology Commercialization Minor

This interdisciplinary minor includes courses from both the business and engineering schools and provides education in the economic, technological and entrepreneurial aspects of commercializing new technologies. The minor is designed for students from a range of backgrounds (e.g., majors in engineering, life sciences or business) who are interested in starting their own technology-based ventures, working for technology-based start-up companies or pursuing corporate careers that may involve the commercialization of new technologies. In the minor, students learn about conceptualizing, developing and managing new, technology-based ventures and projects.

To enroll, students must have completed a minimum of 32 units of college-level course work and have a minimum overall GPA of 2.75. To complete the minor, students are required to complete the two required courses (7 units) and enough elective courses to achieve a total of 16 units outside of their major. Business majors thus require 23 total units and other majors 16 total units to complete the minor.

Required Courses

- BAEP 452 Feasibility Analysis Units: 4
- BUAD 301 Technology Entrepreneurship Units: 3 *

Note:

**BUAD 301 is a prerequisite to BAEP 452 and must be taken first.*

Electives

- ACCT 410x Foundations of Accounting Units: 4
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BME 416 Development and Regulation of Medical Products Units: 3

- BUAD 307 Marketing Fundamentals Units: 4 or
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4

- CE 473 Engineering Law, Finance and Ethics Units: 3 or
- ENGR 509 Patent Law for Scientists and Engineers Units: 3

- ENGR 493x Dean's Seminar in Entrepreneurship Units: 2
- ISE 344 Engineering Team Management Units: 3
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3
- ITP 310 Design for User Experience Units: 3
- ITP 466 Building the High Tech Startup Units: 4
- ITP 476 Technologies for Interactive Marketing Units: 4
- MKT 445 New Product Development and Branding Units: 4

Master of Business Administration

Executive MBA Program

The Executive MBA program is structured for mid-career to upper-career professionals who are fully employed. Rather than a program of traditional course disciplines (e.g., accounting, marketing, finance) the EMBA program offers a more thematic approach — integrating the material and often delivering it with faculty from different disciplines teaching in a team format. Core faculty include the school's most senior, experienced members as well as nationally renowned academic and business specialists. This program is delivered on Fridays and Saturdays (full days) for a two-year period at either the USC campus in downtown Los Angeles or in San Diego. As with the other USC Marshall MBA programs, an extensive international trip is integrated into the program.

Application

Application to the EMBA program does not require GMAT or GRE scores. In addition to the other general admission requirements, applicants should have 10 years of work experience that includes substantial managerial responsibilities. The Executive MBA Admissions office may be contacted at (213) 740-7846; Fax (213) 749-8520; or email: uscemba@marshall.usc.edu. Apply online at *marshall.usc.edu/admissions/applyonline*.

Program Structure

This program uses a non-traditional interdisciplinary approach to executive and managerial education though "themes" that integrate various functional areas and address classic, yet dynamic, business issues.

The program begins with a six-day domestic residential session. Thereafter, the 21-month MBA program meets Fridays and Saturdays throughout the year with a short summer break. An eight-day international trip is scheduled during the first theme of the program's second year.

Year 1

Theme I

- GSBA 560 The Perspective of Top Management Units: 2

Theme II

- GSBA 561 Evaluating Market Performance Units: 9

Theme III

- GSBA 562 Management of Operations Units: 11 or

- GSBA 562a Management of Operations Units: 1
- GSBA 562b Management of Operations Units: 10

Theme IV

- GSBA 563 Technology and Information Systems Management Units: 6 or

- GSBA 563a Technology and Information Systems Management Units: 2
- GSBA 563b Technology and Information Systems Management Units: 4

Theme V

- GSBA 564 Functional Strategies and Implementation Units: 2

Year 2

Theme VI

- GSBA 570 The Role of the Senior Executive Units: 2

Theme VII

- GSBA 571 Environmental Analysis: Establishing Competitive Advantage Units: 9

Theme VIII

- GSBA 572 Strategic Planning for Growth Units: 11 or

- GSBA 572a Strategic Planning for Growth Units: 3
- GSBA 572b Strategic Planning for Growth Units: 8

Theme IX

- GSBA 573 Managing Strategic Change and Implementation Units: 6 or

- GSBA 573a Managing Strategic Change and Implementation Units: 5
- GSBA 573b Managing Strategic Change and Implementation Units: 1

Theme X

- GSBA 574 The Executive of the Future Units: 2

Total units required for degree: 60

Full-time MBA Program

The Marshall full-time MBA curriculum is a comprehensive two-year (63-unit) learning experience develop outstanding leaders who act with positive impact and character in a rapidly changing economic, social and political world.

A core of essential courses is designed to build the foundation of skills required of all leading executives, develop collaborative talent, cultivate innovation and expand the student's vision with a global perspective. An individualized program of study, which begins in the second semester of the first year, allows students to acquire knowledge and skills in specialized functions within specific industries.

Recognizing that success in business requires more than a thorough knowledge of the vernacular of business, the full-time MBA curriculum is both broad and deep, offering students an opportunity to learn about business from varying perspectives. Full-time MBA students develop:

- a strategic perspective that understands the global dynamics of worldwide industries and new markets;
- an ability to integrate decisions and solutions across disciplines in complex decision-making environments;
- a world view that understands and appreciates different cultures and economies;
- a clear framework for ethical and values-based, decision-making supported by unyielding personal integrity and the confidence to act accordingly; and
- a professional presence and the ability to articulate a vision needed to motivate others and lead diverse teams of people.

Full-time MBA graduates are collaborative by nature, innovative in spirit and global in perspective.

The Faculty

Instructors in the full-time MBA program are an inspired group of teachers who are passionate about nurturing the development of their students and are committed to the program and to innovative implementation. Scholars bring their latest thinking into the classroom and convey it so that students embrace ideas and learning with excitement and a willingness to demonstrate that learning and enthusiasm in their careers.

Recognized experts, academic specialists and industry leaders are actively involved in the program. Faculty known for their work in Marshall research centers offer industry collaboration. Many faculty connect with other schools in the university, tap into the strengths of innovative Southern California industries and engage our alumni across industries and globally. The valuable contributions of experience and expertise from individuals and organizations outside Marshall weave theory with practice.

An Advanced Learning Environment

The educational approach of the full-time MBA is a careful balance of case learning along with course work, lectures, experiential exercises and field studies. Students are members of supportive and challenging learning communities. The experience is hands-on and teamwork based, with extensive opportunities to work with real companies and managers on real projects.

Classes are taught in state-of-the-art case rooms featuring network access for every student. The Experiential Learning Center offers students opportunities for experimentation, video practice, simulation exercises and group preparation.

The full-time program is rigorous, intellectually demanding and time-intensive. Students typically spend 60–80 hours per week on course work and projects.

Application

Applicants should have significant full-time work experience. Letters of recommendation submitted with the application should relate to the applicant's work experience. For more information, contact the Marshall MBA Admission Office in Popovich Hall (JKP) 308; (213) 740-7846; Fax (213) 749-8520; *marshall.usc.edu*. Apply online at *marshall.usc.edu/admissions/applyonline*.

Application Deadlines

Admission decisions for the full-time program are made within four admission rounds. Applicants who submit completed applications (including test scores) to the Admission Office by the December, January, February and April dates listed on marshall.usc.edu/admissions/applyonline will receive notification in approximately six weeks. Applicants are urged to file a completed application as early as possible, as the applicant pool is extremely competitive. The final deadline to apply for the full-time program is April 1.

Summer Preparation

The average full-time MBA student is returning to school after

completing five years of full-time employment. To help students prepare for their return to academia and refresh their knowledge of business fundamentals, Marshall provides non-credit tutorials and workshops via online/distance formats. Students complete the summer preparation materials and master the information before arriving on campus.

Orientation programs take place during the latter half of July.

Early Start to First Year

The academic program begins the first week of August with a four-week intensive term that includes graded course work in communication for management, strategy, data analysis and modeling and accounting principles and financial reporting. The fall semester academic program continues with classes, workshops and study sessions meeting Monday through Thursday.

Focus on Collaboration

The ability to work in and manage teams is becoming increasingly important in business practice. Building these skills during the program is a key part of each student's leadership growth.

Students are assigned to small teams for the first semester of study. These teams are composed of students with diverse backgrounds and experiences to enhance the overall learning experience for each team member. Teamwork is crucial to success in a variety of settings including group projects, study groups and competitive assignments. A greater understanding of teams is bolstered through formal discussions and presentations throughout the year.

In addition to formal team projects, a strong community of mutual support develops from the important role informal study groups play in the school's academic culture.

The Core: An Integrated Program of Study

Although the curriculum lists a series of required courses to be taken during the first year of the full-time MBA program, students are, in many ways, pursuing one nine-month course because the individual courses and materials covered are highly integrated.

The first-year teaching team develops and evaluates selected assignments jointly, linking concepts across courses, and occasionally team teaching, examining complex business programs from multiple perspectives.

Communication for Management

Communication for Management is a business communication course comprising class sessions, tailored workshops and ongoing individual and group coaching. First-year students are immersed in developing their presentation skills, interpersonal communication skills and emotional intelligence — the ability to understand and respond to the human side of business — all skills required of successful leaders.

PRIME

The global vision generated during the first year of the MBA culminates with PRIME. The final component of the Global Context of Business course, PRIME takes on-campus classroom study abroad for nine days. Integrating the classroom and international travel components of the course, students conduct research on industry- and company-specific business issues and report their findings in major presentations. Recent PRIME locations include Buenos Aires, Argentina/Lima, Peru; Taipei, Taiwan/Shanghai, China; Seoul, South Korea/Beijing, China; Hong Kong/Guangdong, China; Osaka/Tokyo, Japan; and Hanoi, Vietnam/Bangkok, Thailand.

Internships

Practical experience is critical to success in business. Marshall has developed an extensive network of prospective employers who offer internships during the summer between their first and second year. Successful internships often lead to job offers.

International Exchange Program

The Marshall School offers a range of international semester-long exchange programs in cooperation with leading business schools around the world. Since many of the programs are taught in English, language proficiency is not a requirement for all countries. Students must complete the MBA core courses and maintain a 3.0 GPA in order to participate in the exchange program. This program is open to full-time MBA and MBAPM students.

Program Structure

A total of 63 units is required. The following outlines the typical full-time student's schedule:

First Year "Core" Required Courses - First Semester

- GSBA 504a Operations Management Units: 1.5
- GSBA 509 Marketing Management Units: 1.5
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (1.5 units)
- GSBA 516 Essentials of Data Analysis and Modeling Units: 1.5
- GSBA 521a Corporate Finance Units: 1.5
- GSBA 533 Organizational Behavior and Leadership Units: 1.5
- GSBA 540 Contemporary Issues in Competitive Strategy Units: 1.5
- GSBA 542 Communication for Management Units: 1.5
- GSBA 545 Data Driven Decision Making Units: 1.5
- GSBA 552 Problem Solving and Decision Making: An Integrative Approach Units: 3
- Graduate business elective Units: 1.5 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 18

Second Semester

- GSBA 580a The Global Context of Business Units: 1.5
- GSBA 580b The Global Context of Business Units: 1.5
- GSBA 580c The Global Context of Business Units: 1.5
- Graduate business electives Units: 10.5 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 15

Second Year

- Graduate business electives Units: 30
  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units required for degree: 63

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

Global Executive MBA Program

The Global Executive MBA program (GEMBA) in Shanghai offers a thematic approach — integrating the material and delivering it with faculty from different disciplines teaching in a team format. GEMBA is delivered over a 21-month period in 13 modules, featuring 10 five-day modules in Shanghai spanning weekends (Thursday through Monday), two eight-day modules at the Marshall School of Business in Los Angeles, and a study trip to another Asian country, plus assignments and examinations to be completed between classroom sessions. Shanghai sessions are taught at the Antai College of Economics and Management, Shanghai Jiao Tong University.

Application

Applicants should have a minimum of 10 years of work experience, of which six should be in a management role. General admission requirements apply except that in lieu of the TOEFL or IELTS score, prospective applicants are pre-screened by the GEMBA office in Shanghai. Contact the Shanghai Global Executive MBA office by phone at +86-21-6293-2707, by fax at +86-21-6293-2713 or by email at uscgemba@sjtu.edu.cn. Contact the L.A. Global Executive MBA office by phone at (213) 740-8243, by fax at (213) 740-7559 or by email at gemba@marshall.usc.edu. To apply online, visit *marshall.usc.edu/admissions/applyonline*.

Program Structure

GEMBA employs a nontraditional, interdisciplinary and integrated approach to executive and management education through focus on real-world "themes" that integrate various functional areas and address classic, yet dynamic business issues.

Classes begin in May at the Antai College of Economics and Management at Shanghai Jiao Tong University in China. Thereafter, the program continues in a series of theme-specific modules during the five-day sessions, held every six weeks, primarily at the Antai College. Students take an in-depth study trip to another Asian country in the second year.

The program concludes with a nine-day capstone module held at the USC Marshall School of Business in Los Angeles and the commencement celebration.

Year 1, Summer

Theme I

- GSBA 560 The Perspective of Top Management Units: 2

Theme II

- GSBA 561 Evaluating Market Performance Units: 9

Year 1, Fall

Theme III

- GSBA 562 Management of Operations Units: 11

Year 1, Spring

Theme IV

- GSBA 563 Technology and Information Systems Management Units: 6

Year 2, Summer

Theme V

- GSBA 564 Functional Strategies and Implementation Units: 2

Theme VI

- GSBA 570 The Role of the Senior Executive Units: 2

Year 2, Fall

Theme VII

- GSBA 571 Environmental Analysis: Establishing Competitive Advantage Units: 9

Theme VIII

- GSBA 572 Strategic Planning for Growth Units: 11

Year 2, Spring

Theme IX

- GSBA 573 Managing Strategic Change and Implementation Units: 6

Theme X

- GSBA 574 The Executive of the Future Units: 2

Total units required for degree: 60

International MBA Program

The IBEAR MBA program is an accelerated global MBA for experienced managers and professionals. The curriculum contains internationalized core courses in its first three terms and selected international business electives thereafter. It concludes with a challenging consulting project in terms four and five.

Application

In addition to the general admission requirements, applicants should have a minimum of six years work and/or graduate study experience. Current participants average 11 years of experience and are 34 years of age. Scholarships are available to domestic and international students.

For more information, contact the IBEAR MBA Program; (213) 740-7140; Fax (213) 740-7559; or ibearmba@marshall.usc.edu; *marshall.usc.edu*. Apply online at *marshall.usc.edu/admissions/applyonline*.

Program Structure

This intensive full-time program begins in early August and ends in mid-July each year. It begins with a three-week transition program to assist international and domestic participants in adjusting to life in the U.S.

August Session

- GSBA 523 Communication for Management Units: 2, 3

Term 1 - Fall

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
- GSBA 511 Microeconomics for Management Units: 1.5, 3
- GSBA 524 Managerial Statistics Units: 2, 3
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3

Total units: 12

Term 2 - Fall

- GSBA 518 Accounting Control Systems Units: 3
- GSBA 528 Marketing Management Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
- GSBA 549 The Firm in the National and International Economy Units: 3

Total units: 12

Term 3 - Spring

- GSBA 534 Operations Management Units: 2, 3
- GSBA 543 Managerial Perspectives Units: 3
- IBEAR designated international business electives Units: 6

Total units: 12

Term 4 - Spring

- GSBA 584a International Business Consulting Project Units: 3
- IBEAR designated international business electives Units: 6

Total units: 9

Term 5 - Summer

- GSBA 584b International Business Consulting Project Units: 2
- IBEAR designated international business electives Units: 6

Total units: 8

Total units required for degree: 56

MBA Program for Professionals and Managers

The MBA Program for Professionals and Managers (MBA.PM) is a part-time, comprehensive MBA program that allows fully employed individuals to pursue their MBA degree. The program offers flexibility and a rich array of elective courses. Students in the MBA.PM program complete the degree in 33 months attending classes in fall and spring semesters and summer sessions.

The MBA.PM offers the following advantages:

- the scheduling design allows students to complete the degree in a timely way, while continuing to work full time;
- program flexibility allows students to tailor their selection of elective courses to their individual interests;
- PM.GLOBE, a course which includes an international trip, gives all MBA.PM students first-hand exposure to international markets;
- a cohesive group of student colleagues proceeds through the core together, providing opportunities for building relationships with other talented and ambitious individuals;
- special academic and social activities enhance the richness of the MBA experience; and
- interaction between faculty and students enhances the overall learning experience.

The first year of the MBA.PM program is also offered at the Orange County Center in Irvine. All students take most of their elective courses at the University Park Campus in Los Angeles.

Students attend core classes two nights per week for 12 months. Students must complete the core courses in the prescribed sequence and within the prescribed time frame. Elective courses are offered

on a semester basis during the remaining portion of the program, including summer session.

During the elective portion of the program, MBA students are encouraged to pursue a course of study that meets their professional goals. Students design their course of study by taking electives offered in the Marshall School and by sometimes taking courses in other areas of the university. Up to 9 units of graduate-level electives may be taken at USC outside the Marshall School of Business for elective credit provided the student shows sufficient reason why a selected course is relevant to the Marshall School of Business program. Permission to take courses outside the Marshall School must be requested via petition to the MBA.PM Program Office in Popovich Hall 106.

International Exchange Program

The Marshall School offers a range of international semester-long and summer exchange programs in cooperation with leading business schools around the world. Since many of the exchange programs are taught in English, language proficiency is not a requirement for all countries. Students must complete the MBA core courses and maintain a 3.0 GPA in order to participate in the exchange program. This program is open to fulltime MBA and MBA.PM students.

Application

Applicants should have significant full-time work experience. Letters of recommendation submitted with the application should relate to the student's work performance (résumé).

The program enrolls students one time per year in the fall. For more information, contact the Marshall MBA Admission Office in Popovich Hall (JKP) 308; (213) 740-7846; Fax (213) 749-8520; *marshall.usc.edu*. Apply online at *gradadm.usc.edu/apply/*.

Sample Program

A total of 63 units is required for the program. The following outlines the typical MBA.PM student's schedule:

First Year "Core" Required Courses - Fall Term

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3 (3-unit version required)
- GSBA 511 Microeconomics for Management Units: 1.5, 3 (1.5-unit version required)
- GSBA 519a Strategic Formulation for Competitive Advantage Units: 1.5
- GSBA 542 Communication for Management Units: 1.5
- GSBA 544 The Firm in the National Economy Units: 1.5

Total units: 9

Winter Term A&B

- GSBA 506a Applied Managerial Statistics Units: 1.5
- GSBA 506b Applied Managerial Statistics Units: 1.5
- GSBA 522a Managerial Perspectives Units: 1.5
- GSBA 522b Managerial Perspectives Units: 1.5
- GSBA 550a Entrepreneurship Units: .5
- GSBA 550b Entrepreneurship Units: 1

Total units: 7.5

Spring Term

- GSBA 528 Marketing Management Units: 3
- GSBA 548 Corporate Finance Units: 2, 3 (3-unit version required)

Total units: 6

Summer Session

- GSBA 519b Strategic Formulation for Competitive Advantage Units: 1.5
- GSBA 534 Operations Management Units: 2, 3 (3-unit version required)
- GSBA 581 Information Management and Analytics Units: 3

Total units: 7.5

Second Year - Fall Semester

Graduate business electives Units: 7.5

(500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Spring Semester

- GSBA 582a The Global Context and International Business Units: 1.5
- GSBA 582b The Global Context and International Business Units: 1.5
- Graduate business elective(s) Units: 3 (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units: 6

Summer Session

- Graduate business electives Units: 6

  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Third Year - Fall Semester

- Graduate business electives Units: 7.5

  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Spring Semester

- Graduate business electives (2) Units: 6

  (500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR)

Total units required for degree: 63

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

Online MBA Program

The Online MBA (OMBA) program is structured for students who are currently employed and wish to remain within the labor force while earning a degree. The OMBA Program offers an integrative approach to core business disciplines including accounting, finance, data sciences, marketing, management, operations and entrepreneurship. The program is delivered by full-time faculty from different disciplines teaching in a team format to integrate understanding of business fundamentals, internal and external operations, business environments and leadership. The program capitalizes on the unique opportunities inherent in online delivery to maximize student engagement through critical thinking, analytics and communication.

Application

The program accepts applicants for fall and spring semesters. Applications are submitted online through the Marshall School of Business application Website at *app.applyyourself.com/?id=usc-mba*. International applicants are advised to see the instructions for international students published in the *USC Graduate Admissions Website*.

Program Structure

The OMBA program uses an interdisciplinary approach to business education that enables students to develop an expertise in business administration in order to perform more effectively as business leaders, corporate managers and entrepreneurs.

The program begins with a five-day domestic residential session, after which the 21-month MBA Program meets online. The program requires 51 units. First semester courses include GSBA 501 and GSBA 505, which are prerequisites for the remaining courses. GSBA 535, GSBA 537, GSBA 538 and GSBA 539 may be taken in any order.

Required Courses - Residential Intensive

- GSBA 501 The Role of the Manager Units: 3

First Semester

- GSBA 505 Fundamentals of Business Units: 10

Remaining Required Courses

- GSBA 535 Opportunity Recognition and Implementation Units: 9.5

- GSBA 537 Managing Inside the Firm Units: 9.5
- GSBA 538 Managing Outside the Firm Units: 9.5
- GSBA 539 Business Environment and Leadership Units: 9.5

Total units: 51

For more information, visit http://onlinemba.marshall.usc.edu or email OMBA@marshall.usc.edu.

Note: USC reserves the right to change, add or delete its course offerings and programs without notice.

MBA Dual Degree Programs

Juris Doctor/Master of Business Administration (JD/MBA)

The Marshall School of Business in conjunction with the USC Gould School of Law offers a program leading to the degrees of Juris Doctor/Master of Business Administration.

Application

Applicants to this program must apply to both schools individually and take both the Graduate Management Admission Test (GMAT) or the Graduate Record Examinations (GRE) and the Law School Admission Test (LSAT). Applicants should apply either simultaneously to both programs or during the first year in the USC Gould School of Law. Certification for eligibility for the dual degree program must be provided by the Law School prior to admission to the dual degree program by the Marshall School of Business.

Program Requirements

The total number of units required for the MBA portion of the program is 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

To earn the JD, all students (including dual degree program students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in Law School Honors Programs.

First Year: Required Law School courses (33 units).

Second Year: Required MBA courses and graduate business electives.

Third and Fourth Years: 43 units of law courses and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

The JD and MBA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Doctor of Education (MBA/EdD)

The Marshall School of Business in conjunction with the USC Rossier School of Education offers a program leading to the degrees of Master of Business Administration and Doctor of Education.

The program emphasizes educational leadership and management competencies across the wide variety of education-related organizations in the public, non-profit and for-profit sectors and is designed to prepare students to assume executive leadership positions in these organizations, including schools, universities, educating businesses, regional, state and federal education agencies, education research institutions and private foundations with education missions. MBA/EdD graduates will be prepared to improve the scope and quality of educational services to target populations through the application of management skills to the field of education and of education principles to business enterprises.

Application

Applicants to this program must apply to both schools individually and may choose to submit scores for both the Graduate Management Admission Test (GMAT) and the GRE.

Program Requirements

The program may be completed on a full-time or part-time basis. Full-time students should be able to complete the program in approximately four years.

The MBA portion of the degree program requires that the student complete the required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

See the Rossier School of Education page for EdD degree requirements.

The MBA and EdD degrees are awarded simultaneously upon completion of all program requirements for both degrees.

Master of Business Administration/Doctor of Medicine (MBA/MD)

In response to the ongoing reorganization of health care delivery systems and the growing awareness of the impact of business decisions on health care, the Keck School of Medicine of USC and the Marshall School of Business jointly offer an innovative program for individuals seeking knowledge in both medicine and business administration. The program is designed to prepare its graduates to assume leadership in the design and management of health care systems.

Completion of the MBA/MD program spans five years. Interested students apply during their second or third year of medical school and begin required MBA courses following successful completion of the first two or three years of medical school. The remaining time is devoted to the clinical clerkships of the Keck School of Medicine and completion of elective courses in the Marshall School.

Application

MBA/MD students should apply during their second or third year of medical school in the Keck School of Medicine. Application to the MBA/MD does not require GMAT or GRE scores. All other requirements for admission to the Marshall MBA program must be fulfilled by the medical student for admission to the Marshall School. Only students who have successfully completed at least two years in the Keck School of Medicine will be considered for admission to the Marshall School of Business.

Program Requirements

At the conclusion of the program, students will have completed 48 units in the Marshall School of Business, including required and elective courses, and four years of courses in the Keck School of Medicine.

First and Second Years: Required medicine courses.

Third or Fourth Year: Required MBA courses and graduate business electives.

Remaining Years: Keck School of Medicine core, selective and elective clerkships, and graduate business elective courses sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

The MD and the MBA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)

Responding to the growing demand on pharmacists to be knowledgeable in both science and business administration, the USC School of Pharmacy and the Marshall School of Business offer the MBA/PharmD dual degree program.

The program involves completion of the first year in the School of Pharmacy, the second in the Marshall School of Business and completion of the balance of the dual degree program over the final three years.

Admission Requirements

Applicants to this program should apply during the first year of pharmacy studies. Only students who have successfully completed one year in the School of Pharmacy will be considered for admission to the Marshall School of Business.

Program Requirements

A total of 48 units of business course work is required. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

First Year: Required Pharmacy School courses.

Second Year: Required MBA courses and graduate business electives.

Third to Fifth Years: 108 units of Pharmacy courses and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

The MBA/PharmD degrees are awarded simultaneously upon completion of the School of Pharmacy and the Marshall School of Business requirements.

Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)

The Marshall School of Business in conjunction with the East Asian Studies Center (USC Dornsife College of Letters, Arts and Sciences) offers a joint MBA/MA degree program that combines graduate business education with training in the cultures and societies of East Asia. Students may complete the degree on a full- or part-time basis.

Application

Students must apply to both the Marshall School of Business and the USC Dornsife College of Letters, Arts and Sciences. GRE scores are not required for admission to the dual degree program, but may be submitted in lieu of GMAT scores.

Program Requirements

Students enrolled in the program are required to complete a minimum of 72 units. All students must complete 48 units in the Marshall School of Business. In East Asian Area Studies (EASC), students have the option of taking five courses and writing a thesis (for a total of 24 units) or taking six courses and passing a comprehensive examination (for a total of 24 units).

Required courses that must be taken in the Marshall School of Business include: all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

See East Asian Area Studies in the USC Dornsife College of Letters, Arts and Sciences for East Asian Area Studies course requirements and the foreign language requirement.

The MBA and MA degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)

In cooperation with Hebrew Union College-Jewish Institute of Religion's School of Jewish Nonprofit Management, the Marshall School of Business offers the dual degree program Master of Business Administration/Master of Arts in Jewish Nonprofit Management. This degree program prepares students to apply business and management concepts to the nonprofit sector.

Application

Applicants to the MBA/Master of Arts in Jewish Nonprofit Management program should apply to the Marshall School of Business and to the School of Jewish Nonprofit Management at the Hebrew Union College-Jewish Institute of Religion concurrently.

Degree Requirements

For the Marshall School portion of the dual degree program: all courses required in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

Students must also complete 47 units in the HUC-JIR School of Jewish Nonprofit Management to complete the MA in Jewish Nonprofit Management.

Sample Student Program

Summer I, Fall, Spring: Hebrew Union College-required and elective courses

Summer II, Fall, Spring: Hebrew Union College-required and elective courses

Fall, Spring: Marshall School-required and elective courses

Fall: Marshall School-graduate business electives

The MBA and the MA degrees are awarded simultaneously upon completion of their respective degree requirements.

Master of Business Administration/Master of Planning (MBA/MPl)

The Marshall School of Business in conjunction with the USC Price School of Public Policy offers a program leading to the degrees of Master of Business Administration and Master of Planning.

The Master of Business Administration/Master of Planning dual degree program enables students to understand the conduct and requirements of business, accounting, corporate and strategic planning, real estate marketing and finance. Students also gain expertise in public policy, city planning and the interpretation of government regulations. Exposure to both fields becomes an educational as well as professional asset for careers in either public service or private enterprise.

Application

Applicants to this program should apply to both schools simultaneously.

Program Requirements

A total of 84 units is required for the dual degree: 48 units of work in the Marshall School of Business and 36 units from the USC Price School of Public Policy. Students can complete the program on either a full- or part-time basis. The program normally requires five semesters of full-time study in residence.

Required courses that must be taken in the Marshall School of Business include: all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

See the USC Price School of Public Policy for Master of Planning course requirements.

The MBA and MPl degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Real Estate Development (MBA/MRED)

The Master of Business Administration/Master of Real Estate Development dual degree program enables students to expand their skills in planning, land development, marketing, decision sciences, accounting, management, finance and economics. A more sophisticated real estate market makes this diversity of training essential for many students pursuing careers in real estate finance and development.

Completion of the MRED portion of the program requires that students have use of an approved laptop computer and demonstrate calculator and spreadsheet skills; a calculator and/or spreadsheet class is offered online.

Application

Students must apply to both the Marshall School of Business and the USC Price School of Public Policy. Please consult the Admission section of each school for specific requirements.

Program Requirements

This program normally requires two years (including summer) of full-time study in residence to complete.

A total of 82 units is required. Required courses include:

- all required courses in an MBA program
- FBE 565 Economics of Urban Land Use: Feasibility Studies Units: 3
- FBE 588 Advanced Real Estate Law Units: 3

- additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48
- policy, planning, and development courses (34 units)

Additional Information

Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units.

Comprehensive Examination: Students are required to complete a comprehensive examination administered by faculty members from both the Marshall School of Business and the USC Price School of Public Policy.

See Master of Real Estate Development/Master of Business Administration (MRED/MBA) for MRED course requirements.

The MBA and the MRED degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Science in Gerontology (MBA/MS)

The MBA/MS dual degree program combines knowledge of the older population with the skills of business management. The program prepares graduates for a number of roles in both public and private sector organizations including the marketing of products or services to seniors, human resource development with older workers and retirement benefits.

Application

Applicants to the MBA/MS in Gerontology should apply to both schools simultaneously.

Gerontology Requirements

The Master of Science in Gerontology requires 30 units of course and fieldwork, which cover the core content of the MS program. See the USC Davis School of Gerontology page for course requirements.

Business Administration Requirements

The Master of Business Administration component requires 48 units of credit. Required courses include:

- all required courses in an MBA program;
- MOR 548 Competitive Advantage Through People;
- one of the following marketing electives: MKT 512 Consumer Insights and Analysis, MKT 525 Consumer Behavior, MKT 560 Marketing Strategy;
- additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

Dual degree candidates may not count courses taken outside the Marshall School of Business for the 48 units.

The MBA and MS degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)

The Marshall School of Business in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers a program leading to the degrees of Master of Business Administration/Master of Science in Industrial and Systems Engineering.

Application

Applicants to the MBA/MS, Industrial and Systems Engineering program should apply to both schools simultaneously.

Program Requirements

This alternative requires 66 units for graduates of industrial and systems engineering undergraduate curricula and leads to both a Master of Science in Industrial and Systems Engineering and the Master of Business Administration.

The total number of units required for the MBA portion of the program is 48.

Required business courses include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48.

Dual degree program students may not count courses taken outside the USC Marshall School of Business toward the 48 units.

See Master of Science, Industrial and Systems Engineering/ Master of Business Administration (MS/MBA) for industrial and systems engineering course requirements.

The MBA and the MS degrees are awarded simultaneously upon completion of all program requirements.

Master of Business Administration/Master of Social Work (MBA/MSW)

The Master of Business Administration/Master of Social Work dual degree program develops knowledge and skills in working with individuals, families and groups, as well as organizational dynamics, marketing, decision sciences, accounting and human relations. Students interested in working in the management of human services and not-for-profit organizations will develop knowledge of human resources, philanthropic and corporate social responsibility, organizational development and information management.

Application

Prospective students must apply to both the Marshall School of Business and the USC Suzanne Dworak-Peck School of Social Work.

Program Requirements

The MBA/MSW degree program requires completion of a total of 96 units (48 in the Marshall School of Business and 48 in the Suzanne Dworak-Peck School of Social Work).

Course requirements in the Marshall School of Business include all courses required for an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree program students may not count courses taken outside the Marshall School of Business toward the 48 units. See the Suzanne Dworak-Peck School of Social Work section for Social Work (MSW) course requirements.

The MBA and the MSW degrees are awarded simultaneously upon completion of all program requirements.

Master's Degree

Business Administration (MS)

The Master of Science in Business Administration (MS) is designed to provide those who have already completed an MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall MBA students. The degree is available only to those holding MBA degrees from institutions accredited by the Association to Advance Collegiate Schools of Business (AACSB). It may be completed on either a full- or part-time basis. Classes applicable to the degree are offered during both daytime and evening hours.

Prospective applicants are encouraged to visit the MS in Business Administration Website at *marshall.usc.edu/msba* for more information about this very flexible curriculum.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Calendar tab at *marshall.usc.edu/msba*.

Successful applicants should have earned a GPA of 3.3 or greater in their MBA course work, scored at least as well as an average Marshall MBA student on the GMAT or the GRE and have significant full-time work experience.

Application Procedure

Submit an online application to the MS program through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

- Current USC students and USC MBA alumni are not required to submit an application fee, new test scores or transcripts to verify degrees earned prior to their attendance at USC.

- Applicants who completed the MBA at an institution other than USC must submit all application documentation identified in the online application instructions including the application fee, official GMAT or GRE scores and transcripts.

For additional information, visit *marshall.usc.edu/msba*.

Program Structure and Unit Requirements

MS in Business Administration applicants are invited to consider areas of specialization available to Marshall MBA students. While the student identifies an area of interest as part of the application process, final determination of course work requirements is made under the guidance of and subject to approval by a faculty adviser. The academic department reviewing the application recommends a faculty adviser for the new student, but applicants may request a specific faculty adviser from among the faculty of the Marshall School of Business.

Together the student and the faculty adviser determine which courses the student must complete. An evaluation of work previously completed determines if prior work needs updating to prepare for new course work. If it is determined that preliminary courses are needed, the number of units needed to complete the Master of Science degree will increase. The student's program is then documented on an official program of study and filed with the MS program adviser.

Completion of the Master of Science degree requires a minimum of 24 graduate units for all candidates.

None of the GSBA prefixed classes required for completion of a Marshall MBA program may be applied toward the Master of Science in Business Administration unless they are required to update prior work and are added to the 24-unit total.

No courses numbered lower than 500 may be included in this program. No more than two courses or 8 units may be taken in graduate course work outside the Marshall School of Business.

Business Analytics (MS)

The Master of Science in Business Analytics provides students with the skill and knowledge to become experts in business analytics and to advance their careers in the area of data analytics. Students in the program acquire the statistical and optimization tools necessary to analyze large and unstructured data sets and make optimal decisions to improve the performance of their organization. In addition, students develop the ability to effectively present complex data to high-level decision-makers. This program concentrates on business applications across different industries and functions including marketing, finance, operations management, retail, manufacturing, banking and health care.

Admission Requirements

Applicants must satisfy most of the admission requirements for all Marshall master's degree programs. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. For international applicants TOEFL, IELTS or PTE scores required.

Application Procedure

Prospective students may apply to begin the program in the fall semester only. Applications are submitted online through the USC graduate admissions Website at *gradadm.usc.edu*. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions website (*http://gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, test scores, responses to several short-answer questions, two letters of recommendation and transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

For additional information, visit *www.marshall.usc.edu/msanalytics* or write to MS.Analytics@marshall.usc.edu.

Degree Requirements

The Master of Science in Business Analytics degree requires 33 units including 19.5 units of required course work plus 13.5 units of course work chosen from a list of electives. The program may be completed full-time (3 -5 courses per semester) or part-time. All students must take all the required Core Courses DSO 510, DSO 545 and GSBA 545 in the first semester.

Students who have taken one or more of the required courses elsewhere may petition to replace these courses with courses from the electives list and/or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the course.

Required Courses

Core Courses (must be completed first)

- DSO 510 Business Analytics Units: 1.5, 3
- DSO 545 Statistical Computing and Data Visualization Units: 3.0
- GSBA 542 Communication for Management Units: 1.5
- GSBA 545 Data Driven Decision Making Units: 1.5

Additional Required Courses

- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3.0
- DSO 573 Data Analytics Driven Dynamic Strategy and Execution Units: 3.0
- INF 559 Introduction to Data Management Units: 3

Electives

Complete at least 13.5 units from the following to total 33 units.

- CSCI 585 Database Systems Units: 4
- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 562 Fraud Analytics Units: 3
- INF 520 Foundations of Information Security Units: 3
- MKT 566 Marketing Analytics Units: 3
  NOTE: Selected offerings of DSO 599 may be applicable to this program, subject to approval by the academic director. Students must petition prior to registration.

Business for Veterans (MBV)

This program is offered in an intensive format for veterans who wish to gain formal business knowledge and develop critical thinking skills to manage or grow a business. Significant project and course work is completed primarily through residential sessions with supplemental content delivered via distance learning. Class sessions meet over 20 full-day sessions each semester for two semesters with minimal interruption to the careers of working veterans. The program is offered on the University Park Campus in downtown Los Angeles.

Applications are due by May 1 for a program start date in August. Application information is available online at marshall.usc.edu/MBV. For additional information, contact the Marshall Office of Executive Education at (213) 740-8990 or by email at *mbv@marshall.usc.edu*.

This program requires 25 units that will be taken in lockstep fashion. These courses are thematic semesters that are interdisciplinary in nature.

Fall

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- GSBA 561 Evaluating Market Performance Units: 9

Spring

- BAEP 549 The Entrepreneurial Journey Units: 2
- GSBA 572 Strategic Planning for Growth Units: 11

Total units: 25

Business Research (MS)

The Master of Science in Business Research is an alternative available only to Marshall PhD students.

Admission

Marshall does not accept applications for admission to this program. A student admitted to the Marshall PhD program may later request conversion or be invited by the faculty to complete the master's degree in lieu of the PhD Requests for conversion are subject to approval by the Marshall vice dean who oversees the PhD program.

For more information, contact the PhD program office for a referral to the MSBR adviser.

Program Requirements

The degree requires a minimum of 30 graduate units for all candidates.

Upon admission to the PhD program, the student works with a faculty adviser who oversees the selection of course work, taking into account the student's prior academic preparation. The curriculum requires completion of PhD program core courses focusing on research methods and theory in an area of specialization. Methods course work completed at USC must include at least one course in microeconomics or behavioral science, one course in statistics and one course in research design. Additional courses are drawn from the Marshall School of Business and other participating departments including economics, psychology, mathematics, sociology, engineering, communication and others.

No courses numbered lower than 500 may be applied in this program. All courses applied to the degree must be letter-graded and completed in residence at USC. No transfer units or graduate units from a degree previously completed at USC can be applied to the MS in Business Research.

Entrepreneurship and Innovation (MS)

The Master of Science in Entrepreneurship and Innovation is designed to develop the entrepreneurial knowledge, skill sets and decision-making frameworks required to recognize and evaluate business opportunities and to create and guide a new entrepreneurial entity either individually or within a larger organization. The curriculum focuses on topics such as entrepreneurial decision-making, business model formulation, feasibility analysis, leading innovation and change, and how to access and deploy capital and other resources for the successful launch of a new venture. The degree can be completed on either a full- or part-time basis, and classes are offered primarily at night to accommodate the needs of working professionals.

Admission Requirements

To qualify for admission to the MSEI program, prospective students must hold a four-year bachelor's degree, or equivalent. Applicants in the process of finishing an undergraduate degree may apply, with acceptance contingent on finishing the undergraduate degree. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation and responses to several essay questions. Full-time work experience is encouraged but not required. International applicants are required to submit TOEFL, IELTS or PTE scores. This requirement is waived for students who have completed their entire bachelor's degree program at a regionally accredited university located in the United States or officially recognized university in another country where English is both the language of instruction and the only officially recognized language of the country. Proof of financial support is required of admitted international applicants.

Application Procedure

Applications are accepted for fall semester enrollment only. Submit an online application to the program through the USC admissions Website here.

A complete application includes the online application form, test scores for international applicants, responses to several questions, an application fee, two letters of recommendation and copies of transcripts from all institutions attended.

- Current USC students and USC alumni are not required to submit an application fee or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

For additional detailed information visit marshall.usc.edu/MSEI or write to MS.EI@marshall.usc.edu or call (213) 821-0877.

Degree Requirements

The Master of Science in Entrepreneurship and Innovation requires 26 units

Required Courses

- BAEP 549 The Entrepreneurial Journey Units: 2
- BAEP 552 Cases in Feasibility Analysis Units: 3
- BAEP 554 Venture Initiation Units: 3
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 563 Corporate Entrepreneurship Units: 3
  or
- MOR 554 Leading Innovation and Change Units: 3

Elective Courses

Select 12 units from the following:

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- BAEP 557 Technology Commercialization Units: 3
- BAEP 558 The Entrepreneurial Advisor: Problem Solving for Early-Stage Companies Units: 1.5, 3
- BAEP 559 Investing in New Ventures Units: 3
- BAEP 560 Acquiring Your Own Business or Opportunity Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3 *
- BAEP 591 Social Entrepreneurship Units: 2, 3
- BAEP 599 Special Topics Units: 1.5, 2, 2.5, 3
- BUCO 503 Advanced Managerial Communication Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- ISE 545 Technology Development and Implementation Units: 3
- ISE 555 Invention and Technology Development Units: 3
- MKT 525 Consumer Behavior Units: 3
- MKT 528 Sales Management: The Art and Science of Sales Units: 3
- MKT 530 New Product Development Units: 3
- MOR 554 Leading Innovation and Change Units: 3 *
- MOR 565 Alliances and Cooperative Strategy Units: 3
- MOR 567 Interpersonal Influence and Power Units: 3
  or
- MOR 570 Leading Effective Teams Units: 3
  *If not applied to the degree as a required course.

Total units: 26

Finance (MS)

The Master of Science in Finance (MS) is designed to provide individuals with the necessary skills and knowledge to become experts in finance and thus advance their careers. The program provides individuals with tools, ideas and frameworks that will aid them in applying finance principles to businesses.

The program lays the groundwork with core courses in accounting, economics, finance and statistics. The foundation is

supplemented with courses on the role of finance in corporations, investment analysis and portfolio theory, and forecasting and risk. In addition, students personalize their degree with a choice of elective courses covering topics like real estate, mergers and acquisitions, and hedge funds.

Admission Requirements

Applicants must satisfy most, but not all of the general admission requirements for Marshall graduate programs. GMAT or GRE scores are recommended, but not required. Full-time work experience is not required for admission to the MS, Finance.

Admission decisions are based on consideration of the applicant's previous academic record, resume, test scores (if provided), letter of recommendation and responses to several questions included in the application. Individuals who are admitted must have completed the equivalent of a four-year U.S. bachelor's degree prior to the start of summer classes.

Application Procedure

Prospective students apply to begin the program in the summer term. Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, responses to several questions, test scores (if applicable), one letter of recommendation, and transcripts from all institutions attended since the applicant last applied to USC. (Current USC students and USC alumni are not required to submit an application fee or transcripts from institutions attended prior to USC. Applicants who have never applied for admission to USC must submit official transcripts from all institutions of higher education attended.) For additional information, including application deadlines, visit *marshall.usc.edu/MSF*.

Degree Requirements

The Master of Science in Finance degree requires 36 units including nine required courses (27 units) plus 9 units of course work chosen from a list of electives. The schedule is designed so that the program is completed in one calendar year.

Students who have taken (at USC or elsewhere) one or more of the required summer core courses (at the graduate/post-baccalaureate level) may petition to waive out of the duplicate courses. It is expected that individuals holding accredited graduate degrees in related fields may be able to waive out of some or all four required courses, reducing the total number of units required to earn the degree to as few as 24. Waivers must be requested in an attachment to the application for admission and approved by the program director prior to the start of summer classes.

A cumulative GPA of at least 3.0 for all course work applied to the degree and an overall graduate GPA at USC of at least 3.0 are required for graduation.

Summer Core

- FBE 506 Quantitative Methods in Finance Units: 3
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3
  (3 units for this program)
- GSBA 511 Microeconomics for Management Units: 1.5, 3
  (3 units for this program)
- GSBA 548 Corporate Finance Units: 2, 3
  (3 units for this program)

Additional Required Courses

- FBE 524 Money and Capital Markets Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3

Electives

Complete at least 9 units from the list below.

- FBE 523 Venture Capital and Private Equity Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- FBE 532 Corporate Financial Strategy Units: 3
- FBE 533 CEO Pay, Corporate Governance, and the Politics of Finance Units: 3
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 540 Hedge Funds Units: 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 557 Business Law and Ethics Units: 3
- FBE 558 Law for Structuring, Financing, and Managing Businesses Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 560 Mergers and Acquisitions Units: 3
- FBE 562 Current Issues in International Finance Units: 3
- FBE 563 Theory of International Trade Units: 3
- FBE 565 Economics of Urban Land Use: Feasibility Studies Units: 3
- FBE 571 Introduction to Financial Analysis: Practicum Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3
- FBE 591 Real Estate Finance and Investment Units: 3

Total Units: 36

Global Supply Chain Management (On-Campus/Residential) (MS)

The primary objective of the residential Master of Science in Global Supply Chain Management is to provide individuals with the necessary skills and knowledge to become experts in the area of supply chain management and thus advance their careers. The program focuses on topics like strategic procurement, outsourcing, logistics and distribution, the role of information technology in managing global supply chains and how these impact the process of developing new products. The aim is to provide the students with a framework that integrates different topics and an understanding of the trade-offs and relationships between these topics. Two experiential courses add to the academic learning.

Admission Requirements

Applicants to this program are required to satisfy the general Marshall admission requirements. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation, responses to several essay questions and an interview, if requested. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. For international applicants TOEFL, IELTS or PTE scores are required.

Application Procedure

Prospective students may apply to begin the program in the fall semester only. Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to also consult the instructions for international students published in the USC Graduate Admissions Application Website (*http://gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, test scores, responses to several short-answer questions, two letters of recommendation and transcripts from all institutions of higher education attended.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.
- Individuals who have applied for admission to a USC graduate program before but were not admitted may not have to submit new test scores or original transcripts.
- All other applicants must submit all documentation identified in the online application instructions.

For additional information, email MS.GSCM@marshall.usc.edu or call (213) 821-4079.

Degree Requirements

The Master of Science in Global Supply Chain Management degree requires 27 units including 19.5 units of required course work plus 7.5 units of course work chosen from a list of electives.

Individuals who have taken (at USC or elsewhere) one or more of the other required courses may petition to replace these courses with selections from the list of electives or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the alternate course.

Required Courses

- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 557a Global Supply Chain Management in International Settings Units: 1.5
- DSO 557b Global Supply Chain Management in International Settings Units: 1.5
- DSO 581 Supply Chain Management Units: 3
- GSBA 534 Operations Management Units: 2, 3 *
- GSBA 542 Communication for Management Units: 1.5
- ISE 583 Enterprise Wide Information Systems Units: 3

**Must be completed in the first semester.*

Electives

Select 7.5 units from the following.

- CE 589 Port Engineering: Planning and Operations Units: 3
- DSO 505 Sustainable Supply Chains Units: 1.5
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 510 Business Analytics Units: 1.5, 3
- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 520 Logistics Management Units: 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 534 Discrete-Event Simulation for Process Management Units: 1.5
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 3.0
- DSO 580 Project Management Units: 3
- DSO 586 Global Healthcare Operations Management Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3

Total units: 27

Global Supply Chain Management for Executives (MS) (Online)

The online Master of Science in Global Supply Chain Management program is designed to facilitate the needs of professionals and executives in the United States and around the world who wish to expand their knowledge of the rapidly changing world of global supply chain management.

Courses are transmitted from studio classrooms via an extensive Internet-delivery system to enable the students to access their classes anytime, from anywhere. Lectures are made accessible for the entire semester, allowing students to review a complex lesson or prepare for exams. All classes are taught in English. Using the Internet, students are required to work in teams and are encouraged to interact with the instructors and their classmates.

Two international travel experiences to global distribution hubs are included in the program. Participation in both trips is required for graduation. Some courses may require in-person midterm and final examinations. These exams will be administered in cities near student population concentrations, requiring that students travel to reach these locations.

Admission Requirements

In addition to the general Marshall admission requirements, applicants should have at least three years of full-time work experience. Admission decisions are based on consideration of the applicant's previous academic record, résumé, letters of recommendation, responses to several essay questions and an interview. TOEFL, IELTS or PTE scores and GMAT or GRE test scores are not required, but are recommended, for this program. Applicants will be interviewed as needed to ensure sufficient English language capabilities.

Application Procedure

Submit an online application to the program through the USC graduate admissions Website at *gradadm.usc.edu*. International applicants are advised to view the information for international students published at *gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, an application fee, responses to several questions, three letters of recommendation, and copies of transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee or transcripts to verify degrees earned prior to their attendance at USC.
- Individuals who have applied for admission to a USC graduate program before but were not admitted may not have to submit new test scores or original transcripts.
- All other applicants must submit all documentation identified in the online application instructions including the application fee and copies of transcripts.

For additional information, visit *marshall.usc.edu/msgscm*, email MS.GSCM@marshall.usc.edu or call (213) 821-4079.

Degree Requirements

The online Master of Science in Global Supply Chain Management degree requires 27 units.

Individuals who have taken (at USC or elsewhere) one or more of the other required courses may petition to replace these courses with selections from the list of electives or appropriately related courses offered by the Marshall School of Business or the Viterbi School of Engineering. Such a replacement must be approved by the program director prior to registration for the alternate course.

Required Courses

- DSO 520 Logistics Management Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 557a Global Supply Chain Management in International Settings Units: 1.5
- DSO 557b Global Supply Chain Management in International Settings Units: 1.5
- DSO 580 Project Management Units: 3
- DSO 581 Supply Chain Management Units: 3
- GSBA 534 Operations Management Units: 2, 3 *
- ISE 583 Enterprise Wide Information Systems Units: 3

** Must be completed before or in the first semester.*

Electives

Select 6 units from the following:

- CE 589 Port Engineering: Planning and Operations Units: 3
- DSO 505 Sustainable Supply Chains Units: 1.5
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- ISE 513 Inventory Systems Units: 3

- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3

Total units: 27

Library and Information Science (MMLIS)

The Master of Management in Library and Information Science is designed to educate professional librarians for leadership from every level of the organization in academic, urban and corporate environments. Graduates will identify and analyze critical issues and leverage resources and expertise to build community assets.

The program provides a solid foundation of course work followed by elective options culminating in the capstone project. Each semester students enroll in LIM 591 Research and Professional Applications in which they investigate critical issues, connect with leaders, undertake research with faculty and otherwise extend their learning and understanding.

The capstone project provides an opportunity for students to demonstrate their learning during the MMLIS experience and achievement of the core competencies for the program.

Courses are offered entirely online each fall and spring semester and during the summer. The program is offered through small cohorts.

Application

To qualify for admission to the MMLIS program, prospective students must hold a bachelor's degree from an accredited institution and have earned an undergraduate GPA of at least 3.0. (Neither the GMAT nor the GRE is required for application/admission to this program.) International applicants are required to submit a TOEFL score and must have earned a score of at least 100, with at least 20 in each section. (Students who have completed their entire bachelor's degree program at regionally accredited universities located in the United States or in another country in which English is both the language of instruction and the official language of the country are exempt.) Proof of financial support is required of admitted international applicants.

Applicants will also submit a professional resume, a statement of purpose, three letters of recommendation and transcripts from each institution of higher education attended.

For more information and pre-screening visit *librarysciencedegree.usc.edu*, write to MMLIS.Program@marshall.usc.edu or contact an enrollment adviser at (877) 830-8647.

Curriculum

The MMLIS degree requires 40 semester units — 28 units of required foundation courses, 9 units of electives, and 3 units of capstone. Foundation courses, other than LIM 591, must be completed prior to taking electives. The program allows for specialization by environment within courses.

Required Foundation Courses (28 units)

Course

- GSBA 502 Management Communication for Leaders Units: 3
- LIM 500 Fundamentals of Library and Information Science Units: 3
- LIM 501 Fundamentals of Library Leadership and Management Units: 3
- LIM 502 Collection Development and Management Units: 3
- LIM 503 Information Description, Organization, and Retrieval Units: 3
- LIM 504 Research Methods in Library and Information Management Units: 3
- LIM 591 Research and Professional Applications Units: 2

Electives (9 units)

Elective offerings vary from semester to semester.

Capstone (3 units)

- LIM 598 Capstone in Library and Information Management Units: 3

Total units required for the degree: 40

Management Studies (MMS)

The Master of Management Studies (MMS) is designed to provide those who have already completed the equivalent of the first year of an accredited traditional two-year MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall graduate students.

Completion of the Master of Management Studies degree requires a minimum of 26 graduate units for all candidates.

Courses applicable to the degree are offered during both daytime and evening hours. The degree may be completed on either a full- or part-time basis. International students should expect to complete the program within two semesters.

Prospective applicants are encouraged to review the full list of specialized master's programs offered by the Marshall School of Business (*marshall.usc.edu/masters*) before applying for admission to this program. Also, visit the Master of Management Studies website at *marshall.usc.edu/mms* for more information about this very flexible curriculum. Information about the areas of concentration offered to Marshall graduate students is available at *marshall.usc.edu/ecg*.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Dates and Deadlines tab at *marshall.usc.edu/mms*.

The equivalent of a four-year bachelor's degree is required for admission. Additionally, applicants must have completed the equivalent of the first year of a traditional two-year MBA accredited by the AACSB, EQUIS, ACBSP, AOCTE, IACBE or AMBA. Successful applicants should have earned a GPA of 3.3 or greater in their graduate business course work and scored in at least the 80th percentile on the GMAT or the GRE.

Application Procedure

Submit an online application to the MMS program through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Application *(http://gradadm.usc.edu/apply/international-students/)*.

For additional information, visit *marshall.usc.edu/mms*.

Program Structure and Unit Requirements

Master of Management Studies applicants are urged to consider areas of specialization available to Marshall graduate students published at marshall.usc.edu/ecg. The applicant is asked to identify areas of interest as part of the application process, but is free to choose course work from the full range of graduate electives offered by Marshall.

An evaluation of work previously completed determines if specific content areas are missing. If it is determined that preliminary courses are needed, the number of units needed to complete the Master of Management Studies degree will increase.

Completion of the Master of Management Studies degree requires a minimum of 26 graduate units.

None of the GSBA-prefixed classes required for completion of a Marshall MBA program may be applied toward the Master of Management Studies unless they are required to update prior work and are added to the 26-unit total.

No courses numbered lower than 500 may be included in this program. No more than two courses or eight units may be taken in graduate course work outside the Marshall School of Business.

Successful completion of the program is documented on the student's USC transcript and acknowledged by a diploma awarded by the university.

Marketing (MS)

The Master of Science in Marketing provides students with tools, concepts, frameworks and critical thinking and innovative skills needed for more effective development, enhancement and refinement of marketing techniques critical to the success of local and global businesses. Practical hand-on projects in areas such as technology, biotechnology, healthcare, entertainment, sports entertainment and marketing start-ups provide students with opportunities to apply the classroom experience to the real world.

Admission Requirements

Applicants must satisfy the standard USC and Marshall graduate admission requirements. At least two years of full-time work experience is preferred. GMAT or GRE scores are required. The GMAT is preferred. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals applying for admission to the Graduate Certificate in Marketing should not apply for admission to this program also.

Application Procedure

Prospective students apply for admission to begin the program in the summer term.

Applications are submitted online through the Marshall School of Business application Website at gradadm.usc.edu. International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website.

A complete application includes the online application form, test scores, an essay, an application fee, two letters of recommendation and official transcripts from all institutions of higher education attended. Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted) or transcripts to verify degrees earned prior to their attendance at USC.

For additional information, visit marshall.usc.edu/MSMkt.

Degree Requirements

The Master of Science in Marketing requires 30 units including 19.5 units of required course work and 10.5 units of electives with a GPA of at least 3.0 for all units applied to the degree. The program may be completed on a full-time or part-time basis.

Students who have taken (at USC or elsewhere) a master's-level introductory marketing course and/or a master's-level statistics course prior to application may petition to waive out of the duplicate required courses, reducing the total number of units required to earn the degree to as few as 24. Waivers must be requested in an attachment to the application for admission. If approved, waivers will be documented in the offer of admission.

Required Courses (19.5 Units)

- GSBA 528 Marketing Management Units: 3 *
- GSBA 542 Communication for Management Units: 1.5
- MKT 543 Market Demand and Sales Forecasting Units: 3
  or
- DSO 510 Business Analytics Units: 1.5, 3
- MKT 512 Customer Insights and Analysis Units: 3
  or
- MKT 525 Consumer Behavior Units: 3
- MKT 556 Internet Marketing Units: 3
- MKT 566 Marketing Analytics Units: 3
- MKT 560 Marketing Strategy Units: 3

Note:

* *Must be taken in the first term/semester or prior to admission.*

Electives (10.5 units)

Complete at least 10.5 units of 500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR course work to reach the total number of units required to complete the program. (Enrollment in electives is subject to satisfaction of any prerequisite requirements in addition to the units required for the degree.) Students may petition to apply to the program marketing-related courses offered by other USC Schools. For a list of pre-approved courses, visit the program web page.

Medical Management (MMM)

This program is designed for physicians, three-five years out of residency, who are currently employed in the health care industry. Its structure includes intensive residential periods with significant project work required between residential periods. Non-residential instruction is supported via distance-learning tools.

Applications are due by November 30 for a program start date in late January. The application is available online at *app.applyyourself.com/?id=USC-MBA*. For additional information, contact the Office of Executive Education at (213) 740-8990 or by email at mmm@marshall.usc.edu.

This program requires 33 units that will be taken in lockstep fashion. These courses are thematic semesters that are interdisciplinary in nature.

Spring

- GSBA 561 Evaluating Market Performance Units: 9

Summer

- GSBA 562 Management of Operations Units: 11

Fall

- GSBA 572 Strategic Planning for Growth Units: 11

Spring

- BAEP 549 The Entrepreneurial Journey Units: 2

Total units: 33

Social Entrepreneurship (MS)

The Master of Science in Social Entrepreneurship offers students a unique combination of business entrepreneurship skills delivered within the context of achieving both social and financial missions.

The courses focus entirely on the business aspects of social entrepreneurship including feasibility, planning, marketing, management, finance and execution. Social, environmental and health issues are integrated into the readings, cases, teaching, guest lectures, exercises and assignments. The program also includes a for-credit practical capstone project in which students have the option to develop a business plan for a new social enterprise.

This program requires 30 units and can be completed in one year (full time) or 2 or more years (part time). Courses are offered in the evenings and on weekends on the University Park Campus in downtown Los Angeles.

Admission Requirements

Applicants apply online and must fulfill the general Marshall/USC admission requirements for graduate programs. Admission decisions into the MSSE program will be based on an applicant's previous academic record, résumé, letters of recommendation, and responses to several essay questions. TOEFL, IELTS or PTE scores will be required for international applicants who have not completed the equivalent of a four-year bachelor's degree (all four years) at an institution in a country where English is the primary official language. GMAT or GRE scores are recommended, but will not be required for this program.

Application Procedure

Submit an online application to the program through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to view the information for international students at *http://gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, an application fee, responses to several questions, two letters of recommendation, and copies of transcripts from all institutions attended since the applicant last applied to USC.

For more information about the program and detailed information about the application requirements and procedures, please visit *marshall.usc.edu/MSSE*, write to SocialEntrepreneur@marshall.usc.edu, or call (213) 740-7587.

Degree Requirements

The Master of Science in Social Entrepreneurship requires 30 units.

Required Courses

- BAEP 564 Investing in Impact Ventures Units: 3
- BAEP 566 Cases in Feasibility Analysis for Social Ventures Units: 3
- BAEP 567 Social Entrepreneurship: Design, Develop, and Deliver Units: 3
- BAEP 571 Social Innovation Design Units: 3
- BAEP 591 Social Entrepreneurship Units: 2, 3 (*normally 2 units)*
- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3 *(normally 2 units)*
- GSBA 528 Marketing Management Units: 3
- GSBA 529 Strategic Formulation for Competitive Advantage Units: 3
- GSBA 548 Corporate Finance Units: 2, 3 *(normally 2 units)*

Elective Courses

Complete at least 6 units of 500-level ACCT, BAEP, BUCO, DSO, FBE, GSBA, MKT or MOR course work to reach 30 units. (Enrollment in electives is subject to satisfaction of any prerequisite requirements in addition to the 30 units required for the degree.)

Total units: 30

Graduate Certificate

Business Analytics Graduate Certificate

The Graduate Certificate in Business Analytics provides students with the tools, ideas and frameworks that will aid them in making business decisions in a scientific manner, based on actual data, to improve the performance of their organization. Students in the program acquire the statistical and optimization tools necessary to analyze large and unstructured data sets and make optimal decisions to improve the performance of their organization.

Admission Requirements

Applicants must satisfy the standard Marshall graduate admission requirements. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Individuals applying for admission to the Master of Science in Business Analytics should not apply for admission to this program also.

Application Procedure

Prospective students who have not previously taken graduate-level (post-baccalaureate) business statistics must apply to begin the program in the fall semester. Prospective applicants who have taken a graduate-level business statistics course may apply to begin the program in the fall, spring or summer.

Applications are submitted online through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

A complete application includes the online application form, an application fee, test scores, an essay, two letters of recommendation and official transcripts from all institutions attended.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), transcripts to verify degrees earned prior to their attendance at USC, or letters of recommendation.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The Graduate Certificate in Business Analytics requires 15 units including required course work and at least 9 units of course work chosen from a list of electives. The program may be completed on a full-time (3-5 courses per semester) or part-time basis.

Students who have taken master's-level managerial statistics at another institution or as part of another program at USC prior to application may petition to replace the managerial statistics requirement with a fourth elective. Such a replacement must be requested as an attachment to the application for admission and, if approved, will be included in the offer of admission.

Required Courses

- GSBA 506a Applied Managerial Statistics Units: 1.5 and
- GSBA 506b Applied Managerial Statistics Units: 1.5 or
- GSBA 516 Essentials of Data Analysis and Modeling Units: 1.5 and
- GSBA 545 Data Driven Decision Making Units: 1.5 or
- GSBA 524 Managerial Statistics Units: 2, 3

- DSO 510 Business Analytics Units: 1.5, 3

Electives - Complete at least 9 units from the following to total 15 units.

- DSO 516 Probability and Data Modeling Units: 1.5
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 528 Data Warehousing, Business Intelligence, and Data Mining Units: 1.5, 3
- DSO 529 Advanced Regression Analysis Units: 3
- DSO 530 Applied Modern Statistical Learning Methods Units: 3
- DSO 534 Discrete-Event Simulation for Process Management Units: 1.5
- DSO 536 Monte Carlo Simulation and Decision Models Units: 1.5
- DSO 545 Statistical Computing and Data Visualization Units: 3.0
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 562 Fraud Analytics Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3.0
- DSO 573 Data Analytics Driven Dynamic Strategy and Execution Units: 3.0
- MKT 566 Marketing Analytics Units: 3

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Business Analytics may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current MBA students may apply all 15 units of the graduate certificate program to their MBA degree.
For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.
For additional information, visit marshall.usc.edu/GCRTAnalytics.

Business Fundamentals Graduate Certificate

The Graduate Certificate in Business Fundamentals is designed to provide students for whom an MBA is not a viable option with a

basic graduate-level introduction to successful business policies and practices.

Admission

All certificate students must meet the same admission requirements as degree seeking students.

In addition to the general admission requirements, applicants should have earned an undergraduate GPA of at least 3.4 or a GPA in graduate course work of at least 3.2. GRE or GMAT scores are generally required. A completed graduate degree may be accepted in lieu of test scores at the discretion of the admissions committee.

Prospective students should apply to begin the program and take GSBA 520 in the fall or spring term. Individuals applying for admission while or after completing GSBA 520 may apply for admission in the fall, spring or summer. Applications are submitted online through the USC Graduate Admissions Website at gradadm.usc.edu. A complete application includes the online application form, test scores, responses to essay questions, and official transcripts from all colleges and universities attended, whether a degree was completed or not. Current USC students and alumni need to submit transcripts from only those institutions attended since the applicant last applied to USC. The application fee is not required of current USC students or USC alumni.

For more information, visit marshall.usc.edu/BFNBP.

Program Requirements

The program requires successful completion of the following 16-unit program with a minimum cumulative GPA of at least 3.0 for all course work applied to the certificate and an overall graduate GPA at USC of at least 3.0.

Required (13 Units)

- ACCT 509 Concepts of Financial and Management Accounting Units: 4
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- GSBA 528 Marketing Management Units: 3
  or 3 units of MKT courses selected from a list of electives published on the program Website
- GSBA 543 Managerial Perspectives Units: 3 or 3 units of MOR courses selected from a list of electives published on the program Website

Elective (3 Units)

Select one additional course from those identified above or from a list of elective options published on the program Website and available from the program adviser. The elective selected may not duplicate prior graduate course work and must be approved by the program director. Enrollment in some courses may require additional preparatory course work to satisfy prerequisites, subject to approval of the instructor.

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Business Fundamentals for Non-Business Professionals may be completed in conjunction with course work required for a program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department.

For USC alumni, courses completed in conjunction with an individual's prior degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Financial Analysis and Valuation Graduate Certificate

The Graduate Certificate in Financial Analysis and Valuation program is designed to enhance the individual's graduate education through a concentrated curriculum in financial accounting, financial analysis, valuation, credit analysis, and financial instruments and markets.

Admission

To qualify for admission to the program, individuals must have completed basic graduate-level (post-baccalaureate) courses in microeconomics, macroeconomics, and corporate finance comparable to the first-year MBA curriculum while earning a minimum graduate GPA for those courses (combined) of 3.5.

Prospective students may apply to begin the programs in the fall, spring or summer term. Applications are submitted online at *http://gradadm.usc.edu/*. A complete application includes the online application form, responses to several essay and additional information questions, letters of recommendation and transcripts from any institutions attended since the applicant last applied to USC. (The application fee is not required of current USC students and USC alumni. Letters of recommendation are not required of current USC MBA students and USC MBA alumni.)

For more information, visit *marshall.usc.edu/fav*.

Program Requirements

The program requires successful completion of 15 units. Students select one of the following options. Some courses are offered for either 1.5 units or 3 units in a given semester. Individuals who elect to take a 1.5-unit class must make up the other 1.5 units with a course selection from the same option. Earning the certificate requires a combined GPA of at least 3.6 for all courses applied to the certificate.

Corporate Finance Option

Required

- ACCT 572 Corporate Accounting and Reporting Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3

At least two of the following:

- ACCT 581 Financial Statement Analysis Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
- FBE 532 Corporate Financial Strategy Units: 3

At least one of the following:

- ACCT 581 Financial Statement Analysis Units: 3
- FBE 523 Venture Capital and Private Equity Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- FBE 531 Corporate Financial Policy and Corporate Governance Units: 1.5, 3
- FBE 532 Corporate Financial Strategy Units: 3
- FBE 558 Law for Structuring, Financing, and Managing Businesses Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 560 Mergers and Acquisitions Units: 3

Investment Management Option

Required

- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3

At least one of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3

At least two of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 540 Hedge Funds Units: 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3

Student Investment Fund Program

Under the auspices of the Center for Investment Studies is

the Student Investment Fund (SIF) program. During this year-long seminar in applied portfolio management, a select group of students learn the theory and practice of investment management by managing actual USC endowment funds.

Students who are selected to participate in the Marshall Student Investment Fund (SIF) program are required to complete the following:

Required

- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 553a Applied Portfolio Management Units: 3 *
- FBE 553b Applied Portfolio Management Units: 3 *
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3

At least one of the following:

- ACCT 572 Corporate Accounting and Reporting Units: 3
- ACCT 581 Financial Statement Analysis Units: 3

Notes:

**Prerequisite required.*
If a course in the SIF option is taken for 1.5 units, the remaining units may be completed with a course selected from the Investment Management option above to reach the 15 units required to complete the program.

Note

For current USC graduate students, courses credited to the Graduate Certificate in Financial Analysis and Valuation may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current MBA students may apply all 15 units of the graduate certificate program to their MBA degree. For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.
Successful completion of the program is acknowledged by a certificate awarded by the university.

Library and Information Management Graduate Certificate

The Graduate Certificate in Library and Information Management is designed to provide specialized knowledge in library leadership for library managers who do not hold the MMLIS degree and current holders of the equivalent MLIS degree looking for career advancement. The certificate is offered entirely online.

Admission

Certificate applicants must meet the same basic admission requirements as the Master of Management in Library and Information Science applicants.

Program Requirements

The Graduate Certificate in Library and Information Management requires 16 units. Each student will develop an individual academic plan and course of study under a faculty member's guidance, subject to the program director's approval.

For students who already hold an MMLIS degree or equivalent:

- LIM electives Units: 12
- LIM 591 Research and Professional Applications Units: 2 -2

Students who do not already hold an MMLIS degree or equivalent

will be required to successfully complete the following:

- LIM 500 Fundamentals of Library and Information Science Units: 3
- LIM 501 Fundamentals of Library Leadership and Management Units: 3
- LIM electives Units: 6
- LIM 591 Research and Professional Applications Units: 2 -2

Notes:

For current USC graduate students, courses credited to the Graduate Certificate in Library and Information Management may be completed in conjunction with course work required for a program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department.
Successful completion of the program is acknowledged by a certificate awarded by the university.

Management Studies Graduate Certificate

The Graduate Certificate in Management Studies is designed to provide those who have already completed the equivalent of the first year of a traditional two-year MBA with an opportunity to pursue further study in an area of specialization currently available to Marshall graduate students.

Completion of the Graduate Certificate in Management Studies requires a minimum of 12 graduate units for all candidates — usually four, 3-unit courses.

The certificate may be completed on either a full- or part-time basis. Classes applicable to the certificate are offered during both daytime and evening hours.

Prospective applicants are encouraged to visit the Graduate Certificate in Management Studies Website at *marshall.usc.edu/gcms* for more information about this very flexible curriculum. Applicants interested in accounting or taxation should consider applying for admission to the Master of Accounting or the Master of Business Taxation program offered by the USC Leventhal School of Accounting. Information about the areas of concentration offered to Marshall graduate students is available at *marshall.usc.edu/ecg*.

Admission Requirements

Applicants may apply for admission to begin the program in the summer term or the fall or spring semesters. Application deadlines vary by semester, citizenship and registration goals. Details are available under the Calendar tab at *marshall.usc.edu/gcms*.

The equivalent of a four-year bachelor's degree is required for admission. Additionally, applicants must have completed the equivalent of the first year of a traditional two-year MBA accredited by the AACSB, EQUIS, ACBSP, AOCTE. IACBE or AMBA. Successful applicants should have earned a GPA of 3.3 or greater in their graduate business course work and scored at least as well as an average Marshall MBA student on the GMAT.

Application Procedure

Submit an online application through the USC Graduate Admissions Website (*http://gradadm.usc.edu/*). International applicants are advised to see the instructions for international students published in the USC Graduate Admissions Website (*http://gradadm.usc.edu/apply/international-students/*).

For additional information, visit *marshall.usc.edu/gcms*.

Program Structure and Unit Requirements

Applicants are urged to consider areas of specialization available to Marshall graduate students published at *marshall.usc.edu/ecg*. The applicant is asked to identify areas of interest as part of the application process, but is free to choose course work from the full range of graduate electives offered by Marshall.

An evaluation of work previously completed determines if specific content areas are missing. If it is determined that preliminary courses are needed, the number of units needed to complete the Graduate Certificate in Management Studies certificate will increase.

Completion of the Graduate Certificate in Management Studies certificate requires a minimum of 12 graduate units for all candidates.

None of the GSBA-prefixed classes required for completion of a Marshall MBA program may be applied toward the certificate unless they are required to update prior work and are added to the 12-unit total.

No courses numbered lower than 500 may be included in this program. All courses applied toward the certificate must be taken within the Marshall School of Business. Acceptable course prefixes

include ACCT, BAEP, BUCO, FBE, GSBA, IOM or DSO, MKT and MOR.

Successful completion of the program is acknowledged by a certificate awarded by the university.

Marketing Graduate Certificate

The Graduate Certificate in Marketing provides students with the tools, ideas and frameworks that will aid them in making business decisions in an application-based manner, based on actual case studies and relevant projects, to improve the performance of their organization. Students in the program acquire the marketing principles, techniques and tools necessary to analyze marketing situations and develop effective integrated strategic marketing plans to improve the performance of their organization.

Admission Requirements

Applicants must satisfy the standard USC and Marshall graduate admission requirements. Two years of fulltime work experience is preferred. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.
Individuals applying for admission to the Master of Science in Marketing should not apply for admission to this program also.

Application Procedure

Prospective students who have not previously taken a master's/graduate-level (post-baccalaureate) introductory marketing course must apply to begin the program in the summer term. Prospective applicants who have taken a master's/graduate-level marketing course may apply to begin the program in the fall, spring or summer. Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to see the instructions for international students at *http://gradadm.usc.edu/apply/international-students/*.
A complete application includes the online application form, test scores, an essay, an application fee, two letters of recommendation and official transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), transcripts to verify degrees earned prior to their attendance at USC, or letters of recommendation.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The Graduate Certificate in Marketing requires 15 units including one required course and 500-level MKT electives with a GPA of at least 3.0 for all units applied to the certificate. The program may be completed on a full-time (3-5 courses per semester) or part-time basis.
Students who have taken a master's-level introductory marketing course at another institution prior to application may petition to replace Marketing Management with an elective. Such a replacement must be requested as an attachment to the application for admission and, if approved, will be included in the offer of admission.

Required Courses

- GSBA 509 Marketing Management Units: 1.5
  or
- GSBA 528 Marketing Management Units: 3

Electives: Complete successfully sufficient units of 500-level MKT course work to total 15 units.

No more than 3 units of CR/NC course work can be applied to the certificate.

Note:

For current USC graduate students, courses credited to the Graduate Certificate in Marketing may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. Current USC MBA students may apply all 15 units of the graduate certificate program to their MBA degree.
For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate. An appropriate substitution for the required course will be determined and documented by the program director.
Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.
For additional information, visit marshall.usc.edu/GCRTMarketing.

Optimization and Supply Chain Management Graduate Certificate

The Graduate Certificate in Optimization and Supply Chain Management is offered by the Marshall School of Business in partnership with the Viterbi School of Engineering. The program offers individuals opportunities to expand their knowledge of the rapidly expanding uses of technology in the management of global supply chains.

The certificate may be completed on either a full- or part-time basis. Most classes applicable to the program are offered during both daytime and evening hours. Many of the courses included in the curriculum are available online.

Admission

Applicants should have a foundational knowledge (academic or experiential) of statistics and operations management.

Prospective students may apply to begin the programs in the fall, spring or summer term. Applications are submitted online at *gradadm.usc.edu*. A complete application may include the online application form, responses to several essay and additional information questions, test scores, transcripts from all institutions attended since high school, and an application fee. For more information, visit *marshall.usc.edu/oscm*.

The graduate certificate requires successful completion of 15 units with a minimum GPA of at least 3.0 for all units (combined) applied to the certificate.

Required Courses*

Complete 15 units from the following:

- CE 589 Port Engineering: Planning and Operations Units: 3
- DSO 505 Sustainable Supply Chains Units: 1.5
- DSO 506 Sourcing and Supplier Management Units: 1.5
- DSO 520 Logistics Management Units: 3
- DSO 522 Applied Time Series Analysis for Forecasting Units: 1.5, 3
- DSO 547 Designing Spreadsheet-Based Business Models Units: 3
- DSO 549 Application of Lean Six Sigma Units: 3
- DSO 570 The Analytics Edge: Data, Models, and Effective Decisions Units: 3.0

- DSO 580 Project Management Units: 3 or
- ISE 515 Engineering Project Management Units: 3

- DSO 581 Supply Chain Management Units: 3
- DSO 582 Service Management: Economics and Operations Units: 3
- DSO 583 Operations Consulting Units: 3

- GSBA 504a Operations Management Units: 1.5 and
- GSBA 504b Operations Management Units: 1.5
  or
- GSBA 534 Operations Management Units: 2, 3

- ISE 506 Lean Operations Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3

- ISE 580 Performance Modeling with Simulation Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Note:

For current USC graduate students, courses credited to graduate certificate programs may be completed in conjunction with course work required for a graduate degree program in which the student is already enrolled. Applicability of courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses applied to the individual's previously completed degree may not be credited toward a certificate. Successful completion of a graduate certificate program is acknowledged by a certificate awarded by the university.

Strategy and Management Consulting Graduate Certificate

The Strategy and Management Consulting graduate certificate provides students with the tools, concepts and frameworks that will aid them in leading the process of strategy development and management consulting to improve business performance. Evidence-based frameworks and hands-on projects will enhance students' skill sets in diagnosing strategic issues in complex settings. Different types of intervention strategies and contingency frameworks will provide students with an extensive and robust toolkit that can be applied in multiple industry settings.

Admission Requirements

Applicants must satisfy the standard Marshall graduate admission requirements. A few years of work experience is preferred, but not required. GMAT or GRE scores are required. International applicants who did not spend four years completing a bachelor's degree at an American, British, Canadian or Australian college or university must submit TOEFL, IELTS or PTE scores.

Prerequisite course work: Applicants must have completed the equivalent of a master's level course in business and competitive strategy (e.g., GSBA 519a, GSBA 519b or GSBA 529 or GSBA 540). The requirement may be waived in individual cases by the academic director of the certificate program. Petitions for a waiver must be included in the essay section of the individual's application.

Application Procedure

Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to see the instructions for international students at *http://gradadm.usc.edu/apply/international-students/*.

A complete application includes the online application form, an application fee, test scores, an essay, and official transcripts from all institutions attended since the applicant last applied to USC.

- Current USC students and USC alumni are not required to submit an application fee, new test scores (if previously submitted), or transcripts to verify degrees earned prior to their attendance at USC.
- All other applicants must submit all documentation identified in the online application instructions.

Degree Requirements

The graduate certificate in Strategy and Management Consulting requires 15 units. The program may be completed on a full-time (8-15 units per semester, depending on course availability) or part-time basis.

Required Course

- MOR 557 Strategy and Organization Consulting Units: 3

Electives

Complete 12 units from the following:

- DSO 583 Operations Consulting Units: 3
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 554 Leading Innovation and Change Units: 3
- MOR 555 Designing High Performance Organizations Units: 3
- MOR 559 Strategic Renewal and Transformation Units: 3
- MOR 560 Managerial Judgment and Decision-Making Units: 3
- MOR 561 Strategies in High-Tech Businesses Units: 3
- MOR 562 Strategic Choice and Valuation Analysis Units: 3
- MOR 564 Strategic Innovation: Creating New Markets Units: 3
- MOR 565 Alliances and Cooperative Strategy Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- MOR 570 Leading Effective Teams Units: 3
- MOR 588 Corporate Strategy and Competitive Dynamics Units: 1.5, 3

Note

For current USC graduate students, courses credited to the graduate certificate in Strategy and Management Consulting may be completed in conjunction with course work required for the program in which the student is already enrolled. The student's home department determines applicability of these courses to the student's primary degree program. Current Marshall MBA students may apply all 15 units of the graduate certificate program to their MBA degree. Courses completed in conjunction with a previously completed/awarded degree may not be credited toward the certificate. Appropriate substitutions for required courses will be determined and documented by the program director.

Successful completion of the program is documented on the student's transcript and acknowledged with a certificate (diploma) awarded by the university.

For additional information, visit marshall.usc.edu/GCRTSMC or write to GCRT.SMC@marshall.usc.edu.

Sustainability and Business Graduate Certificate

Business is increasingly involved in social and environmental issues. On the one hand, government and civil society are exerting increasing pressure on the business sector to help address the world's pressing social and environmental sustainability challenges, and on the other, a growing number of businesses are seeking to respond proactively to these challenges. The Sustainability and Business Graduate Certificate prepares students to help shape solutions to social and environmental sustainability challenges, both from within and from outside the business sector.

Admission

Applicants must meet the same Marshall School of Business admissions requirements as degree seeking students. Some exceptions are made for current USC students and USC alumni. Visit *www.marshall.usc.edu/SUSB* for details.

Applicants may apply for admission to begin the program in the fall or spring semesters as well as in the summer, depending on course availability. Applications are submitted online through the USC Graduate Admissions Website at *http://gradadm.usc.edu/*. International applicants are advised to see the instructions for international students published at *http://gradadm.usc.edu/apply/international-students/*.

Program Requirements

The program requires completion of 15 units.

Core: Complete at least 6 units from the following:

- BAEP 591 Social Entrepreneurship Units: 2, 3
- DSO 505 Sustainable Supply Chains Units: 1.5
- DSO 506 Sourcing and Supplier Management Units: 1.5
- FBE 557 Business Law and Ethics Units: 3
- GSBA 554 Digital Strategies for Sustainability in Global Markets Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3

Electives: Complete 0-9 units from the following:

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- ARCH 576 Sustainable Design for Healthy Indoor Environments Units: 3
- ARCH 579 Sustainable Building and Environment using LEED Metrics Units: 3
- BAEP 564 Investing in Impact Ventures Units: 3

- CHEM 581 Current Topics in Sustainable Energy Generation and Storage Units: 2
- CMGT 577 Communicating Corporate Social Responsibility Units: 4
- DSO 586 Global Healthcare Operations Management Units: 3
- ENE 502 Environmental and Regulatory Compliance Units: 3
- ENE 505 Energy and the Environment Units: 3
- ENST 520 Environmental Law and Policy Units: 4 or
- LAW 655 Environmental Law Units: 2, 3, 4

- ENST 530 Environmental Risk Analysis Units: 4 or
- PPD 587 Risk Analysis Units: 4

- GEOL 525 The Science of Climate Change Units: 4
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- PM 555 Environmental Health, Policy and Practice Units: 4
- PM 557 Global Environmental Health Units: 4
- PPD 568 Environmental Governance and Sustainability Units: 2
- POSC 546 Seminar in Environmental Policy Units: 4
- PPD 644 Shaping the Built Environment Units: 4
- PPD 688 Business and Public Policy Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4
- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4
- PPDE 644 Land Use and Transportation Planning Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 2
- PPDE 662 China from a US Policy Perspective Units: 4
- PSYC 456 Conservation Psychology Units: 4
- SAE 515 Sustainable Infrastructure Systems Units: 3
- SOWK 684 Community Practice for Social Innovation Units: 3

Note:

Given the growing number of courses relevant to this Certificate at USC, students may petition the Director to include courses not listed here. Petitions must be received and approved prior to registration for the course to be applied to the certificate.
Students may also earn credit toward the certificate electives with up to 4 units of Independent Study (e.g., Marshall 592 or 593) or Directed Research (590 in non-Marshall departments) subject to approval by the faculty directors.
For current USC graduate students, courses credited to the Graduate Certificate in Sustainability and Business may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses completed in conjunction with a previously conferred degree may not be credited toward the certificate.
Successful completion of the program is acknowledged by a certificate (diploma) awarded by the university.
For more information, please visit *www.marshall.usc.edu/SUSB*.

Technology Commercialization Graduate Certificate

The Graduate Certificate in Technology Commercialization is designed to let students experience the entire spectrum of the commercialization process — invention, product development, technical and market feasibility analysis, intellectual property acquisition, business planning, and venture funding.

This program is particularly well suited to master's and Ph.D. candidates in science, engineering, and business, but we encourage students from other disciplines who are interested in technology businesses to apply. Also, you do not need to be a matriculated student at USC to undertake the program. Any individual who holds an undergraduate degree equivalent to a 4-year US bachelor's degree is welcome to apply.

Prospective students may apply to begin the program in the fall, spring or summer term. Applications are submitted online via http://gradadm.usc.edu/apply/. For details, visit http://www.marshall.usc.edu/tccm.

Two required courses and 6 units of electives (for a total of 12 units) must be completed to earn the certificate.

Required Courses

- BAEP 556 Technology Feasibility Units: 3
- BAEP 557 Technology Commercialization Units: 3

Electives - Select a minimum of 6 units from the following.

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- BAEP 554 Venture Initiation Units: 3
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 559 Investing in New Ventures Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- INF 510 Principles of Programming for Informatics Units: 4
- ISE 515 Engineering Project Management Units: 3
- ISE 555 Invention and Technology Development Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 561 Strategies in High-Tech Businesses Units: 3
- MOR 564 Strategic Innovation: Creating New Markets Units: 3

Notes:

For current USC graduate students, courses credited to the Graduate Certificate in Technology Commercialization may be completed in conjunction with course work required for the program in which the student is already enrolled. Applicability of these courses to the student's primary degree program is determined by the student's home department. For USC alumni, courses completed in conjunction with the individual's prior degree may not be credited toward the certificate.
Successful completion of the program is acknowledged by a certificate awarded by the university.

Doctoral Degree

Business Administration (PhD)

The Doctor of Philosophy program in business administration is designed to produce research-oriented graduates who, from positions in academia, can advance the state-of-the-art of business practice and enhance the contributions that business can make to the larger community. These goals can be advanced through research contributions in theory, concepts, methods and practices, and contributions to the education of the next generation of business leaders. USC Marshall offers the PhD in Business Administration in the following five departments: Accounting, Finance and Business Economics, Data Sciences and Operations, Management and Organization, and Marketing.

All students admitted to the Marshall PhD degree program are supported by graduate assistantships or fellowships that require a full-time commitment to the program. No part-time or evening programs are available. PhD students begin their program in early August and are expected to be in residence 12 months each year throughout the program. Until the time the student is granted permission to take the qualifying examination, successful completion of at least six units per consecutive semester is required.

This degree is awarded under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue. All courses applied toward the degree must be accepted by the Graduate School and relevant to the student's program of study. In most cases, the PhD degree takes five years to complete.

Admission

The PhD program in Business Administration welcomes applications from students with high intellectual aptitude who plan to pursue academic careers in research and teaching. Students

with strong backgrounds in mathematics, psychology, the social sciences, engineering, computer science and the other sciences are encouraged to apply for admission. A master's degree or MBA is not a requirement for entry into the PhD program; students may enter with only a bachelor's degree. Prior academic research experience is desirable.

Students who wish to apply for admission to the PhD program should visit *marshall.usc.edu/phd* to obtain additional information about the PhD program and an online application. Only online applications are accepted. Students with additional questions that are not covered on the Website may contact the Marshall School PhD Program office at (213) 740-0676 or phd@marshall.usc.edu.

Applicants should secure three letters of recommendation. The PhD committee prefers that all recommendations be written by academics who are familiar with the applicant's scholastic and research capabilities. An applicant who has been away from an academic environment for a significant period of time may substitute one academic reference with a non-academic reference. Applicants also provide transcripts, GRE or GMAT scores, TOEFL or IELTS scores (if appropriate) and a statement of purpose. Applicants are encouraged to send a statement of research experience and a research writing sample, if available.

Consideration is given to the rigor of the undergraduate and master's curricula, academic performance, scores on the GRE or GMAT, the quality of the statement of purpose, fit with the department, the applicant's oral and written communication skills and letters of recommendation.

Campus interviews for top applicants may be initiated by the departments. In cases where in-person interviews cannot be arranged, alternative arrangements will be made.

Graduate Assistantships

All admitted students receive a fellowship or graduate assistantship, full tuition, health and dental insurance and payment of mandatory student health center fee for a minimum of four years dependent on continued satisfactory academic progress. This progress is assessed by the PhD program based on students maintaining at least the minimum enrollment, a GPA of at least 3.0, and satisfactory performance in graduate assistant assignments. At the end of the fourth year, students may apply for an assistantship for the fifth year of study. Students who receive assistantships serve as teaching assistants or research assistants each semester of the award. Teaching and teaching assistant assignments are made only after a student has passed the qualifying examination. For research assistant assignments, students are engaged with a faculty member in a businessrelated, applied-learning, scholarly activity to learn the skills necessary to conduct independent research.

Degree Requirements

The Doctor of Philosophy in business administration is based on a program of study and research culminating in the completion of a dissertation in the major field of study. A minimum of 60 units of course work beyond the baccalaureate is required for the PhD degree, including research courses and a minimum of 4 units and a maximum of 8 units of GSBA 794a Doctoral Dissertation, GSBA 794b Doctoral Dissertation, GSBA 794c Doctoral Dissertation, GSBA 794d Doctoral Dissertation and GSBA 794z Doctoral Dissertation. For students who already possess an advanced graduate degree, a minimum of 40 semester units of course work beyond that degree is required, of which a maximum of 4 units may be GSBA 794a Doctoral Dissertation, GSBA 794b Doctoral Dissertation, GSBA 794c Doctoral Dissertation, GSBA 794d Doctoral Dissertation and GSBA 794z Doctoral Dissertation. Doctoral students are subject to disqualification at any time that the Marshall School of Business determines that they are deficient in academic achievement. All students must maintain a 3.0 GPA at all times.

Screening Procedure

In addition to the papers and examinations assigned in first-year courses, a screening process will occur in May. This process will include a review of each student's grades, an analysis of competence in written communications and reports from faculty members who have had in-class or other responsibility for the student. In most departments, a screening exam is required. The nature of the exam varies by department. Generally, a screening examination or other procedure designated by the department (Accounting, Finance and Business Economics, Data Sciences and Operations, Management and Organization, and Marketing) is to be administered before the student has taken more than 24 units (including research courses). However, the Accounting and Finance and Business Economics departments require their students to take the departmental course requirements until the end of the second year; students must take up to 36 units before the departmental screening procedure is administered. Based upon this review, the PhD committee will determine whether the student should continue in the PhD program. Students who have not performed satisfactorily will be dropped from the program. The review shall normally be completed and results communicated to students by July 1. In some cases a first-year summer project may be taken into account in determining whether a student should continue in the program.

Qualifying Exam Committee and Dissertation Committee

Students are responsible for finding a qualifying exam committee chair among the student's home department faculty by the fall semester of the second year. The qualifying exam committee should be established within the student's home department at least two semesters prior to taking the qualifying examination and after the student has passed the screening procedure. The qualifying exam committee comprises a minimum of five tenured, tenure-track and non-tenure track USC faculty, three of whom must be from the student's home department. At least one faculty member from the home department must be tenured. One member must be from outside the student's home department (within or outside of Marshall). The qualifying exam committee advises the student on courses during the first two years and oversees and grades the qualifying examination.

Within 90 days of passing the qualifying exam, the dissertation committee chair must be identified. The dissertation committee must be appointed within six months after the qualifying examination has been passed and a dissertation topic approved. The committee should be appointed at least one month before the dissertation defense. The appointment of dissertation committee form, available on the Graduate School Website, is used to establish the dissertation committee. The dissertation committee is normally composed of three members, although additional members may be included at the student's and committee chair's discretion. The committee chair and at least one additional member must be affiliated with the student's home department. Faculty eligible to serve as committee members include tenured and tenure-track faculty, and nontenure track faculty of outstanding stature who have a documented record of exceptional expertise and superior achievement in a field relevant to the dissertation. At least two members of the committee should be tenured or tenure-track, including the committee chair.

The Marshall School of Business PhD program requires an outside member for both the qualifying exam committee and dissertation committee. The outside member may be a faculty member from another department within Marshall or from another school within USC. Students may also include a person from a different university as an additional member with the permission of the chair; however, this person cannot substitute for the required outside member.

Course Requirements

Each student must successfully complete one course in microeconomics or behavioral sciences, one course in statistics and one course in research design plus the core courses in his or her field of specialization. Advanced course work is specified by the student's guidance committee in preparation for the qualifying examinations in the area of specialization. The areas are: accounting, data sciences and operations, finance and business economics, management and organization, and marketing.

Qualifying Examination

The examination qualifying a student for candidacy may be comprehensive in nature. It is designed to determine the student's competence in the area of specialization.

The qualifying examination consists of two sections: written and oral. The written section must be passed before the oral section; if a student does not pass the written examination, the oral examination need not be administered.

In preparing for the qualifying examination, students form a qualifying exam committee. This committee helps the student prepare for the exam and also administers the written and oral section of the examination. See also The Graduate School section of this catalogue.

Dissertation

The final phase of the program is the completion of a dissertation. The dissertation must be based on an original investigation that makes a substantive contribution to knowledge and demonstrates the student's capacity for independent, scholarly research. The quality of the dissertation should meet the standards for publication in leading academic journals in the field.

Typically, research in business administration involves studies that advance the body of knowledge concerned with issues and solution of problems confronting managers and administrators. As a result, a dissertation will (1) develop or extend theories, techniques or models relevant to managerial problems; (2) demonstrate original applications or adaptations of existing theories, techniques or models to managerial problems in a specific area; (3) develop innovative formulations and analyses of complex managerial problems and propose creative approaches to their solution; and/or (4) employ scientific research methodology to test empirically the validity of existing theories, techniques or models and their application to specific types of managerial problems.

A dissertation committee chair shall be requested by the student and appointed by the dean of the PhD program within 90 days after the student has passed the qualifying examination. The remaining faculty on the dissertation committee shall be appointed within six months after the student has passed the qualifying exam.

The dissertation committee must consist of at least three tenured or tenure-track faculty, two of whom must be from the student's home department. At least one faculty member from the home department must be tenured.

One member must be from outside the student's department and the Marshall School of Business. Students may add additional faculty to the committee, especially those who might provide valuable expertise that improves the dissertation. It is important that the student select faculty members who are committed and interested in serving on the committee, since a quality dissertation requires extensive interaction with and a sizable time commitment from individual faculty members. See also the Qualifying Exam Committee and Dissertation Committee section above for further details.

Defense of the Dissertation

When the dissertation committee agrees that the candidate has essentially completed the research and a satisfactory draft of the dissertation has been written, a final oral examination is held. This examination is open to all members of the faculty of the school and the university. Final judgment of the dissertation and the oral defense is rendered by the members of the dissertation committee. The dissertation must be accepted unanimously by the dissertation committee. Further information on procedures is contained in the The Graduate School section of this catalogue.

Marshall Undergraduate Degrees

Bachelor of Science

The business administration major combines a strong grounding in business fundamentals and expertise in select functional areas with extensive exposure to the liberal arts. The curriculum is designed with significant flexibility so that students can complement their studies in business with a minor in a field outside business.

Marshall School programs lead to a Bachelor of Science degree. The most common major is Business Administration. Marshall students may major in Accounting through the USC Leventhal School of Accounting (part of the Marshall School). [See the USC Leventhal School of Accounting pages for a complete listing of information regarding courses, programs and requirements. See Accounting (BS) for specific degree requirements.]

The Marshall School offers three emphasis programs: the program with the School of Cinematic Arts leads to a BS in Business Administration with an emphasis in Cinematic Arts; the program with the School of International Relations leads to a BS in Business Administration with an emphasis in International Relations; and the program in the Finance and Business Economics department leads to a BS in Business Administration with an emphasis in Real Estate Finance. Students in the BS in Business Administration (World) program earn bachelor's degrees from USC, Hong Kong University of Science and Technology (HKUST) and Bocconi University (Milan, Italy). The Marshall School and USC Viterbi School of Engineering offer a combined degree program leading to a bachelor's degree in Computer Science/Business Administration (BS) administered by the Viterbi School of Engineering. The Marshall School also offers a variety of minors for non-business majors.

Educational Objectives

The undergraduate programs in business administration have three main goals: (1) graduates will have a grounding in skills and concepts that are fundamental to business; (2) graduates will have deep expertise in one or more specific areas of business, selected according to the student's personal and professional goals and objectives; and (3) graduates will have extensive exposure to the liberal arts, usually with a formal minor in a field outside business.

Degree Requirements

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. The current GE program is effective for all students entering USC in fall 2015 or later and for transfer students who began college elsewhere in fall 2015 or later and subsequently transferred to USC. For more information about USC's general education requirements, see the General Education page for more information.

Marshall Majors

The major requirements for each degree are found on the catalogue page for each major:

- Business Administration (BS)
- Business Administration (Cinematic Arts) (BS)
- Business Administration (International Relations) (BS)
- Business Administration (Real Estate Finance) (BS)
- Business Administration (World Program) (BS)
- Computer Science/Business Administration (BS)

Certificate Program

Marshall offers an undergraduate certificate in Food Industry Management. For more information see the Food Industry Management Program page.

Marshall Minors

Marshall offers minors in a range of business disciplines. Please see the catalogue page for each minor for a complete description and degree requirements.

- Business Minor
- Business Economics Minor

- Business Finance Minor
- Business Law Minor
- Business Technology Fusion Minor
- Consumer Behavior Minor
- Entrepreneurship Minor
- Human Resource Management Minor
- Management Consulting Minor
- Marketing Minor
- Operations and Supply Chain Management Minor
- Organizational Leadership and Management Minor
- Real Estate Finance Minor
- Social Entrepreneurship Minor
- Technology Commercialization Minor

The Leventhal School of Accounting offers the Accounting Minor to students in all schools and departments except the Marshall School of Business.

Marshall participates with other USC academic units to offer a number of interdisciplinary minors:

- Advertising Minor
- Biotechnology Minor
- Business Law Minor
- Communication Design Minor
- Consumer Behavior Minor
- Game Entrepreneurism Minor
- Innovation: The Digital Entrepreneur Minor
- Managing Human Relations Minor
- Mathematical Finance Minor
- Media Economics and Entrepreneurship Minor
- Performance Science Minor
- Social Entrepreneurship Minor
- Technology Commercialization Minor

Admission

Students may be admitted as incoming freshmen, as students transferring from another college or university, or as USC undergraduates transferring from another major. Admission to the Marshall School requires admission to the university and depends on academic performance, particularly in quantitative areas. USC students who have not been admitted to the major or a minor in the Marshall School may complete a maximum of 12 units from the Marshall School and/or the Leventhal School. Information and guidelines for students applying to USC Marshall as freshmen and those transferring to USC from another university are available at the USC Undergraduate Admission and USC Marshall Undergraduate Admissions websites. Admission to the Computer Science/ Business Administration program requires admission to USC and the Viterbi School of Engineering. Information and guidelines for USC undergraduates who wish to transfer to Marshall from another major at USC can be found on the Marshall Undergraduate Advising website.

Transferring College Credit

Community College Courses

USC has established articulation agreements with most community colleges in California. Most academic courses are acceptable for transfer credit from a two-year school, but students will not receive credit for remedial course work. Courses that do not appear on the articulation agreement are not transferable. A maximum of 64 semester units may be transferred. There are university restrictions that apply to transferring course work from other institutions that may affect the above rule.

Official transcripts of college work taken elsewhere must be submitted at the time of application to the USC Office of Admission. ECON 351 x and ECON 352 x must be taken in residence at USC, and all business courses completed at a two year college, if transferable, will be considered elective credit. There is one exception to this policy: Students may transfer two semesters of introductory accounting and receive credit equivalent to one semester of introductory accounting at USC. Then students can register for BUAD 305 Abridged Core Concepts of Accounting Information.

Four-Year Colleges

Most courses of an academic nature are acceptable for unit credit from all fully accredited four year institutions. If they do not satisfy specific subject requirements at USC, they will usually be accepted for elective course credit.

Students are urged to complete all their required business courses at USC. ECON 351 x and ECON 352 x must be completed at USC. All business courses from four year institutions, if transferable, will be considered elective credit unless a challenge examination is passed. All upper division core classes, with the exception of BUAD 497 Strategic Management and BUAD 425 Data Analysis for Decision Making, may be challenged. Students should consult with an academic adviser to initiate the challenge examination process.

Registration

Students register for Marshall courses using the Web Registration system, according to their scheduled appointment times. Appointment times are based on number of units completed. For example, seniors have the first opportunity to register. It is important to register as soon as one's appointment allows or priority standing will be lost. There are no waiting lists for Marshall undergraduate courses. USC students who have not been admitted to the Marshall School may complete a maximum of 12 units in the Marshall School and/or the Leventhal School.

Global Opportunities

The Marshall School offers students a variety of opportunities to cultivate a global perspective. Classes such as international trade and commercial policy, financial management of multinational corporations, international finance, multinational marketing, and international management practices and negotiation broaden students' understanding of managing a global business. Opportunities to travel and study outside the United States allow students to develop skills for functioning in different cultures, societies and economic environments, and to understand a wide variety of international business practices. Contact Marshall Undergraduate International Programs or Undergraduate Advising for information about international study opportunities at Marshall, including:

GLP/LINC/TIE

Students are encouraged to take advantage of one of Marshall's international experiential learning programs. Each includes a nine-day faculty-led trip to a city outside the United States, where students meet with business, political and civic leaders. The Learning about International Commerce (LINC) Program is a 2-unit class open to freshman students who apply. The Global Leadership Program (GLP) is a two-course sequence open by invitation to select first-year students in the incoming freshman class. GLP invitations are extended by the USC Marshall Undergraduate Admissions Office. The Transfer International Experience (TIE) Program consists of two 1-unit classes or one 2-unit class, open to transfer students who apply.

International Exchange Program

The International Exchange Program is a one-semester exchange program with a host institution in Asia, Australia, South America or Europe during either the fall or spring semester. Exposure to international cultures and practices in business and non-business settings provides another level of understanding of international business. Students complete between four to eight courses at the host institution (15–18 USC units). All instruction is in English, so foreign language proficiency is not required. Courses completed at the host school are graded credit/no credit on the student's USC transcript. The courses are selected from a list approved by the Marshall School of Business and satisfy the business elective requirement.

International Summer Program

The Marshall School offers unpaid international internship programs in London, Madrid, Berlin, Dublin, Prague, Hong Kong, Milan and Singapore during the summer session. The program provides students with theoretical and practical experiences working

and navigating within the international business environment. The program consists of an eight- to ten-week internship abroad. Funded internships in Bangkok and Jakarta are also offered.

Research Opportunities

BUAD 490 Directed Research provides an opportunity to pursue research above and beyond the normal course offerings. This course is open to juniors and seniors with a 3.0 or better grade point average who have obtained approval from a faculty sponsor and associated department chair prior to registration. Units are assigned on a variable basis with a maximum of 12 units toward an undergraduate degree, 4 units per semester. Students may also work with faculty as research assistants. For additional information, contact Marshall Undergraduate Advising.

Marshall Honors Program

Marshall Honors, available upon graduation to majors in business administration or accounting, provides a special designation of departmental honors on a student's transcript. Acceptance to the program requires completion of at least 64 units of course work (including transfer units), an overall GPA of at least 3.3, a GPA of 3.5 or higher in course work to be applied to the major, and a successful application. Achievement of Marshall Honors requires completion of BUAD 493 Marshall Honors Research Seminar prior to the senior year, completion of BUAD 494 Marshall Honors Research and Thesis during the senior year, and a minimum GPA of at least 3.5 in upper-division Marshall School and Leventhal School courses applied to the major. For additional information, contact Marshall Undergraduate Advising.

Honor Societies

Beta Gamma Sigma is the national honor society for business students. The Marshall School of Business chapter has been active since 1923. Juniors in the top 10 percent of the class and seniors in the top 10 percent of the class are invited to join. For further information, contact the Marshall Undergraduate Advising.

Marshall Undergraduate Advising

Academic advisement is provided through the Marshall Office of Undergraduate Advising, which supports the education and development of undergraduate students by providing a broad array of co-curricular and academic support programs and services. Incoming freshman and new transfer students are required to meet with an academic adviser before registering, and this requirement is in effect until 24 USC units are completed. All students are encouraged to see an academic adviser on a regular basis, and continuing students may schedule appointments throughout the year.

The Marshall Connections Program (MCP) helps first year freshman and transfer students successfully transition to USC Marshall. MCP activities are designed to increase students' understanding of and engagement with academic support and career development resources by providing them with opportunities to connect with peers, faculty mentors, undergraduate program staff, alumni, and business professionals.

Marshall Recognized Student Organizations serve as a vehicle for Marshall students to develop and practice their leadership and networking skills through participation in various professional, academic, and social organizations. The Marshall School has more than 40 student organizations including Marshall Business Student Government.

The Marshall Peer Tutoring Program (MPT) provides free group tutoring in select Marshall courses. MPT is a supplement to classroom instruction and is designed to assist students at all academic levels. Participating in MPT early and regularly supports student success and learning.

The Marshall School offers a number of scholarships available to continuing students. Awards recognize academic excellence and/or outstanding service at Marshall, and provide funding applied toward tuition for one academic year.

Marshall Undergraduate Career Services

The Marshall School recognizes the importance of integrating education with experience. Marshall Undergraduate Career Services seeks to enhance the Marshall undergraduate student experience by engaging students in services designed to help them cultivate, refine, and plan for their professional development.

In cooperation with the USC Career Center, we provide a variety of workshops, recruiting events, networking opportunities, and individual advising appointments to educate and empower students in their pursuit of internship and full-time opportunities. Students also have access to weekly newsletters, industry specific opt-in email announcements, and alumni mentorship programs.

Those who actively participate in these events while establishing and achieving meaningful career goals, will maximize their opportunities for employment after graduation.

Marshall Graduate Programs

The Marshall School of Business prepares men and women to become leaders at every level of management. Today's successful businesses demand flexibility, innovation, creativity, teamwork and leadership from their employees. The Marshall School's goal is to help students meet those demands through a rigorous grounding in all functional areas of business and the honing of analytical and interpersonal skills required to address real business problems.

The more than 185 faculty members at the school include authorities recognized around the world for their contributions to business theory and practice. They are also distinguished by their dedication to teaching excellence.

The Marshall School of Business offers seven graduate degrees: The Doctor of Philosophy (PhD); the Master of Business Administration (MBA); the Master of Science (MS) in Business Administration, Business Analytics, Entrepreneurship and Innovation, Finance, Global Supply Chain Management, Marketing, and Social Entrepreneurship; the Master of Business for Veterans (MBV); the Master of Management in Library and Information Science (MMLIS); the Master of Management Studies (MMS); and the Master of Medical Management (MMM). The Marshall School jointly sponsors a Master of Long Term Care Administration.

Graduate certificates are also offered in business analytics, business fundamentals (for non-business professionals,) financial analysis and valuation, library and information management, management studies, marketing, optimization and supply chain management, strategy and management consulting, sustainability and business, and technology commercialization.

Admission Requirements

A bachelor's degree equivalent to a four-year U.S. undergraduate degree from an accredited institution (regardless of field or major) is required for admission to any graduate degree program at the Marshall School of Business.

Successful performance in Marshall graduate programs requires computer proficiency in word processing, database management, electronic spreadsheets and business graphics. Following admission, Marshall Instructional Technology Services is available for additional preparation. Knowledge of calculus is a prerequisite to some of the courses offered by the Marshall School of Business.

All applicants are required to submit the following documents: (1) completed application form; (2) a nonrefundable application fee; (3) responses to required essay questions; (4) history of full- and part-time work experience or resume; (5) one official transcript from the registrar of each college or university attended (undergraduate and postgraduate, if applicable) whether the degree was completed or not. If all college or postgraduate work has not been completed, transcripts must be sent again when work in progress is completed and the degree posted. Transcripts written in languages other than English must be accompanied by a certified English translation. Degrees earned in non-anglophile countries must be verified through

IERF.

Most programs require (6) letters of recommendation and (7) Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) scores.

All international students who did not earn a 4-year bachelor's degree from a college or university in the United States, Canada, the United Kingdom, Ireland, Australia or New Zealand must submit (8) recent scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) or the Pearson Test of English Academic (PTE). (9) Proof of financial support is required of admitted international applicants.

To ensure a place in a program and adequate time to receive an admission decision, it is important to send completed application materials well in advance of the semester for which the applicant wishes to register. For the non-traditional student, if work is still in progress to complete a bachelor's degree, the applicant must state specifically what courses are in progress, what must be done to finish and the estimated date of completion. Admission is contingent upon official verification of a bachelor's degree.

In their review of applications, admissions committees consider all of the applicant's completed academic work, test score, evidence of leadership and motivation, letters of recommendation, level of job responsibility and work history, and unique talents and contributions. Applicants are reviewed on their potential for successful performance in graduate business studies and their competitiveness within the current applicant pool.

Additional program-specific admission criteria are available on each program's Website. Links are available at marshall.usc.edu/masters.

Doctor of Philosophy (PhD)

The Doctor of Philosophy program in business administration is designed to produce research-oriented graduates who, from positions in academia, can advance business practice and enhance the contributions that businesses make to the larger community. These goals can be advanced through research contributions in theory, concepts, methods and practices, and education of the next generation of business leaders. For more information see Business Administration (PhD) and www.marshall.usc.edu/phd.

Master of Business Administration (MBA)

MBA students gain an understanding of the forces confronting business around the world and are encouraged to take an active role in making a difference — to seek out opportunities for personal and professional growth and to empower others in the pursuit of shared goals. The Master of Business Administration is offered through five distinct programs.

While the five programs are designed to meet the needs of different types of students, all programs have the same goals: providing students with the skills and knowledge necessary to become effective leaders; developing a thorough understanding of business fundamentals such as economics, accounting, finance, marketing and operations; and refining basic skills, such as use of information systems and statistical analysis. Each student is challenged to develop self-understanding and an appreciation for the complexities of organizations.

Full-Time MBA Program

The Marshall MBA program is designed for individuals who can leave the world of work and immerse themselves "full time" in two years of graduate education. It provides a foundation for success that balances theory with real-world application.

During the first year, a "hands-on" approach to leadership and business education combines case analysis, management simulations, executive seminars and international travel with traditional methods for establishing a conceptual understanding of the general management role in a global context. Elective options in the second semester allow students to complement the core curriculum with individualized interests. Summer internships help students apply their knowledge in practice and prepare for the job market.

In year two, students continue to chart their own course of study. A wide array of elective courses offers students immersion in specific functional areas, disciplines and industries. The selection allows students to gain an in-depth understanding of a particular subject or to continue to pursue a broad-based management education. See the Full-time MBA Program and ftmba.marshall.usc.edu/.

Part-Time MBA Program for Professionals and Managers

The MBA Program for Professionals and Managers (MBA.PM) allows fully employed individuals to pursue an MBA degree while continuing their career development. Students can pursue the first year of study at the University Park Campus or at the USC Orange County Center in Irvine. Elective course work is completed mainly on the University Park Campus. The curriculum, offered in the evening, is similar to the curriculum offered to full-time MBA students but is modified to allow completion of the program in 33 months. See the MBA Program for Professionals and Managers and www.marshall.usc.edu/mbapm.

International MBA Program (IBEAR MBA)

The IBEAR MBA is a mid-career international MBA emphasizing trade and investment in and between the Americas and Asia in particular. Participants complete the equivalent of two years of intensive MBA study and return to their careers in 12 months.

In addition to an internationalized set of core courses, the program includes elective course offerings on international management, international financial management, global e-business, global marketing strategy, international trade, politics for global management and global strategy.

The program features a two-term international business consulting project, a cross-cultural team-building retreat, a visiting international expert speaker series and participation in Marshall's annual Asia/Pacific Business Outlook Conference.

IBEAR MBA graduates join a network of well-placed alumni in more than 50 nations. See the International MBA Program and www.marshall.usc.edu/ibear.

Online MBA Program

The Online MBA (OMBA) program enables students to develop expertise in business administration, management and leadership through a rigorous course of study, most of which is delivered using flexible online technologies. The program content covers business fundamentals including accounting, economics, finance, data sciences, marketing, management, operations and entrepreneurship; communication and analytics training are interwoven with the entire program. The program takes advantage of distinctive educational opportunities offered by online technologies, both in terms of teaching methods and content and helps students to increase their effectiveness as business leaders, corporate managers and entrepreneurs.

The program is structured so that it can be completed in as little as 21 months. Students can work through much of the material on a flexible schedule customized to their own needs, making the program especially convenient to students who are currently employed and wish to remain at their jobs while enrolled. Content is delivered by faculty members with strong backgrounds in practice and research from different disciplines teaching in a team format to integrate understanding of business fundamentals, internal and external operations, business environments and leadership. See the Online MBA Program and www.marshall.usc.edu/OMBA.

Executive MBA Program

The Executive MBA program provides those with significant work experience, particularly mid- to senior-level professionals who have high potential as business and industry leaders, a chance to complete an MBA on Fridays and Saturdays over a two-year period without interrupting their careers. The program is offered on the University Park Campus in downtown Los Angeles as well as in San

Diego.

This program uses a non-traditional, interdisciplinary approach to executive and management education through "themes" that integrate various functional areas and address classic, yet dynamic business issues.

Through the integrated curriculum, participants develop a complete understanding of decision-making, a focus on the future and the international context of business as well as strong interpersonal, leadership and analytical skills. More specifically, participants achieve advanced skills in corporate and international finance, marketing, environmental and strategic analysis, information technology, organizational leadership, managerial communication and corporate relations.Core faculty include the school's most senior, experienced members as well as nationally renowned academic and business specialists. The program includes three residential off-site experiences — two domestic and one international. See the Executive MBA Program and www.marshall.usc.edu/EMBA.

Global Executive MBA Program (GEMBA)

The Global Executive MBA program (GEMBA) in Shanghai is designed for rising business leaders throughout East Asia and the Pacific Rim who seek a U.S.-style business education with a global perspective. GEMBA provides a unique opportunity for networking and personal development within the framework of an increasingly competitive Asian market.

GEMBA mirrors the long-standing Marshall Executive MBA program, employing a nontraditional, interdisciplinary and integrated approach to executive and management education through "themes" that integrate various functional areas and address classic, yet dynamic business issues.

Core faculty include the school's most senior, experienced members as well as renowned academic and business specialists.

Through the integrated curriculum, participants develop a complete understanding of decision-making, a focus on the future and the international context of business as well as strong interpersonal, leadership and analytical skills. More specifically, participants achieve advanced skills in corporate and international finance, marketing, environmental and strategic analysis, information technology, organizational leadership, managerial communication and corporate relations.

USC Marshall offers GEMBA in partnership with the Antai College of Economics and Management at Shanghai Jiao Tong University in China. Because classes meet in both Shanghai and Los Angeles, students must be able to participate fully in the travel requirements of the program. Classes are taught in English. See the Global Executive MBA Program and www.marshall.usc.edu/GEMBA.

Dual MBA Degree Programs

Dual degree programs offer graduate students the opportunity to complete concurrently the requirements for two separate degrees with modified degree requirements.

Admission criteria for applicants to dual degree programs co-sponsored by the Marshall School of Business are the same as Master of Business Administration program admission criteria.

Dual degree programs may be completed in conjunction with the Marshall MBA, MBA.PM or IBEAR MBA programs. Students interested in completing a dual degree program should apply to the specific MBA program suited to the individual's needs.

The Marshall School offers the MBA in conjunction with a number of other programs at USC:

- Master of Business Administration/Master of Arts in East Asian Area Studies (MBA/MA)
- Master of Business Administration/Doctor of Education (MBA/EdD)
- Master of Business Administration/Master of Science in Gerontology (MBA/MS)
- Master of Business Administration/Master of Science in Industrial and Systems Engineering (MBA/MS)
- Master of Business Administration/Master of Arts in Jewish Nonprofit Management (MBA/MA)
- Juris Doctor/Master of Business Administration (JD/MBA)
- Master of Business Administration/Doctor of Medicine (MBA/MD)
- Master of Business Administration/Doctor of Pharmacy (MBA/PharmD)
- Master of Business Administration/Master of Planning (MBA/MPl)
- Master of Business Administration/Master of Real Estate Development (MBA/MRED)
- Master of Business Administration/Master of Social Work (MBA/MSW)

Specialized Master's Degrees

Master of Accounting

The Master of Accounting (MAcc) program provides an integrated curriculum designed to prepare graduates for careers in professional accounting, public accounting, industry and government. For more information, visit Accounting (MAcc).

Master of Science in Business Analytics

The Master of Science in Business Analytics is designed for managers who want to develop their analytical skills and recent college graduates with strong analytical skills who are interested in pursuing a career in business analytics. The program provides students with tools, ideas and frameworks that will aid them in making business decisions in a scientific manner, based on actual data, to improve the performance of their organization. See Business Analytics (MS).

Master of Business Taxation

The Master of Business Taxation (MBT) program is designed for accountants, attorneys and business professionals who wish to learn or improve skills and knowledge through participation in advanced tax study. For more information see Business Taxation (MBT) and Business Taxation for Working Professionals (MBT).

Master of Science in Entrepreneurship and Innovation (MS)

The Master of Science in Entrepreneurship and Innovation is designed to develop the entrepreneurial knowledge, skill sets, and decision-making frameworks required to recognize and evaluate business opportunities and to create and guide a new entrepreneurial entity either individually or within a larger organization. The program is intended for students seeking to pursue careers in entrepreneurship, corporate venturing and innovation, or technology commercialization. The degree can be completed on either a full-time basis in one year or on a part-time basis over two years, and classes are offered primarily at night to accommodate the needs of working professionals. For more information see Entrepreneurship and Innovation (MS).

Master of Science in Finance (MS)

The Master of Science in Finance is designed to provide individuals with the necessary skills and knowledge to become experts in finance and thus advance their careers in business. The program is exceptionally well suited to individuals completing a bachelor's degree who are seeking an opportunity to continue their studies at USC for one year and earn a master's degree in finance before entering the work force. It is also well suited to those who have earned or soon will earn a master's degree and wish to earn a second master's degree. For more information see Finance (MS).

Master of Science in Global Supply Chain Management (MS) for Executives (Online)

The Marshall School of Business offers individuals across the U.S. and around the world an opportunity to expand their knowledge of management of the ever-changing world of global supply chains. The program provides managers with tools, ideas and frameworks that will aid them in improving the performance of

the global supply chains that they manage. Courses are broadcast via distance learning technologies so that, with the exception of two international travel experiences, the degree can be completed through the Internet. Additional in-person instructional activities are provided at partner institutions. Two international travel experiences to global distribution hubs are included in the program. In-person midterms and final exams may be required for some courses, in which case they will be administered in cities near student population concentrations. See Global Supply Chain Management for Executives (MS) (Online).

Master of Science in Global Supply Chain Management (MS) (On-Campus)

The Marshall School of Business, jointly with the Viterbi School of Engineering, offers individuals an opportunity to expand their knowledge of the management of global supply chains. The program focuses on teaching the necessary knowledge and skills in areas like inventory management; sustainable supply chains; strategic procurement; outsourcing; logistics and distribution; information technology and its role in managing global supply chains; and supply chain optimization. This 27-unit on-campus program can be completed on a full-time basis in one calendar year. See Global Supply Chain Management (OnCampus/Residential) (MS).

Master of Management in Library and Information Science (MMLIS)

The Master of Management in Library and Information Science program is designed to educate professional librarians for leadership from every level of the organization in academic, urban and corporate environments. Graduates will identify and analyze critical issues and leverage resources and expertise to build community assets. The program is taught entirely online. See Library and Information Science (MMLIS).

Master of Long Term Care Administration

This program is designed to prepare competent individuals to administer the long term needs of America's elderly population. It is jointly offered by the USC Davis School of Gerontology, the Marshall School of Business, and the USC Price School of Public Policy. For information, see the USC Davis School of Gerontology.

Master of Science in Marketing (MS)

The Master of Science in Marketing is designed to develop an in-depth knowledge of relevant and innovative marketing skills and techniques for prospective students interested in pursuing a career in marketing or enhancing their existing marketing career. The degree can be completed on full-time basis in one calendar year or part-time. Classes are available during both daytime and evening hours. For more information see Marketing (MS).

Master of Medical Management (MMM)

This program is designed for physicians in the medical field who wish to gain formal business knowledge and develop critical thinking skills. Significant project and course work is completed primarily through distance learning venues. The program consists of four one-week intensive residential sessions. See Medical Management (MMM).

Master of Science in Social Entrepreneurship (MS)

The Master of Science in Social Entrepreneurship gives students the opportunity to learn business and entrepreneurship skills within a framework of combining both financial and social missions. The program can be completed in one year (full-time students) or two or more years (part-time students). Courses are offered on the University Park Campus in downtown Los Angeles in the evenings and on weekends. For more information see Social Entrepreneurship (MS).

Master of Science in Social Entrepreneurship/Master of Public Health (MSSE/MPH) Dual Degree Program

The Marshall School of Business and the Keck School of Medicine leverage resources and expertise with this program designed for students who want to gain the skills to make sustainable change in the field of public health. By combining fundamental business and entrepreneurship skills with the expertise gained through the Master of Public Health, graduates will be uniquely equipped to address global health challenges. For more information see Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS).

Master of Business for Veterans (MBV)

This program is designed for veterans who wish to gain formal business knowledge and develop critical thinking skills to manage or grow a business. Significant project and course work is completed during the two-semester program. Class sessions meet over 16 full-day sessions each semester, offered on the University Park Campus in downtown Los Angeles. See Business for Veterans (MBV).

Master of Management Studies (MMS)

The Master of Management Studies is designed to provide students who have completed graduate business course work equivalent to the first year of a traditional two-year MBA program with an opportunity to pursue further studies at the USC Marshall School of Business. The program is especially valuable for those who have completed the first year of a traditional MBA at another institution and those who completed one-year MBA programs and wish to enhance their knowledge in specialized areas of business. The degree can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Management Studies (MMS).

Master of Science in Business Administration (MS)

The Master of Science in Business Administration is designed to provide students with an opportunity to pursue an area of specialization subsequent to successfully completing the Master of Business Administration (MBA). The program is especially valuable for those who wish to enhance their knowledge base in a specialized area of business. In cooperation with a faculty member, the student in this program designs a course of study to meet his or her individual needs. The degree can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Business Administration (MS).

Master of Science in Business Research (MS)

The Master of Science in Business Research is designed to provide an alternative for Marshall PhD students. Marshall does not accept applications for admission to this program. See Business Research (MS).

Graduate Certificate Programs

Graduate Certificate in Business Analytics

The Graduate Certificate in Business Analytics is designed for individuals who want to develop the analytical skills needed to work with today's complex data sets in the support of business decision-making. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Business Analytics Graduate Certificate for more information.

Graduate Certificate in Business Fundamentals for Non-Business Professionals

The Graduate Certificate in Business Fundamentals for Non-Business Professionals is designed for individuals who hold undergraduate degrees in non-business fields and seek core business knowledge to support management responsibilities or relationships with business professionals but who are not likely to pursue an MBA. It is best suited to mid- and senior-level managers, professional and technical specialists assuming management responsibilities, those seeking improved career mobility, individuals returning to the work force and small business owners. The program provides a basic introduction to the major disciplines within the field of business, common business practices and effective business communication. Classes are offered primarily at night to accommodate the needs of working professionals. See Business Fundamentals for Non-Business Professionals Graduate Certificate for more information.

Graduate Certificate in Financial Analysis and Valuation

The Graduate Certificate in Financial Analysis and Valuation is designed to offer students the intensive instruction and training needed to successfully compete in rapidly developing global financial markets. Course work in the fundamental theories and practice of financial accounting, financial analysis, valuation, credit analysis, and financial instruments and markets expands analytical capacities to better understand and develop strategic financial decisions. See Financial Analysis and Valuation Graduate Certificate for more information.

Graduate Certificate in Library and Information Management

The online Graduate Certificate in Library and Information Management is uniquely designed to serve both those who are looking to explore library and information management without committing to an entire degree and those who currently hold the equivalent MLIS degree looking to specialize in a specific aspect of the field. See Library and Information Management Graduate Certificate for more information.

Graduate Certificate in Management Studies

The Graduate Certificate in Management Studies is designed to provide students who have completed graduate business course work equivalent to the first year of a traditional two-year MBA program with an opportunity to pursue further studies at the USC Marshall School of Business. The program is especially valuable for those who have completed the first year of a traditional MBA at another institution and those who completed a one-year MBA program and wish to enhance their knowledge in specialized areas of business. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Management Studies Graduate Certificate for more information.

Graduate Certificate in Marketing

The Graduate Certificate in Marketing is designed for individuals who want to develop the analytical and technical skills needed to work with today's complex marketing issues in the support of effective business decision-making. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Marketing Graduate Certificate for more information.

Graduate Certificate in Optimization and Supply Chain Management

The Optimization and Supply Chain Management Program is offered by the Marshall School of Business in partnership with the Viterbi School of Engineering. The program offers individuals opportunities to expand their knowledge of the rapidly expanding uses of technology in the management of global supply chains. The certificate may be completed on either a full- or part-time basis. Most classes applicable to the program are offered during both daytime and evening hours. Many of the ISE courses included in the curricula are available online. See Optimization and Supply Chain Management Graduate Certificate for more information.

Graduate Certificate in Strategy and Management Consulting

The Graduate Certificate in Strategy and Management consulting is designed for individuals who want to develop the analytical skills needed to consult on complex strategic and organizational issues in support of effective business renewal. The certificate can be completed on either a full- or part-time basis, and classes are available during both daytime and evening hours. See Strategy and Management Consulting Graduate Certificate for more information.

Graduate Certificate in Sustainability and Business

The Graduate Certificate in Sustainability and Business is designed to offer individuals the instruction and training they need to help shape solutions to social and environmental sustainability challenges, both from within and from outside the business sector. Course work includes sustainability strategies and practices, business law and ethics, and sourcing management. The program is suited to students coming from a broad range of backgrounds. Applicants do not need to be matriculated USC students to undertake the program. Anyone who holds a four-year bachelor's degree is welcome to apply. See Sustainability and Business Graduate Certificate for more information.

Graduate Certificate in Technology Commercialization

The Graduate Certificate in Technology Commercialization, offered through the Lloyd Greif Center for Entrepreneurial Studies, provides technology commercialization skills in an academic/real world environment that combines theory and practice. Through a living laboratory academic program, students experience the entire spectrum of the commercialization process: invention, product development, technical and market feasibility analysis, intellectual property acquisition, business development and venture funding. Working with USC scientists and engineers, students have the potential to become stakeholders in a new technology venture. They are also eligible to apply for summer internships sponsored by industry partners to give them additional experience in taking a new technology to market. The program is particularly well suited to those in science, engineering and business. See Technology Commercialization Graduate Certificate for more information.

Academic Policies — Master's Programs

Waivers

Subject waiver of required courses may be granted to students based on prior academic work subject to university policy limitations, program structure, and in some cases by examination. In most cases waived courses must be replaced with electives of equal unit value.

Further information regarding the waiver policy in the Marshall School of Business may be obtained from the program adviser for the applicable degree program following admission.

Change of Degree Program

Students who are currently enrolled in one degree program who wish to change their degree status to another program must formally apply for admission to that program through USC Admissions. Details concerning individual student requirements in other degree programs may be obtained by contacting the applicable program office.

Continuous Enrollment/Leave of Absence/ Withdrawal/Reinstatement

Once admitted to a graduate degree program, the student must

enroll at USC each fall and spring semester each year until she or he has satisfactorily completed all degree requirements. MBA.PM students must enroll at USC each fall, spring, and summer term until they have satisfactorily completed all degree requirements.

If for military, medical, religious or job-related reasons a student must skip a semester, the student must petition for a leave of absence. The petition should be submitted to the student's program adviser no later than the first day of class for the semester of the leave.

If granted, the period of leave is not counted in the time allowed for the completion of degree requirements, and the student is allowed to complete the degree requirements in effect when he or she was originally admitted.

Once a leave is approved, it is the student's responsibility to withdraw from any classes for which the student has already enrolled. An approved leave may not exceed one academic year. A student whose leave exceeds one academic year or who fails to maintain continuous enrollment without obtaining an approved leave must, when ready to return to school, apply for readmission to the program. Contact the program adviser for the applicable program.

Students who must completely withdraw from a program must notify their program office of their withdrawal from the program. Students should contact their program office for more information or assistance.

Marshall School of Business Second Master's Degree Policy

A "second master's degree" is any master's degree pursued after a first master's degree is earned at USC. The maximum number of units which may be applied from a master's degree previously completed at USC toward a subsequent Marshall master's degree is 3 units. This policy also applies when two master's degrees are being completed simultaneously. No more than 3 business-related units can be applied from the other master's degree. (This Marshall unit maximum supersedes any USC unit calculations related to second master's degrees.) Second master's degrees are not allowed in the same program of study for students who earned their first master's degree at USC.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree. No individual exceptions are allowed.

Course Work at another Institution

Once matriculated into a Marshall School of Business program, a student must receive prior permission by petition from the appropriate Marshall program office to take course work (a maximum of six units) at another institution. Only course work from an AACSB accredited business school can be accepted. A grade of B or better must be earned. Permission is granted only in exceptional circumstances.

Limited Status

The Marshall School of Business does not allow students to take graduate (500-level) electives on any conditional or special status basis prior to application and an official admission decision except under the following condition: students completing a Master of Business Administration program at another accredited university outside of the Los Angeles area may take up to 12 units in the Marshall School of Business to complete their degrees, provided that a letter from the associate dean or program director at the student's university verifies that the student is in good academic standing and identifies the courses that will be accepted for credit by the university granting the degree.

Grade Point Average Requirements

Master's students must maintain a grade point average of 3.0 (A = 4.0) or better to stay in good academic standing. Students who are not in good academic standing are subject to dismissal.

Grades

Grades below C (2.0) in all master's degree courses are not acceptable. If a lower grade is earned in a required course, the course must be repeated at USC and a grade of C or above must be earned. Degree credit will not be given for courses with grades of C- and below, but the grades are computed into the grade point average. Such courses should be repeated in the next semester in which the course in question is offered and must be repeated within one calendar year. Satisfactory completion of all required courses must occur prior to or concurrently with the beginning of advanced course work.

Academic Warning

Master's students who, in a term, do not earn or maintain a 3.0 (A = 4.0) grade point average are placed on academic probation. Continued enrollment in the program requires the permission of the academic director of the program. Students who fail to achieve a 3.0 upon completion of the required number of units for any degree may, with the prior endorsement from the academic director of the program and approval by the Marshall Vice Dean for Graduate Programs, be allowed to take a maximum of 12 additional units at USC to obtain the required GPA. Petitions to take additional units should be submitted to the student's program advisor well in advance of the term in which additional units will be attempted.

Dismissal

A student may be dismissed from a master's program whenever, in the judgment of the program's Academic Director, it is unlikely that the student will successfully complete his or her program.

Department of Business Communication

The Department of Business Communication offers core and elective classes in a variety of topics relating to interpersonal, internal and external communication in organizations, business writing and oral communication and presentations, group and team communication processes, persuasion, networking, and leadership. Courses also focus on critical thinking and decision-making processes, cross-cultural business communication, media-mediated communication, and ethics. The importance of effective communication to the success of individuals and organizations and their stakeholders has increased exponentially in the age of globalization and the Internet. New media technologies are changing communication at the workplace and influencing how business is conducted. Understanding communication theory, concepts, practice, and skills will help students advance themselves and their organizations regardless of their positions or industries. The ability to communicate strategically in times of calm or crisis is essential for career success.

Department of Business Communication
Accounting 400
(213) 740-0627
FAX: (213) 740-9428
Email: BUCO@marshall.usc.edu
marshall.usc.edu/faculty/buco
Chair: Marion Philadelphia, EdD

Faculty

Professors of Clinical Business Communication: Jolanta Aritz, PhD; Pete Cardon, PhD*; Sandra Chrystal, PhD*; Ellen- Linnea Dipprey, MPW; Lucy Lee, PhD*; Greg Patton, PhD*; Marion Philadelphia, EdD*

Associate Professors of Clinical Business Communication: Stephen Byars, PhD; Lee Cerling, PhD; Stacy Geck, MA*; Jerry Giaquinta, PhD; Sharoni Little, PhD*; James Owens, MA; Kirk Snyder, MA*; Robyn Walker, PhD; Naomi Warren, PhD*

Assistant Professors of Clinical Business Communication: Lindsey Bier, PhD; Carolin Fleischmann, PhD; Andrew Ogilvie, PhD;

Sabrina Pasztor, PhD
Lecturers: Clark C. Hansen, MA; Janna Wong-Healy, MPW
Emeritus Professors: J. Douglas Andrews, PhD; Paul Frommer, PhD; James Gosline, MPW
**Recipient of university-wide or school teaching award.*

Department of Data Sciences and Operations

The department of Data Sciences and Operations (DSO) offers courses in operations management, statistics and information systems. These three areas are critical to the success of any firm in a globalized economy: technology and information management, gathering and understanding data, and effective management of day-to-day operations. Students learn to leverage technology and information systems to gather critical market data on a global basis; use statistics to turn this data into critical forecasts and competitive analysis; and manage projects with international teams, develop innovative products, and skillfully manage the creation and delivery of goods and services to anywhere on the globe. Career opportunities in these areas include consulting, product development, supply chain management, global marketing and manufacturing. Course work in this department is especially important to students interested in entering technology fields.

Undergraduate Minors

- Business Technology Fusion Minor
- Operations and Supply Chain Management Minor

Graduate Programs

Master of Science in Business Analytics (MSBUAN)

The Master of Science in Business Analytics (MS) is designed to empower managers and recent college graduates with necessary skills (computing, modeling, and strategy) to leverage big data for making effective business decisions, and improving organizational performance.

Master of Science in Global Supply Chain Management (MSGSCM)

The Master of Science in Global Supply Chain Management focuses on a world-class academic foundation in Supply Chain Management with real-world applications in the form of live projects for leading companies as well as international and domestic site visits. We uniquely prepare our students for an increasingly global, complex, and ever-evolving world.

- Global Supply Chain Management (OnCampus/Residential) (MS)
- Global Supply Chain Management for Executives (MS) (Online)

Graduate Certificates

- Business Analytics Graduate Certificate (GCRT-BUAN)
- Optimization and Supply Chain Management Graduate Certificate (GCRT-OSCM)

Data Sciences and Operations
Bridge Hall 308
(213) 740-0172
FAX: (213) 740-7313
Email: dsows@marshall.usc.edu
marshall.usc.edu/dso
Chair: Yehuda Bassok, PhD*

Faculty

E. Morgan Stanley Chair in Business Administration: Gareth James, PhD
USC Associates Chair in Business Administration: Ann Majchrzak, PhD
McAlister Associate Professor in Business Administration: Jinchi Lv, PhD
Kenneth King Stonier Professor of Business Administration: Omar El Sawy, PhD
Professors: Yehuda Bassok, PhD*; Gareth James, PhD*; Ann Majchrzak, PhD; S. Rajagopalan, PhD*; Paat Rusmevichientong, PhD; Amy Ward, PhD
Associate Professors: Sriram Dasu, PhD*; Yingying Fan, PhD; Mendel Fygenson, PhD*; Jinchi Lv, PhD; Hamid Nazerzadeh, PhD; Ramandeep Randhawa, PhD; Greys Sosic, PhD; Wenguang Sun, PhD; Jonathan S. Yormark, PhD; Leon Zhu, PhD
Assistant Professors: Jacob Bien, PhD; Kimon Drakopoulos, PhD; Adel Javanmard, PhD; Vishal Gupta, PhD; Song-Hee Kim, PhD; Jason Lee, PhD; Inga Maslova, PhD; Milan Miric, PhD; Gourab Mukherjee, PhD; Philip Rogers, PhD; Peng Shi, PhD; Tianshu Sun, PhD; Xin Tong, PhD
Professors of Clinical Data Sciences and Operations: Arif Ansari, PhD*; Dawn Porter, PhD; Douglas Shook, PhD*
Associate Professors of Clinical Data Sciences and Operations: Murat Bayiz, PhD; Hiroshi Ochiumi, PhD; Francis Pereira, PhD; Philip Rogers, PhD; Ashok Srinivasan, PhD
Assistant Professors of Clinical Data Sciences and Operations: Robertas Gabrys, PhD; Inga Maslova, PhD; Abbass Sharif, PhD; Nick Vyas, MBA
Emeritus Professors: Richard B. Chase, PhD; Delores Conway, PhD*; Richard McBride, PhD; Bert M. Steece, PhD*
**Recipient of university-wide or school teaching award.*

Lloyd Greif Center for Entrepreneurial Studies

The Greif Center offers a wide range of courses in entrepreneurship designed for students who want to start or own a high-growth business, join an emerging business or participate in an entrepreneurial venture in an established corporation (intrapreneurship). Students can develop an entrepreneurial mindset, learn about the entrepreneurial process and enhance their conceptual and practical skills to pursue new business opportunities. Wide exposure is given to all types of entrepreneurs and industries. The highly experiential courses span the entrepreneurial process from opportunity discovery to venture initiation, growth and exit, and are designed to teach relevant frameworks and theory as well as to develop an entrepreneurial mindset and skills through hands-on application. The Greif Center also offers co-curricular programs such as venture competitions, speaker events, and a new venture incubator, and it maintains an active alumni network.

Programs

Greif Center Minors:

- Entrepreneurship Minor
- Social Entrepreneurship Minor

Interdisciplinary Minors:

- Game Entrepreneurism Minor (with the School of Cinematic Arts)
- Innovation: The Digital Entrepreneur Minor (with the Viterbi School of Engineering)
- Media Economics and Entrepreneurship Minor (with the Annenberg School for Communication and Journalism)
- Performance Science Minor (with the Dornsife College of Letters, Arts and Sciences)
- Technology Commercialization Minor (with the Viterbi School of Engineering)

Master's Degrees:

- Entrepreneurship and Innovation (MS)
- Social Entrepreneurship (MS)

Dual Degree Program:

- Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)

Graduate Certificate:
- Technology Commercialization Graduate Certificate

Lloyd Greif Center for Entrepreneurial Studies
Jill and Frank Fertitta Hall, 5th Floor
Tel: (213) 740-0641
Fax: (213) 740-2976
Email: entrepreneur@marshall.usc.edu
marshall.usc.edu/entrepreneur
Director: Helena Yli-Renko, ScD
Executive Director: David Belasco, JD
Research Director: Violina Rindova, PhD

Faculty
Orfalea Director's Chair in Entrepreneurship: Helena Yli-Renko, ScD
David C. Bohnett Chair in Social Entrepreneurship: Adlai Wertman, MBA
Captain Henry W. Simonsen Chair in Strategic Entrepreneurship: Violina Rindova, PhD
Professors of Clinical Entrepreneurship: Jill R. Kickul, PhD; Noam Wasserman, PhD; Adlai Wertman, MBA; Helena Yli-Renko, ScD
Associate Professors of Clinical Entrepreneurship: Elissa Grossman, PhD; Thomas Knapp, MBA*; Steven Mednick, JD, MPA*; Pai-Ling Yin, PhD
Assistant Professors of Clinical Entrepreneurship: Greg Autry, PhD; Patrick Henry, MBA*; Justin Miller, PhD
Lecturer in Entrepreneurship: Albert Napoli, MBA
Visiting Associate Professor of Clinical Entrepreneurship: Susan Harmeling, PhD
Emeritus Professors: Kathleen R. Allen, PhD*; William H. Crookston, PhD*; Gene Miller, JD, MBA
**Recipient of university-wide or school teaching award.*

Department of Finance and Business Economics

The department of Finance and Business Economics (FBE) offers classes in the fields of finance, business economics, business law and real estate. Subjects include microeconomics, macroeconomics, economic forecasting, corporate finance, investments and valuation, financial institutions and markets, risk management, and real estate finance, among others. These subjects are important for business planning and consulting, evaluation of capital investments and corporate strategies, and securities investment analysis, advising and trading.

Finance and Business Economics
Hoffman Hall 231
701 Exposition Boulevard
Los Angeles, CA 90089-1422
(213) 740-6515
FAX: (213) 740-6650
Email: fbe@usc.edu
marshall.usc.edu/fbe
Chair: Vincenzo Quadrini, PhD

Faculty

Kenneth King Stonier Chair in Business Administration: Harry DeAngelo, PhD
Ivadelle and Theodore Johnson Chair in Banking and Finance: Wayne Ferson, PhD
Fred V. Keenan Chair in Finance: Lawrence E. Harris, PhD
Robert G. Kirby Chair in Behavioral Finance: Fernando Zapatero, PhD
James McN. Stancill Chair in Business Administration: Vincenzo Quadrini, PhD
Charles F. Sexton Chair in American Enterprise: John G. Matsusaka, PhD
Kenneth L. Trefftzs Chair in Finance: Kevin J. Murphy, PhD
Professors: Tim Campbell, PhD; Harry DeAngelo, PhD*; Wayne Ferson, PhD; Richard Green, PhD; Lawrence Harris, PhD; Ayse Imrohoroglu, PhD; Selahattin Imrohoroglu, PhD; Nir Jaimovich, PhD; Anthony M. Marino, PhD; John G. Matsusaka, PhD; Kevin J. Murphy, PhD; Christopher Parsons, PhD; Vincenzo Quadrini, PhD; Fernando Zapatero, PhD
Associate Professors: Kenneth Ahern, PhD; Odilon Camara, PhD; Gerard Hoberg, PhD; Christopher Jones, PhD; Scott Joslin, PhD; Arthur Korteweg, PhD; Juhani Linnainmaa, PhD; Oguzhan Ozbas, PhD; Rodney Ramcharan, PhD; Selale Tuzel, PhD; Yongxiang Wang, PhD; Mark I. Weinstein, PhD
Assistant Professors: Tom Chang, PhD; Seda Durguner, PhD; Cary Frydman, PhD; Marco Giacoletti, PhD; Olexandr Gorbenko, PhD; Chad Kendall, PhD; Mete Kilic, PhD; Yaron Levi, PhD; Emily Nix, PhD; Andrii Parkhomenko, PhD; Joao Ramos, PhD; Sandra Rozo, PhD; Yanhui Wu, PhD
Professors of Clinical Finance and Business Economics: Tyrone Callahan, PhD; Baizhu Chen, PhD; C. Kerry Fields, JD*; Suh-Pyng Ku, PhD; Lloyd Levitin, JD
Associate Professors of Clinical Finance and Business Economics: Nimfa Abarquez Bemis, PhD; Robert Bridges, MRED; Duke Bristow, PhD*; James Cunningham, PhD*; Fatemeh Ibrahimi-Nazarian, PhD; Julia Plotts, MBA*; Mick Swartz, PhD
Assistant Professors of Clinical Finance and Business Economics: Rahsan Akbulut, PhD; Nimfa Bemis, EdD; Seda Durguner, PhD; Kevin Fields, JD
Senior Lecturers: Mark Griffiths, PhD; Mohammad Safarzadeh, PhD
Lecturers: Scott Abrams, MBA; Lingwen Huang, PhD
Adjunct Professor: Steve Moyer, JD
Emeritus Professors: Guilford C. Babcock, PhD; Henry R. Cheeseman, JD; Linda De Angelo, PhD*; Dennis W. Draper, PhD; Richard Eastin, PhD; Douglas H. Joines, PhD; Aris Protopapadakis, PhD; Alan C. Shapiro, PhD; Randolph W. Westerfield, PhD
**Recipient of university-wide or school teaching award.*

Library and Information Science

The USC Libraries, in conjunction with the Marshall School of Business offers the Master of Management in Library and Information Science degree and the Graduate Certificate in Library and Information Management. These programs are uniquely designed to prepare professionals with the practical leadership skills needed to manage libraries and information centers within colleges and universities, businesses, governmental organizations and in the digital world. These programs are offered entirely online.
- Library and Information Science (MMLIS)
- Library and Information Management Graduate Certificate

Library and Information Science
Doheny Memorial Library 314
(213) 821-1641
librarysciencedegree.usc.edu/
Director: Gary Shaffer, PhD

Department of Management and Organization

The department of Management and Organization (MOR) offers courses in human resources, negotiations, organizational behavior, organization theory and management strategy. The management function is concerned with setting corporate strategy to gain competitive advantage in a dynamic, global environment; designing the organization to implement the strategy; and leading organizational members to achieve strategic objectives. In carrying out their responsibilities, managers must balance the demands of the competitive environment with the resources and capabilities inside the organization. The department's classes help students learn how to be effective managers by developing skills in team building, decision-making, strategy formulation, organizational design, motivating employees and human resource development.

Management and Organization
Hoffman Hall 431
(213) 740-0728
FAX: (213) 821-6000
Email: MOR-Info@marshall.usc.edu
marshall.usc.edu/mor
Chair: Peer C. Fiss, PhD

Faculty

Joseph A. DeBell Chair in Business Administration: Nandini Rajagopalan, PhD*
Harold Quinton Chair in Business Policy: Paul Adler, PhD
Captain Henry W. Simonsen Chair in Strategic Entrepreneurship: Violina Rindova, PhD
Distinguished Research Professor of Business: Edward E. Lawler III, PhD
Professors: Paul Adler, PhD; John W. Boudreau, PhD; Peter J. Carnevale, PhD; Thomas G. Cummings, PhD; Peer C. Fiss, PhD*; Peter H. Kim, PhD; Edward E. Lawler III, PhD; Kyle J. Mayer, PhD*; Nandini Rajagopalan, PhD*; Violina Rindova, PhD
Associate Professors: Arvind Bhambri, DBA; Nathanael J. Fast, PhD; Cheryl J. Wakslak, PhD; Scott S. Wiltermuth, PhD; Qingyuan Lori Yue, PhD
Assistant Professors: Eric M. Anicich, PhD; Daniel Fehder, PhD; Shon R. Hiatt, PhD; Nan Jia, PhD; Frank Nagle, PhD; Joseph Raffiee, PhD; Florenta Teodoridis, PhD; Leigh P. Tost, PhD; Sarah S.M. Townsend, PhD
Research Professor: James O'Toole, PhD
Professors of Clinical Management and Organization: Judith Blumenthal, PhD; Katharine Harrington, PhD; Thomas H. Olson, PhD*; Carl W. Voigt, PhD*
Associate Professors of Clinical Management and Organization: David M. Carter, MBA; Michael Coombs, PhD*; Terance J. Wolfe, PhD
Assistant Professors of Clinical Management and Organization: Christopher G. Bresnahan, PhD*; Christine El Haddad, PhD; Gary Shaffer, PhD
Lecturers: Trudi Ferguson, PhD; Michael Mische, MBA; Jody Tolan, MBA
Emeritus Professors: Philip H. Birnbaum-More, PhD; Robert Coffey, PhD; Julia Liebeskind, PhD; Morgan W. McCall, Jr., PhD; Kathleen Reardon, PhD; Robert B. Turrill, PhD
**Recipient of university-wide or school teaching award.*

Department of Marketing

Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives. Modern marketing stresses research and analysis to understand consumer behavior and to identify customer needs, new product research and development, competitive pricing, coordinated promotional or sales programs, and efficient logistics and distribution. Students interested in careers in marketing management, logistics management, retailing or wholesaling, sales program administration, advertising or marketing research will find courses in marketing valuable.

Marketing
Hoffman Hall 331
(213) 740-5033
FAX: (213) 740-7828
Email: marketing@marshall.usc.edu
marshall.usc.edu/marketing
Chair: Joseph Nunes, PhD

Faculty

Robert E. Brooker Chair of Marketing: Valerie S. Folkes, PhD
Jayne and Hans Hufschmid Chair in Strategic Public Relations and Business Communication: Robert Kozinets, PhD
Richard and Jarda Hurd Chair in Distribution Management: Gary L. Frazier, DBA*
Jerry and Nancy Neely Chair in American Enterprise: Gerard J. Tellis, PhD
Dave and Jeanne Tappan Chair in Marketing: Shantanu Dutta, PhD
Robert E. Brooker Professor of Marketing: C.W. Park, PhD
Joseph A. DeBell Endowed Professorship in Business Administration: Joseph Nunes, PhD
Ernest Hahn Professor of Marketing: Sha Yang, PhD
Charles L. and Ramona I. Hilliard Professor of Business Administration: Deborah MacInnis, PhD*
Provost Professor of Psychology and Business: Wendy Wood, PhD
Provost Professor of Psychology and Marketing: Norbert Schwarz, PhD
Professors: James G. Ellis, MBA; Valerie S. Folkes, PhD; Gary L. Frazier, DBA*; Shantanu Dutta, PhD; Robert Kozinets, PhD; Deborah J. MacInnis, PhD*; Joseph C. Nunes, PhD*; Norbert Schwarz, PhD; Gerard Tellis, PhD; Allen Weiss, PhD; Wendy Wood, PhD; Sha Yang, PhD
Associate Professors: Kristin Diehl, PhD; Anthony Dukes, PhD; Lan Luo, PhD*; Dina Mayzlin, PhD; Joseph Priester, PhD*; Sivaramakrishnan Siddarth, PhD*; Gulden Ulkumen, PhD
Assistant Professors: Gil Appel, PhD; Lisa Cavanaugh, PhD; Linda Hagen, PhD; Davide Proserpio, PhD; Dinesh Puranam, PhD; Stephanie Tully, PhD; Gulden Ulkumen, PhD; Yanhao "Max" Wei, PhD; Botao Yang, PhD
Professors of Clinical Marketing: Diane Badame, PhD*; James G. Ellis, MBA; Rex Kovacevich, MBA*; Dennis Rook, PhD
Associate Professors of Clinical Marketing: Dennis Schorr, PhD; Therese Wilbur, MBA*
Assistant Professors of Clinical Marketing: Miriam Burgos, MBA; Ira Kalb, MBA*; Lars Perner, PhD; Gerard Power, MS

Emeritus Faculty

Emeritus Quinton Professor of Research: Olaf K. Helmer, PhD
Emeritus Professors: James D. Calderwood, PhD; Ben M. Enis, PhD; Warren Erickson, PhD; John Jaeger, PhD; Burt Nanus, PhD; Rodolph H. Redmond, JD*; George Schick, PhD; Norman Sigband, PhD; James Stevenson, PhD
**Recipient of university-wide or school teaching award.*

Marshall Research Centers and Institutes

Institute for Communication Technology Management (CTM)
1149 South Hill Street, 9th Floor
Los Angeles, CA 90015
(213) 740-0980
FAX: (213) 821-2477
Email: ctm@marshall.usc.edu
marshall.usc.edu/CTM
Executive Director: Jerry Power, MSc
Center for Effective Organizations
USC Center
1149 South Hill Street, Suite 950
MC: ATT-950
Los Angeles, CA 90015
(213) 740-9814
FAX: (213) 740-4354
Email: ceo1@marshall.usc.edu
ceo.usc.edu
Director and Distinguished Professor of Business: Edward E. Lawler III, PhD
Research Director and Professor: John W. Boudreau, PhD
Senior Research Scientists: Jay A. Conger, PhD; Gerald E. Ledford Jr., PhD; Alec R. Levenson, PhD; Susan A. Mohrman, PhD; Theresa M. Welbourne, PhD; Christopher G. Worley, PhD
Global Branding Center
HOH 804, Mail Code: 0443
Los Angeles, California 90089-0443
(213) 740-5033
FAX: (213) 740-7828
Email: globalbrandingcenter@marshall.usc.edu
marshall.usc.edu/gbc
Director: C.W. Park, PhD
Lloyd Greif Center for Entrepreneurial Studies
Jill and Frank Fertitta Hall, 5th Floor
(213) 740-0641
FAX: (213) 740-2976
Email: entrepreneur@marshall.usc.edu
marshall.usc.edu/entrepreneur
Director: Helena Yli-Renko, ScD
Executive Director: David Belasco, JD
Center for Global Innovation
HOH 614, Maol Code 0443
Los Angeles, California 90089-0443
(213) 740-5031
Email: innovation@marshall.usc.edu
marshall.usc.edu/cgi
Director: Gerard Tellis, PhD
Associate Director: Steven Mednick, JD, MPA
Associate Academic Director: Lan Luo, PhD
Center for Global Supply Chain Management
1149 S. Olive Street, Suite 2906
Los Angeles, CA 90015
(213) 821-4079
Email: Nick.Vyas@Marshall.usc.edu
marshall.usc.edu/cgscm
Executive Director: Nick Vyas, MBA

Initiative and Referendum Institute
USC Gould School of Law
(213) 740-9690
Email: gsilsby@law.usc.edu
Executive Director: John Matsusaka, PhD
Center for Investment Studies
Accounting 301A
3660 Trousdale Parkway
Los Angeles, CA 90089-0804
(213) 821-1126
FAX: (213) 740-6650
Email: investment.studies@marshall.usc.edu
marshall.usc.edu/cis
Director: Suh-Pyng Ku, PhD
Jerry and Nancy Neely Center for Ethical Leadership
1149 South Hill Street
Suite 900, MC: ATT 900
Los Angeles, CA 90015
Email: NeelyCenter@marshall.usc.edu
Director: James O'Toole, DPhil
USC Lusk Center for Real Estate
Ralph and Goldy Lewis Hall 331B
650 Childs Way
Los Angeles, CA 90089-0626
(213) 740-5000
FAX: (213) 740-6170
usc.edu/lusk
Director: Richard Green, PhD
SEC and Financial Reporting Institute
Accounting 121
(213) 740-0572
FAX: (213) 747-2815
Email: lori.smith@marshall.usc.edu
Director: Lori Smith, BS, CPA
Brittingham Social Enterprise Lab
3670 Trousdale Parkway
Bridge Hall 105
Los Angeles, CA 90089-0803
(213) 740-7587
Email: Brittinghamlab@marshall.usc.edu
marshall.usc.edu/sbl
Director: Adlai Wertman, MBA
Sports Business Institute
USC Center
1149 South Hill Street, Suite 900
Los Angeles, CA 90015
(213) 821-9306
Email: usc.sbi@marshall.usc.edu
marshall.usc.edu/sbi
Executive Director: David Carter, MBA

USC School of Cinematic Arts

The USC School of Cinematic Arts (SCA) is one of the nation's preeminent centers for the creation, study, research and development of film, television and interactive media. With nearly 200,000 square feet of facilities, the school confers degrees ranging from the bachelor's to the doctorate. SCA is composed of seven divisions: the John C. Hench Division of Animation and Digital Arts; the Bryan Singer Division of Cinema and Media Studies; Film and Television Production; Interactive Media and Games; Peter Stark Producing Program; the John Wells Division of Writing for Screen and Television; and Media Arts and Practice. The school also has two organized research units — the Institute for Multimedia Literacy and the Entertainment Technology Center.

Since its founding in 1929 as the first course of study in film at any college or university in the United States, USC's cinema program has consistently set academic and professional standards for excellence. In addition, the school has a record-breaking number of endowed chairs in the discipline; production facilities that rival industry counterparts and extraordinary faculty and staff.

Thanks to SCA's location in Los Angeles, students have access to the country's leading film, television, animation and video game producers; world-class literary and talent agencies; libraries and archives brimming with research materials; and alumni that support the school and the men and women in its academic body. The school is also home to USC's Trojan Vision television station.

The USC School of Cinematic Arts recognizes that a student can only truly excel in his or her chosen area of expertise after exposure to all elements of the art form. Consequently, there is an emphasis on cross-disciplinary course work that ensures writers get behind the camera; cinema and media studies scholars edit footage; and production majors examine the canon from a rigorous academic perspective.

Administration

Elizabeth M. Daley, PhD, *Dean*
Akira Mizuta Lippit, PhD, *Vice Dean of Faculty*
Michael Renov, PhD, *Vice Dean, Academic Affairs*
Scott S. Fisher, MS, *Associate Dean, Research*

Office of Student Services
Brian Harke, EdD, *Dean of Students*
(213) 740-8358
Email: admissions@cinema.usc.edu; studentaffairs@cinema.usc.edu
cinema.usc.edu

The John C. Hench Division of Animation and Digital Arts
Michael Renov, *Interim Chair*
School of Cinematic Arts — Building B 210
(213) 740-3986*
FAX: (213) 740-5869

The Bryan Singer Division of Cinema and Media Studies
Aniko Imre, *Division Chair*
School of Cinematic Arts 320
(213) 740-3334*

Film and Television Production
Michael Fink, *Division Chair*
School of Cinematic Arts 434
(213) 740-3317*

Interactive Media and Games Division
Danny Bilson, *Division Chair*
SCI 201M
(213) 821-4472*
FAX: (213) 821-2665

Media Arts and Practice
Holly Willis, *Division Chair*
School of Cinematic Arts — Building I 101
(213) 821-5700*

The Peter Stark Producing Program
Lawrence Turman, *Division Chair*
School of Cinematic Arts 366
(213) 740-3304
FAX: (213) 745-6652

The John Wells Division of Writing for Screen and Television
Jack Epps Jr., *Division Chair*
School of Cinematic Arts 335
(213) 740-3303*
FAX: (213) 740-8035

Summer Program
David Weitzner, *Division Chair*
School of Cinematic Arts 250
(213) 740-3327*

**For information regarding admission, call (213) 740-8358.*

Faculty

Steven J. Ross/Time Warner Endowed Dean's Chair in Cinema-Television: Elizabeth M. Daley, PhD
Dana and Albert "Cubby" Broccoli Endowed Chair in Producing: John Watson, MA
The Larry Auerbach Endowed Chair: Larry Auerbach
The Mark Burnett Summer Program Endowed Chair: David Weitzner, BA
The Joseph Campbell Endowed Chair in Cinematic Ethics: Theodore Braun, MFA
The Sergei Eisenstein Endowed Chair in Cinematic Design: Bruce A. Block, MFA
Electronic Arts Endowed Chair in Interactive Entertainment: Tracy Fullerton, MFA
Conrad Hall Chair in Cinematography and Color Timing: Judy Irola
Alma and Alfred Hitchcock Chair for the Study of American Film: Drew Casper, PhD
The Michael Kahn Endowed Chair in Editing: Nancy Forner, BA
The Mona and Bernard Kantor Endowed Chair in Production: Mark J. Harris, BA
The Kortschak Family Endowed Division Chair in Film and Television Production: Michael Fink, MFA
The George Méliès Endowed Chair in Visual Effects: Michael Fink, MFA
William Cameron Menzies Endowed Chair in Production Design: Alex McDowell, BFA
Stephen K. Nenno Endowed Chair in Television Studies: Ellen Seiter, PhD
Jack Oakie Chair in Comedy: Jack Epps Jr., BA
Mary Pickford Foundation Endowed Chair: Doe Mayer, MA
The Katherine and Frank Price Endowed Chair for the Study of Race and Popular Culture: Todd Boyd, PhD
Kay Rose Endowed Chair in the Art of Sound and Dialogue Editing: Midge Costin, MA
Fran and Ray Stark Endowed Chair for the Study of American Film: Lawrence Turman, BA
Charles S. Swartz Endowed Chair in Entertainment Technology: Richard Weinberg, PhD
The T.C. Wang Family Endowed Chair in Cinematic Arts: Akira Mizuta Lippit, PhD
The Haskell Wexler Endowed Chair in Documentary: Michael Renov, PhD
The Robin Williams Endowed Chair in Comedy: Barnet Kellman, PhD
Dino and Martha De Laurentiis Endowed Professorship: Mary Sweeney, MA
Microsoft Endowed Professorship: Dennis Wixon, PhD
Presidential Professor of Cinematic Arts: George Lucas, BA
Judge Widney Professor: Robert Zemeckis
Provost Professor of Communication, Journalism, and Cinematic Arts: Henry Jenkins, PhD
Distinguished Professor: Mark J. Harris, BA
Professors: Bruce Block, MFA; Don Bohlinger, MFA; Mark Bolas, MS; Todd Boyd, PhD; Drew Casper, PhD; Elizabeth M. Daley, PhD; Jack Epps Jr., BA; Michael Fink, MFA; Scott S. Fisher, MS; Tracy Fullerton, MFA; Norman Hollyn, BA; David Howard, MFA; Aniko Imre, PhD; Judy Irola; David Isaacs, BA; David James, PhD; Henry Jenkins, PhD; Robert Jones; Jeremy Kagan, MFA; Gail Katz, MBA;

Barnet Kellman, PhD; Akira Lippit, PhD; Doe Mayer, MA; Tara McPherson, PhD; Christine Panushka, MFA; Michael Peyser, BA; Amanda Pope, BA; Michael Renov, PhD; Howard A. Rodman, BA; Ellen Seiter, PhD; Tom Sito, BFA; Sheila M. Sofian, MFA; Michael Taylor, BA; Lawrence Turman, BA; John Watson, MA
Associate Professors: Tom Abrams, MFA; Ted Braun, MFA; Linda Brown, MFA; J. D. Connor, PhD; Midge Costin, MA; Pamela Douglas, MA; Nitin Govil, PhD; Helaine Head, BA; Priya Jaikumar, PhD; Georgia Jeffries, BA; Kara Keeling, PhD; Richard Lemarchand, BA; Everett Lewis, MFA; Laura Isabel Serna, PhD; Kathy Smith, BA; Peter Sollett, BFA; Mary Sweeney, MA; Dennis Wixon, PhD
Assistant Professors: Andreas Kratky, PhD; Jeff Watson, PhD
Professors of Practice: David Balkan, BA; Jed Dannenbaum, PhD; Stephen Flick, BA; Pablo Frasconi, BFA; Brenda Goodman, BS; Don Hall, BA; Alexander McDowell, BFA; Barbara Nance, BA; Michael Patterson, BFA; William Yahraus, MA
Associate Professors of Practice: Christine Acham, PhD; Steve Albrezzi, BA; Kiki Benzon, PhD; Vicki Callahan, PhD; Christopher Chomyn, MFA; Reine-Claire Dousarkissian, MA; Nancy Forner, BA; Eric Hanson, BA; Virginia Kuhn, PhD; Elisabeth Mann, MFA; Thomas Miller, MD, MFA; Angelo Pacifici, BArch; Michael Provart, MFA; Candace Reckinger, MFA; John Rosenberg, MFA; Mark Shepherd, MFA; Peter Sollett, BFA; Jason Squire, MA; Michael Uno, MFA; Jennifer Warren, BA; Shelly Wattenbarger, MFA; David Weber; Tristan Whitman, MFA
Assistant Professors of Practice: Michael Bodie, MFA; Peter Brinson, MFA; Evan Hughes, MA; DJ Johnson, MFA; Angela Jones, BFA; Robert Kositchek, BFA; Margaret Moser, MFA; Maks Naporowski, BA; Gabriel Peters-Lazaro, PhD
Research Professors: Larry Auerbach; Richard Weinberg, PhD; Holly Willis, PhD
Research Assistant Professors: Marientina Gotsis, MFA; Jennifer Stein, PhD
Visiting Professors: Danny Bilson, BA; Lisa Leeman, BA; Robert Townsend
Visiting Associate Professor: Elizabeth Allen Rosenbaum, MFA
Instructor of Cinema Practice: Richard Burton, BA
Part-time Faculty: Ioan Allen; Kate Amend; Tom Anderson; Wendy Apple; Harold Apter; Larissa Bank; David Baron; Deborah Baron; Craig Barron; Janet Batchler; David Bazelon; Irving Belateche; Diego Berdakin; Sandra Berg; Alan Berger; Fred Bernstein; Mitch Block; John Bowman; Elizabeth Brauer; John Brennan; Paul Bricault; Musa Brooker; Michael Broukhim; Robert Brown; Bonnie Bruckheimer; Robert Buerkle; Bobette Buster; Ed Callahan; Trey Callaway; Will Carter; Michael Cassutt; Ramiro Cazaux; Bonnie Chi; Peter Chung; David Clawson; Jacque Cofer-Edmonds; Akela Cooper; Ken Cosby; Tim Curnen; Martin Daniel; Kristen W. Davis; Paul DeMeo; Dariush Derakhshani; Heather Desurvire; Vincent Diamante; Sharon Doyle; Frederic Durand; James Egan; Peter Exline; David Fain; Siavash Farahani; Ron Fernandez; Paul Foley; Bonnie Garvin; Lance Gentile; Andrew Given; David Goetsch; Eric Goldberg; Richard Goldsmith; Janet Graham-Borba; Amanda Green; Sharon Greene; Jeffrey Hammer; Chevon Hicks; John Hight; Perry Hoberman; Joe Hoffman; Todd Hoffman; Michael Hoggan; Sean Hood; Caroline Hu; Joan Hyler; Peter Kang; Aaron Kaplan; Thomas Kemper; Liz Keyishian; Randal Kleiser; Richard Kletter; Michael Kontopoulos; Jeffrey Korchek; Stu Krieger; Jon Kroll; Lucas Kuzma; Michael Lane; Clifford Latimer; Ken LaZebnik; Ed Lee; Robert Levin; Andrew Licht; David Lloyd; John Mahoney; Laird Malamed; Leonard Maltin; Peter Marx; Frank McAdams; Jim McGinn; Denise McKenna; Bill Mechanic; Lou Morton; Robert Nashak; Rob Nederhorst; Noel Nosseck; Jim O'Keeffe; Joseph Olin; Bob Osher; Rick Parks; Joe Peracchio; Rod Perth; Brian Peterson; Wendy Phillips; Anne Postman; Kate Powers; Bill Prady; Robert Ramsey; Gary Randall; Sandy Reisenbach; Vincent Robert; Peter Robinson; Howard Rosenberg; Mike Saltzman; Julie Sayres; Nevin Schreiner; Debby Seibel; Bobby Smith, Jr.; Bethany Sparks; Jim Staahl; Noah Stern; Sean Stewart; Jeffrey Stott; Mark Stratton; Scott Sturgeon; Danny Sussman; Neely Swanson; Ella Taylor; Aaron Thomas; John Underkoffler; Marcel Valcarce; Pam Veasey; Jon Wagner; Dahvi Waller; Jordan Weisman; David Weitzner; William Whittington; Tyger Williams; Chase Winton; Russ Woody; Frank Wuliger; Maureen Yeager; Laura Yilmaz; Gil Zimmerman
Emeritus Professors: Ron Curfman, MFA; Trevor Greenwood, MA; Richard Harber, MA; Richard Jewell, PhD; Edward Kaufman, PhD; Marsha Kinder, PhD; K. Kenneth Miura, MA; Woody Omens, MA; Morton Zarcoff, MA

Degree Programs

The USC School of Cinematic Arts offers professional and academic degree programs at the bachelor's, master's and doctoral levels.

Bachelor of Arts — Animation and Digital Arts

This program combines a broad liberal arts background with specialization in a profession. The degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see here.

Bachelor of Arts, Cinema and Media Studies

This degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts and requires 128 units. For more information, see here.

Bachelor of Arts, Cinematic Arts, Film and Television Production

This degree is a two-year program for transfer students. The BA is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts and requires 128 units. For more information, see here.

Bachelor of Fine Arts, Cinematic Arts, Film and Television Production

This degree is a four-year program only available to incoming freshmen. The BFA in Cinematic Arts, Film and Television Production is granted through the School of Cinematic Arts and requires 128 units. For more information, see here.

Bachelor of Arts — Interactive Entertainment

Dedicated to immersive experience design and emerging technologies, this program is for students who are driven to innovate at the intersection of traditional media, games, and whatever happens next. The Bachelor of Arts in Interactive Entertainment is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see here.

Bachelor of Arts — Media Arts and Practice

This program is for students who want to harness the power of digital storytelling and media design to communicate across diverse fields beyond the entertainment industry. This degree is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. The degree requires 128 units. For more information, see here.

Bachelor of Fine Arts — Writing for Screen and Television

This is a unique program designed for students who wish to receive intensive training for non-fiction and fiction writing for screen and television. The BFA in Writing for Screen and Television is granted through the School of Cinematic Arts. The degree requires 128 units. For more information, see here.

Bachelor of Science in Business Administration (Cinematic Arts)

This program offers a unique coupling of the USC Marshall School of Business and the School of Cinematic Arts in a four-

year interdisciplinary degree. In addition to the Marshall School of Business core classes, the students will also take a total of 24 units from the School of Cinematic Arts. This competitive program is offered to freshmen admitted to the Marshall School of Business as Business Scholars. Upon completion of all requirements, students will receive a Bachelor of Science in Business Administration (Cinematic Arts). See the Marshall School of Business for course requirements.

Master of Arts, Cinema and Media Studies

This degree is granted by the USC Graduate School in conjunction with the School of Cinematic Arts. This program requires 36 units. For more information, see here.

Master of Arts, Cinematic Arts (Media Arts, Games and Health)

This program requires 36 units. For more information, see here.

Master of Fine Arts, Cinematic Arts, Film and Television Production

This professional degree requires 52 units. For more information, see here.

Master of Fine Arts, Writing for Screen and Television

This program requires 44 units. For more information, see here.

Master of Fine Arts, Animation and Digital Arts

This program requires 50 units. For more information, see here.

Master of Fine Arts, Interactive Media

This program requires 50 units. For more information, see here.

Master of Fine Arts, Interactive Media (Games and Health)

This program requires 50 units. For more information, see here.

Master of Fine Arts, Producing for Film, Television, and New Media

The Peter Stark Producing Program requires 44 units. For more information, see here.

Doctor of Philosophy, Cinema and Media Studies

The PhD is based on a program of study and research culminating in the completion of a dissertation in the major field of study. A minimum of 68 semester units (exclusive of dissertation registration) beyond the baccalaureate is required. Applicants who have completed a Bachelor of Arts or Master of Arts degree in Cinematic Arts, or a closely related field, may apply to the PhD program. The doctoral degree is granted by the Graduate School in conjunction with the School of Cinematic Arts. For more information, see here.

Doctor of Philosophy, Cinematic Arts (Media Arts and Practice)

The PhD in Media Arts and Practice program offers a rigorous and creative environment for scholarly innovation as students explore the intersection of design, media and critical thinking while defining new modes of research and scholarship for the 21st century. Core to the program is its transdisciplinary ethos; after completing foundational course work, students design their own curricula, drawing on expertise across all divisions and research labs within the School of Cinematic Arts. The doctoral degree is granted by the Graduate School in conjunction with the School of Cinematic Arts. For more information, see here.

Writing for Screen and Television Certificate

The Writing for Screen and Television Certificate provides an established writer, domestic or international, with a one-year program of study. It is meant to accommodate a writer who has already attained significant recognition and would like to learn the craft of screenwriting. Sixteen units are required. For more information, see here.

Graduate Certificate in the Business of Entertainment

This certificate program provides graduate-level education in various aspects of the business of film, television and new media. It requires 16 units. For more information, see here.

Graduate Certificate in Cinematic Arts Archiving and Preservation

This certificate program is designed specifically for students and practitioners who want to use their education and skills for advancing the knowledge of film, television and interactive media through the preservation and dissemination of the historical artifacts that form the underpinnings of scholarship in the performing arts. Through this program, students will gain the knowledge, tools and skills necessary to preserve the materials that make up the history of entertainment and to lead scholars through the research maze to the completion of books or media in their fields of study. This certificate requires 12 units. For more information, see here.

Graduate Certificate in Digital Media and Culture

This certificate program is for graduate students from across the USC campus who want to explore the shifting nature of scholarly expression, pedagogical practice and research in the 21st century. It combines seminars with hands-on, lab-based workshops devoted to basic image manipulation, video editing, social media and Web design to facilitate sophisticated critical thinking and practice in and through multimedia. The program requires 12 units. For more information, see here.

General Requirements

Acceptance of Transfer Units

The School of Cinematic Arts does not accept courses taken in film and/or television production at other institutions to fulfill degree and minor requirements. Basic film or television history courses can sometimes be accepted for transfer credit.

No transfer credit will be accepted in lieu of CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 507 and CTPR 508 and any advanced production courses.

No transfer credits are accepted for the Peter Stark producing track, the graduate programs in animation and digital arts, screenwriting and interactive media.

Transfer policy for the PhD requires advisement and approval of the division chair.

Waiver of Course Requirements

Under special circumstances waivers and substitutions are granted; check with the Cinematic Arts Office of Student Affairs. All course waivers and substitutions must be approved by the associate dean of academic affairs.

The following courses cannot be waived for students majoring in Film and Television Production: CTIN 584a, CTIN 584b, CTIN 584c, CTIN 584z, CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 480, CTPR 507, CTPR 508, CTPR 546L, CTPR 547L, CTPR 581a, CTPR 581b, CTPR 581c, CTPR 581z, CTPR 582a, CTPR 582b, CTPR 582z, CTPR 583, CTPR 587a, CTPR 587b, CTPR 587c, CTPR 587z.

Student Advisement

Each program has its own advisement system. Check with the program administrator or with the Cinematic Arts Office of Student Affairs. Cinematic Arts student affairs counselors are available to answer questions about degree programs, grades, advisement and other matters.

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all

required and prerequisite courses in order to progress to the next course level. Students may attempt to improve a grade lower than a C (2.0) only one time by registering and retaking the specific course. Departmental approval is required in order to retake a School of Cinematic Arts course.

In addition, a minimum grade point average must be achieved to earn all cinematic arts degrees (see the individual program descriptions). For example, undergraduates and graduates must earn a minimum grade of C (2.0) in all required cinematic arts courses. However, graduate students must also achieve a B (3.0) average in all courses required for the degree.

Undergraduate students in the film and television production program who achieve a grade lower than a C (2.0) in CTPR 290 (BFA only), CTPR 294, CTPR 295 or CTPR 310, and graduate students in the production program who earn a grade lower than a C (2.0) in CTPR 507 or CTPR 508 may petition to retake the required sequence only once. Permission to retake any prerequisite or core production courses requires prior departmental committee approval.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

Tuition and Fees (Estimated)

Students in the School of Cinematic Arts' graduate programs pay differential tuition (see the Tuition and Fees section for current tuition rates). Undergraduate programs are assessed the university-wide tuition rate. In addition, some classes are charged lab fees, as noted in the *Schedule of Classes*, and insurance fees. The university reserves the right to assess new fees or charges. The rates listed are subject to change without notice by action of the Board of Trustees.

Honors, Minors, International Programs and Summer Program

Honors in Multimedia Scholarship

Honors in Multimedia Scholarship is a dynamic and innovative honors program for undergraduates in all majors across the USC campus. Students learn to shoot and edit videos, use professional design applications, code web-based media, and explore emerging genres of storytelling. They also learn new approaches to the production of knowledge through the critical application of digital media. Students earn the Honors designation by completing a minimum of 24 units of required course work culminating in a capstone thesis during their final year. For more information, see here.

Minor in Animation and Digital Arts

The minor in animation offers students an introduction to the theory and practice of animation, including its relationship to the history of art and cinema, creative writing, and basic film production. It provides students with an opportunity to create both personal and collaborative work in a wide range of genres, from traditional character to contemporary experimental and computer animation. The program requires 24 units. For more information, see here.

Minor in Cinematic Arts

A minor in cinematic arts is available to USC undergraduate students in all schools and departments. The minor provides the opportunity for students to become familiar with various aspects of media study. The program requires 20 units. For more information, see here.

Minor in Comedy

The minor in comedy is designed to train students in the creation of comedic entertainment in film, television and new media. The program utilizes both analysis courses and creative workshops to train students in comedic theory and practice. Through elective choices students may focus their studies on a number of cinematic disciplines as they pertain to the creation of comedic content, including writing sit-coms, directing comedic actors and producing sketch comedy. The program requires 16 units. For more information, see here.

Minor in Digital Studies

The minor in digital studies explores the rich potential of digital media for critical analysis and creative discovery. Learning the exciting and dynamic potential of a broad array of tools and technologies, students create innovative projects, from photo essays to Web-based documentaries, from interactive videos to sophisticated Websites, and from typography in motion to 3-D visualizations. The program requires 20 units. For more information, see here.

Minor in Entertainment Industry

The minor in entertainment industry provides students interested in media content creation with a focused curriculum that will give them insight into the economic factors and professional practices that influence the creative process, and how they interact with social, historical, technical and aesthetic elements. For more information, see here.

Minor in Future Cinema

The minor in Future Cinema explores the frontier of audiovisual storytelling building on the cutting edge research within the School of Cinematic Arts. Students will explore the creative and technological transformations of an industry in transition as cinema becomes live, playable, immersive, mobile, virtual, crowdsourced and more. The program requires 20 units. For more information see here.

Minor in Game Animation

The skills of the modern animator, visual effects artist, motion capture professional and many others are of great value in the games industry when paired with an understanding of how these assets can be used in games and systems. The game animation minor provides an educational path that teaches both systems thinking and the skills and creativity of an animator. The program requires 24 units. For more information, see here.

Minor in Game Audio

Game audio professionals must not only be competent in one area (e.g., expressly in music composing or in audio recording), but also in other areas of audio and in theories of procedurality and interaction. This minor provides a grounding in game design and systems thinking, while providing a theoretical backing and skills in audio design and composition to prepare students to design successful audio for the games industry. The program requires 24 units. For more information, see here.

Minor in Game Design

Design for games is a young, exciting field applicable to media artists working all over the world, in different aspects of the industry and with many different tools. The game design minor teaches basic iterative design and prototyping skills while providing students the opportunity to explore design for new technologies and the skills of user assessment and usability testing. The program requires 24 units. For more information, see here.

Minor in Game Entrepreneurism

The modern media, technology and entertainment fields are built on the backs of new businesses and new ideas. To start a successful business, you need skills and knowledge of the processes for setting up a business, finding investment and turning your creative project from prototype to finished project. The game entrepreneurism minor provides an educational path that teaches hard business thinking for creative entrepreneurs. The program requires 24 units. For more information, see here.

Minor in Game Studies

Games are a major cultural form, with game sales now exceeding box office revenue in the United States. Attention to games and interactive media is growing, and it has become necessary to understand them as meaningful systems, reflect on their cultural influence, and to help guide their evolution with insightful criticism.

The game studies minor prepares students with fundamental underpinnings in media criticism and games. For more information, see here.

Minor in Game User Research

Game and interaction design are deeply dependent upon human-computer interaction and the ability to use research methods to improve player experience. This minor is designed to give students an underpinning in game design, interface design and research methods, while teaching a full set of skills for playtesting and usability practice. The program requires 24 units. For more information, see here.

Minor in Immersive Media

The minor in immersive media is designed to train students to create projects in virtual reality, augmented reality, and other immersive media formats. The core program requirements provide the solid fundamentals needed to understand, conceive of, and create immersive work. Through elective choices students may focus their studies on theory, on specific fields of immersive, on creative expression, or on building technology. The program requires 24 units. For more information, see here.

Minor in Media and Social Change

The minor in media and social change provides the opportunity for students who are interested in media content creation and research to take classes in a focused curriculum on the various aspects of media for change. Students will gain insight into the professional practices of creating media content, analyzing existing content, and learning how they can influence the future by integrating social issues into the work they are doing in related fields. The program requires 22 units. For more information, see here.

Minor in Science Visualization

The minor in science visualization offers an introduction to science visualization methodology and practice focused in an area of relevant research. The minor is structured to provide the skills and knowledge needed in science visualization, and will culminate in a capstone project under the close supervision of faculty in both animation and science. The program requires 16 units. For more information, see here.

Minor in Screenwriting

The minor in screenwriting provides thorough training in the craft of writing for screen and television. Students learn the fundamentals of character, conflict and scene structure and build on their skills through each course as they write feature and television scripts in all genres and explore areas of their interest. Students may apply in the spring or fall semester. The program requires 16 units. For more information, see here.

Minor in Themed Entertainment

From cruise ships to casinos to immersive educational retreats, themed entertainment design involves submerging a real, live human being into a story in a truly robust, physical way. As new tools for entertainment and education develop, they continually push toward enabling players to completely become the heroes and heroines of their own stories. The themed entertainment minor focuses on history, theory and skills of themed entertainment design. The program requires 24 units. For more information, see here.

Minor in 3-D Animation in Cinematic Arts

The minor in 3-D animation in cinematic arts offers an introduction to basic animation principles and history, as well as creative and skill-based instruction in 3-D computer animation. Through elective choices students may focus their studies on their specific area of interest, including visual effects, motion capture, virtual reality, modeling, or character animation. The program requires 16 units. For more information, see here.

Minor in Cinema-Television for the Health Professions

This 24-unit minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in working with film and television producers to disseminate accurate health information to the public. See the Keck School of Medicine of USC for course requirements.

Minor in 2-D Art for Games

This interdisciplinary minor integrates three major disciplines (fine arts, computer science and interactive media) to develop the 2-D visual skills necessary to conceptualize and illustrate images for games. For more information, see USC Roski School of Art and Design.

Minor in 3-D Art for Games

The focus of the 3-D Art for Games minor is a trans-disciplinary approach that incorporates the creative, technological and team-based communication skills necessary to develop 3-D art skills for video games. For more information, see USC Roski School of Art and Design.

Minor in Video Game Design and Management

The video game design minor integrates theoretical concepts and practical skills to prepare students for a career in interactive entertainment, specifically the video game industry. Through integration of two major disciplines (cinematic arts and information technology), students will be exposed to a variety of design concepts related to creating video games. See the Information Technology Program for course requirements. For specific information on admission and application procedures, contact the School of Cinematic Arts at (213) 821-2515 or the Information Technology Program at (213) 740-4542.

Minor in Performing Arts Studies

The minor in Performing Arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. See USC School of Dramatic Arts for requirements.

International Programs

Studio Arts Center International

John C. Hench Animation and Digital Arts and the Division of Media Arts and Practice jointly offer, with the Roski School of Art and Design, a fall semester abroad at Studio Art Centers International (SACI) in Florence, Italy. Undergraduate students will be required to take equivalent classes in animation and media arts while also benefiting from the wide range of liberal arts courses offered at SACI.

Global Exchange Workshop

"Documenting the Global City: Los Angeles and Beijing," is an intensive, seven-week workshop in documentary filming that pairs graduate students from the USC School of Cinematic Arts and the Communication University of China (CUC) to make short documentaries on Los Angeles or Beijing as global cities. The program is held in Los Angeles or Beijing in alternate years. It will be held in Beijing in summer 2018. Participating students enroll in CTPR 515 Global Exchange Workshop (2 units).

With faculty guidance from both universities, the students must negotiate cultural differences both in front of and behind the camera. In the process, both students and faculty directly experience the other culture and learn how it defines globalism in general, sees its own city in global terms, combines theory and practice, and processes a new set of perceptions and lived experience.

Interested students should contact Professor Mark Harris of the division of Film and Video Production at (213) 740-3319, or at mharris@cinema.usc.edu. Airfare to China and lodging expenses in

Beijing are provided for all students accepted into the course.

Summer Program

The USC School of Cinematic Arts Summer Program is a six-week program that offers classes from different facets of the entertainment industry. Participants from around the world have an opportunity to attend intensive, creatively demanding and satisfying filmmaking courses.

Minor

3-D Animation in Cinematic Arts Minor

The minor in 3-D animation in cinematic arts offers an introduction to basic animation principles and history, as well as creative and skill-based instruction in 3-D computer animation. Through elective choices students may focus their studies on their specific area of interest, including visual effects, motion capture, virtual reality, modeling or character animation. The program requires 16 units

To be eligible for the 3-D animation in cinematic arts minor, a student must be in good academic standing and have a declared major. To declare the minor a student must submit a Change of Major/Minor form to the John C Hench Division of Animation and Digital Arts in SCB 210.

Core Requirements (6 units)

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2

Electives (10 Additional Units)

- CTAN 420 Concept Design for Animation Units: 2
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 455L Organic Modeling for Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 463L Creative Workflow in Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2
- CTAN 465L Digital Effects Animation Units: 2
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTAN 497L Generative Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2
- CTAN 508L Live Action Integration with Visual Effects Units: 2
- CTAN 564L Motion Capture Fundamentals Units: 2
- CTAN 565L Motion Capture Performance Units: 2

Enrollment in 500-level courses requires special permission.

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Animation and Digital Arts Minor

The minor in animation offers students an introduction to the theory and practice of animation, including its relationship to the history of art and cinema, creative writing and basic film production. It provides students with an opportunity to create both personal and collaborative work in a wide range of genres, from traditional character to contemporary experimental and computer animation. This includes painting, cel, stop motion, collage, mixed media, 2- and 3-D computer animation software and interactive digital media. Successful completion of a final project is required.

Most students will enter the minor in animation program in their sophomore year at USC.

A student enrolled on the undergraduate level at USC may apply to minor in animation if he or she is maintaining normal degree progress.

Animation minor applications are reviewed by a panel of faculty members, with admissions made for the fall semester only. A maximum of 12 students will be admitted per year.

Application Procedures

To be considered for admission to the minor in animation, the applicant is required to submit the following materials: (1) Cinematic Arts departmental application, (2) academic records including current USC transcripts, (3) personal statement, (4) two letters of recommendation, and (5) portfolio (prints, slides, CD, DVD, film and/or video). Applications and admission information can be obtained from the USC School of Cinematic Arts, Animation and Digital Arts Program Office, (213) 740-3986 or online at cinema.usc.edu.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Course Requirements

The following courses are to be taken in a prescribed sequential order. Twenty-four units are required.

In addition, CTAN 450c is a capstone production class. It is a very time intensive class that will require a very large amount of work. The film project undertaken under CTAN 450c must be completed by the end of the semester enrolled in CTAN 450c in order to pass the class and receive the minor. It is recommended that you do not take a heavy course load during the semester that you enroll in CTAN 450c.

Please note that by the time you enroll in CTAN 450c, you must have completed all of the other minor requirements before requesting access to CTAN 450c.

Courses

Year One

- CTCS 190g Introduction to Cinema Units: 4
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTAN 451 History of Animation Units: 2

Year Two

- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTAN 436 Writing for Animation Units: 2
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4

Year Three

- CTAN 450b Animation Theory and Techniques Units: 2
- CTAN 450c Animation Theory and Techniques Units: 2

Cinematic Arts Minor

The minor in cinematic arts combines an introduction to this exciting and influential field with a diversified set of classes in critical studies, production, screenwriting, the entertainment industry, animation, and interactive media. The curriculum is purposely flexible; students may choose to sample different areas in their upperdivision courses or emphasize a single primary interest, such as production.

To be eligible for the cinematic arts minor, a student must be in good academic standing and have a declared major. To declare the cinematic arts minor a student must submit a Change of Major/Minor form to Cinematic Arts Office of Student Services, SCB 105.

Course Requirements for the Minor

A total of 20 units is required for the minor in cinematic arts, one 4-unit lower-division course and 16 upperdivision units.

Lower-division Requirement

- CTCS 190g Introduction to Cinema Units: 4 * or
- CTCS 191 Introduction to Television and Video Units: 4

Note:

**Gateway course*

Upper-division Requirement

8 units from the following:

- CTAN 432 The World of Visual Effects Units: 2
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 450b Animation Theory and Techniques Units: 2
- CTAN 450c Animation Theory and Techniques Units: 2
- CTAN 451 History of Animation Units: 2
- CTAN 462 Visual Effects Units: 2
- CTCS 303 Japanese Anime Units: 2
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 466 Theatrical Film Symposium Units: 4
- CTCS 467 Television Symposium Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTIN 482 Designing Social Games Units: 2
- CTPR 327 Motion Picture Cinematography Units: 3
- CTPR 335 Motion Picture Editing Units: 3
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 409 Practicum in Television Production Units: 2, 4
- CTPR 460 Film Business Procedures and Distribution Units: 2 or 4
- CTPR 461 Managing Television Stations and Internet Media Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2
- CTWR 432 Television Writers and Their Work Units: 2
- Plus 8 additional upper-division units of Cinematic Arts electives.

Additional Requirements

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Comedy Minor

The minor in comedy is designed to train students in the creation of comedic entertainment in film, television and new media.

Application Procedures

To apply to the minor in comedy, a student must be in good academic standing, have a declared major, and be currently enrolled in or have completed with a passing grade CTWR 404 Foundations of Comedy.

Applicants are required to submit the following materials: (1) Cinematic Arts departmental application, (2) curriculum vitae highlighting comedy experience, and (3) a comedic short film script or comedy sketch script. Applications and admission information can be obtained from the USC School of Cinematic Arts, Writing for Screen and Television division, (213) 740-3303.

Course Requirements for the Minor

A total of 16 units is required to complete the comedy minor.

Required Course (2 Units)

- CTWR 404 Foundations of Comedy Units: 2

Elective Courses (14 Units From The Following)

- CTPR 371 Directing for Television Units: 4
- CTPR 464 Directing the Television Sketch Comedy Show Units: 2
- CTPR 476 Directing The Comedic Scene Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTWR 324 Introduction to Half-Hour Television Writing Units: 2 *
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2 *
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 *
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4 *
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4 *

  *Prerequisite required

Note:

**Prerequisite required.*

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Digital Studies Minor

The minor in digital studies explores the rich potential of digital media for critical analysis and creative discovery. Learning the exciting and dynamic potential of a broad array of tools and technologies, students create innovative projects, from photo essays to Web-based documentaries, from interactive videos to sophisticated Websites, and from typography in motion to 3-D visualizations. Elective courses explore media for social change, tangible computing, transmedia expression and more, allowing students to use media in pursuit of their own interests and to enhance their major.

All digital studies courses combine theory and practice in lab-based seminars featuring hands-on tutorials to support students in producing sophisticated media-rich work. Participants in this minor gain powerful skills useful in future endeavors within or beyond academia, where the ability to work effectively with media is a crucial job skill.

Information about courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A total of 20 units is required to complete the minor. All courses must be taken for a letter grade.

Introductory Courses

- IML 104 Introduction to Digital Studies Units: 2 and
- IML 140 Workshop in Multimedia Authoring Units: 2 or
- IML 201 The Languages of Digital Media Units: 4

Media Arts Electives

Choose 12 units from the following courses:

- IML 300 Reading and Writing the Web Units: 2
- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 310 Professionalism for Media Arts Units: 2 *
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 328 Sonic Media Art Units: 2
- IML 335 Digital Narrative Design I Units: 2
- IML 340 Remixing the Archive Units: 4
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 365 Future Cinema Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 400 Creative Coding for the Web Units: 4 *
- IML 404 Tactical Media Units: 4 *
- IML 420m New Media for Social Change Units: 4
- IML 422 Information Visualization Units: 4

- IML 428 Exploring and Creating Sonic Environments Units: 4 *
- IML 435 Digital Narrative Design II Units: 4 *
- IML 436 Hypercinemas Studio Units: 4 *
- IML 450 Critical Play and Documentary Games Units: 4
- IML 454 Advanced Techniques of Spatial Representation Units: 4 *
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2 *
- IML 466 Digital Studies Symposium Units: 2
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 499 Special Topics Units: 2, 3, 4

**Prerequisite Required.*

Digital Studies Electives

Choose 4 units from the following courses:

- COMM 450 Visual Culture and Communication Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4
- SOCI 365 Visual Sociology of the City and Its Residents Units: 4

  Other courses may be applicable; please see an adviser for approval.

Entertainment Industry Minor

The minor in the entertainment industry provides students interested in media content creation with a focused curriculum that will give them insight into the economic factors and professional practices that influence the creative process, and how they interact with social, historical, technical and aesthetic elements. To be eligible for the entertainment industry minor, a student must be in good academic standing, have a declared major, and have completed CTCS 190g Introduction to Cinema with a C or better. To declare the minor, a student must submit a Change of Major/Minor form to Cinematic Arts Student Services, SCB 105.

Course Requirements for the Minor

A total of 18 upper-division units is required for the minor in the Entertainment Industry.

Courses

- CNTV 375 Breaking Into the Entertainment Industry Units: 2
- CNTV 440 The Business of the Entertainment Industry: Motion Pictures, Television, Animation, Video Games, and Interactive Entertainment Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2

One of the following:

- CNTV 427 The Art and Commerce of Independent Film Units: 4
- CTCS 466 Theatrical Film Symposium Units: 4
- CTCS 467 Television Symposium Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTPR 386 Art and Industry of the Theatrical Film Units: 4

One of the following:

- CTWR 411 Television Script Analysis Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

Four units from:

- CNTV 457 The Entertainment Entrepreneur: Getting Your First Project Made Units: 2
- CNTV 474 Digital DNA: Media Redefined Units: 2
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 451 History of Animation Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- CTPR 425 Production Planning Units: 2
- CTPR 438 Practicum in Producing Units: 2 *
- CTPR 460 Film Business Procedures and Distribution Units: 2 or 4
- CTPR 461 Managing Television Stations and Internet Media Units: 2
- CTPR 496 The Film Industry: Career Challenges and Choices for Women Units: 2
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2
- CTWR 432 Television Writers and Their Work Units: 2
- IML 466 Digital Studies Symposium Units: 2

Note:

* Prerequisite required.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Future Cinema Minor

The minor in future cinema explores the frontier of audiovisual storytelling, building on the cutting edge research within the School of Cinematic Arts. Students will explore the creative and technological transformations of an industry in transition as cinema becomes live, playable, immersive, mobile, virtual, crowdsourced and more.

Combining history, theory and practice, the minor prepares students to engage with new forms of cinematic expression with an awareness of critical context and a methodology for understanding the changing roles of storytelling in the 21st century.

Information about declaring the minor, courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

Introductory Courses

- IML 365 Future Cinema Units: 4
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 +

Electives

- CNTV 467 The Future of Digital Media and the Entertainment Industry Units: 2
- CNTV 474 Digital DNA: Media Redefined Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2 +
- CTAN 564L Motion Capture Fundamentals Units: 2 * +
- CTCS 482 Transmedia Entertainment Units: 4
- CTWR 405 Storytelling for Virtual and Augmented Reality Units: 2 *
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4 *
- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 404 Tactical Media Units: 4 *
- IML 436 Hypercinemas Studio Units: 4 *
- IML 454 Advanced Techniques of Spatial Representation Units: 4 *
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2 *
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 *

  ** Prerequisite required.*

  + Enrollment in graduate course work requires special permission.

Game Animation Minor

To create animations for a game requires an understanding that visual art forms one part of a game system or algorithm, and even animation poses and rigging must often be thought of in terms of programming-like logic. The skills of the modern animator, visual effects artist, motion capture professional and many others are of great value in the games industry, but very few of these professionals have both training in visual artistry and the systemic thinking necessary for game design. This minor provides an educational path that teaches both systems thinking and the skills and creativity of an animator.

To be eligible for the game animation minor, a student must be in good academic standing and have a declared major. To declare the game animation minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A total of 24 units is required for the game animation minor, including a minimum of 16 upper-division units.

Core Requirements

- CTAN 330 Animation Fundamentals Units: 2

- CTAN 432 The World of Visual Effects Units: 2 or
- CTIN 332 Games for Animation Units: 2

- CTAN 451 History of Animation Units: 2 or
- CTIN 101 Fundamentals of Procedural Media Units: 2

- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 *
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 488 Game Design Workshop Units: 4

Electives (6 Additional Units)

- CTAN 420 Concept Design for Animation Units: 2
- CTAN 432 The World of Visual Effects Units: 2 **
- CTAN 451 History of Animation Units: 2 **
- CTAN 460 Character Design Workshop Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 465L Digital Effects Animation Units: 2 *
- CTAN 564L Motion Capture Fundamentals Units: 2 * +
- CTAN 565L Motion Capture Performance Units: 2 * +
- CTIN 101 Fundamentals of Procedural Media Units: 2 **
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 332 Games for Animation Units: 2 **
- CTIN 484L Intermediate Game Development Units: 2 ***
- CTIN 489 Intermediate Game Design Workshop Units: 2 ***
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 493L Advanced Game Project II Units: 2 *

Note:

**Prerequisite required.*
***CTAN 432, CTAN 451, CTIN 101, and CTIN 332 may only be taken as electives if they are not used to fulfill a core requirement for the minor.*
****CTIN 484 and CTIN 489 must be taken concurrently, and require CTIN 483 and CTIN 488 as prerequisites.*
+Enrollment in CTAN 564 and CTAN 565 requires special permission.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Audio Minor

To implement audio into a game requires an understanding that audio forms one part of a game system or algorithm, and even composition must often be thought of in terms of programming-like logic. Game audio professionals must not only be competent in one area (e.g., expressly in music composing, or in audio recording), but in other areas of audio as well. This minor provides a grounding in game design and systems thinking, while providing a theoretical backing and skills in audio design and composition to prepare students to design successful audio for the games industry.

To be eligible for the Game Audio minor, a student must be in good academic standing and have a declared major. To declare the Game Audio minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A minimum of 24 units is required for the Game Audio minor, 6 lower-division units and a minimum of 16 upper-division units.

Lower-division Core Units (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- MTEC 277x Introduction to Music Technology Units: 4

Upper-division Core Units (12 Units)

- CTIN 406L Sound Design for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4

Electives (Minimum 6 Additional Units, At Least 4 Upper-division)

- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 493L Advanced Game Project II Units: 2 **
- CTPR 473 Spotting Music for Cinema Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 478 Advanced Multichannel Remix Units: 2 **
- MUCO 221ax Composition for Non-Majors Units: 2
- THTR 336 Introduction to Sound Design Units: 3

Note:

**CTIN 484 and CTIN 489 must be taken concurrently, and require CTIN 483 and CTIN 488 as prerequisites.*
***Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Design Minor

Game design is the next great design field, and individuals of many professions and skill sets will benefit from understanding how to design for interactivity and new technology. The game design minor teaches basic iterative design and prototyping skills while providing students the opportunity to explore design for new technologies and the skills of user assessment and usability testing.

To be eligible for the game design minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media Division (SCA 222) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A total of 24 units is required for the game design minor, 6 lower-division units and 18 upper-division units.

Lower-division Core (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTIN 190 Introduction to Interactive Entertainment Units: 4

Upper-division Core (12 Units)

- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *

Electives (6 Additional Units)

- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 493L Advanced Game Project II Units: 2 **

Note:

**CTIN 484 and CTIN 489 must be taken concurrently and require CTIN 483 and CTIN 488 as prerequisites.*
***Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Entrepreneurism Minor

A minor for students interested in building a business in the games and digital media industry. Building on the business, production and management courses in the Interactive Media Division, this minor culminates in our advanced game project course and provides students with hands-on mentorship in starting actual companies based on the work they are doing in these concurrent classes. The minor provides a basis in theories of design and production for games, as well as a strong grounding in the business knowledge necessary to become an entrepreneur.

To be eligible for the game entrepreneurism minor, a student must be in good academic standing and have a declared major. To declare the game entrepreneurism minor a student must get permission from the Interactive Media Division (SCA 222), and submit a change of major/minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor

A minimum of 23 units is required for the game entrepreneurism minor, including 2 lower-division units and a minimum of 17 upper-division units.

Lower-division Core (2 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2

Upper-division Core (17–18 Units)

- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4 or
- BUAD 301 Technology Entrepreneurship Units: 3 (3 units required)

- BAEP 452 Feasibility Analysis Units: 4 *
- CTIN 458 Business and Management of Games Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4

Electives (4 Additional Units)

- BAEP 423 Management of Small Businesses Units: 4
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- CTIN 110 Statistical Analysis for Games: Storytelling with Numbers Units: 4
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 459L Game Industry Workshop Units: 4 *
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 482 Designing Social Games Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 493L Advanced Game Project II Units: 2
- CTIN 497 Interactive Media Startup Units: 1

Note:

**Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Game Studies Minor

Games are a major cultural form, with game sales now exceeding box office revenue in the United States. Attention to games and interactive media is growing, and it has become necessary to understand them as meaningful systems, reflect on their cultural influence, and to help guide their evolution with insightful criticism. The game studies minor prepares a student with fundamental underpinnings in media criticism and games.

To be eligible for the game design minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Affairs (SCB 105).

Course Requirements for the Minor:

A total of 24 units is required for the game design minor, 6 lower-division units and 18 upper-division units.

Lower-division Core Units (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTIN 190 Introduction to Interactive Entertainment Units: 4

Upper-division Core Units (10 Units)

- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 488 Game Design Workshop Units: 4

Electives (8 Additional Units)

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 429 Studies in Art, Science, and Technology Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 475 Ethnographic Film Analysis Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- CTCS 367 Global Media Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 492L Experimental Game Topics Units: 4
- CTWR 410L Character Development and Storytelling for Games Units: 4
- HIST 380 American Popular Culture Units: 4
- IML 466 Digital Studies Symposium Units: 2
- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 488mw Theatre in the Community Units: 4

Additional Requirements

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of

C- (1.7) or lower does not fulfill a minor requirement.

Game User Research Minor

Game and interaction design are deeply dependent upon human-computer interaction and the ability to use research methods to improve player experience. Game user research is a critical aspect of game design and development that involves management of playtests and usability tests of the software, technology and rules. Along with the ability to analyze and design for optimal player experience, this field combines the ability to analyze large batches of data, and an understanding of how to build applications that mine data from users; these skills form the backbone of an incredibly valuable team member for digital entertainment products. The Interactive Media and Games Division at the School of Cinematic Arts is a leading facility in the teaching of usability, research, and playtesting practices in this field, and the game user research minor is designed to give students an underpinning in game design, interface design and research methods, while teaching a full set of skills for playtesting and usability practice.

To be eligible for the game user research minor, a student must be in good academic standing and have a declared major. To declare the game design minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Affairs (SCB 105).

Course Requirements for the Minor

A total of 24 units is required for the game user research minor, 6 lower-division units and 18 upper-division units.

Lower-division Core Units (6 Units)

- CTIN 101 Fundamentals of Procedural Media Units: 2
- CTIN 110 Statistical Analysis for Games: Storytelling with Numbers Units: 4

Upper-division Core Units (12 Units)

- CTIN 401L Interface Design for Games Units: 2
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 488 Game Design Workshop Units: 4

Electives (6 Additional Units)

- CTIN 458 Business and Management of Games Units: 2
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 493L Advanced Game Project II Units: 2
- COMM 301Lg Empirical Research in Communication Units: 4
- PSYC 301L Cognitive Processes Units: 4 **

Note:

**CTIN 484 and CTIN 489 must be taken concurrently, and require the student to have passed CTIN 483 and CTIN 488 or the equivalent.*
***Prerequisite required.*

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Immersive Media Minor

A minor in immersive media is open to all undergraduate students at USC. This interdisciplinary minor provides the opportunity for technically minded students, business and entrepreneurially driven students, and/or creatively driven students to gain knowledge about the virtual reality industry and how to create content effectively. Students can add depth within a specific area by selecting elective courses within the same area or can add breadth by choosing elective courses from two separate areas.

To be eligible for the immersive media minor, a student must be in good academic standing and have a declared major. To declare the immersive media minor a student must get permission from the Interactive Media Division (SCI 201), and submit a change of major/minor form to Cinematic Arts Student Services (SCB 105).

Lower Division Requirements

- CTIN 290 Digital Media Workshop Units: 4
- ITP 165 Introduction to C++ Programming Units: 2

Upper Division Requirements

- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 483 Introduction to Game Development Units: 4

Capstone Units

- CSCI 425 Immersive Game Development Units: 4 *
- CTAN 502L Experiments in Immersive Design Units: 2 +
- CTAN 504L Creative Production in Virtual Reality Units: 2 * +
- CTIN 492L Experimental Game Topics Units: 4
- IML 436 Hypercinemas Studio Units: 4 *

Electives

- CSCI 420 Computer Graphics Units: 4 *
- CTAN 410 Audio Design for Animation and Immersive Media Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 462 Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 *
- CTAN 465L Digital Effects Animation Units: 2 *
- CTAN 485L Pipeline and Character Modeling for Animation Units: 2
- CTAN 495 Visual Music Units: 2
- CTAN 497L Generative Animation Units: 2 *
- CTAN 508L Live Action Integration with Visual Effects Units: 2 * +
- CTAN 564L Motion Capture Fundamentals Units: 2 * +
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 479 Documentary and Activist Games Units: 2
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2 +
- CTWR 405 Storytelling for Virtual and Augmented Reality Units: 2 *
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- IML 543 Transdisciplinary Media Design Practicum Units: 4 * +
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 +
- ITP 380 Video Game Programming Units: 4 *
- ITP 450 Advanced 3D Texturing, Compositing, and Image Processing Units: 3 *

Note:

*Prerequisite Required.
+Enrollment in graduate-level courses requires special permission.

Media and Social Change Minor

The minor in Media and Social Change provides the opportunity for students who are interested in media content creation and research to take classes in a focused curriculum on the various aspects of media for change. Students will gain insight into the professional practices of creating media content, analyzing existing content, and learning how they can influence the future by integrating social issues into the work they are doing in related fields.

Information about declaring the minor, courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A total of 22 units is required to complete the minor. All courses must be taken for a letter grade.

Introductory Courses

Choose 4 units from the following courses:

- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTWR 211g The Television Writer: An Agent of Change Units: 4
- IML 295Lm Race, Class and Gender in Digital Culture Units: 4

Electives, Group I

Choose 14 units from the following courses:

- CTAN 470 Documentary Animation Production Units: 2
- CTIN 479 Documentary and Activist Games Units: 2
- CTPR 459 Introduction to Media and Social Change Units: 4
- CTPR 474 Documentary Production Units: 4
- CTWR 402 Writing and Social Change Units: 2
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4

Electives, Group II

Choose 4 units from the following courses:

- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 408 Contemporary Political Film and Digital Media Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4

Science Visualization Minor

The minor in science visualization offers an introduction to science visualization methodology and practice focused in an area of relevant research. The minor is structured to provide the skills and knowledge needed in science visualization, and will culminate in a capstone project under the close supervision of faculty in both animation and science. The program requires 16 units.

Most students will enter the minor in science visualization program in their sophomore year at USC.

Application Procedures

An undergraduate student at USC may apply to the minor in science visualization if he or she is in good standing and maintaining normal degree progress.

Students should apply after they have completed CTAN 330 with a "B" or better in the course. A signature of support from the CTAN 330 professor is required. Applications and admission information can be obtained from the USC School of Cinematic Arts, Animation and Digital Arts Office SCB 210 (213) 740-3986.

Science visualization minor applications are reviewed by a panel of faculty members, with admissions made for the following fall semester only. A maximum of 12 students will be admitted per year.

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Course Requirements

The following courses are to be taken in the prescribed sequential order, starting with CTAN 330 and finishing with CTAN 423, the capstone class. Sixteen units of course work are required.

Courses

- ART 442 Art and Technology Units: 4
- CTAN 330 Animation Fundamentals Units: 2

Four units from the following list:*

- CTAN 432 The World of Visual Effects Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2 **
- CTAN 450a Animation Theory and Techniques Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTAN 455L Organic Modeling for Animation Units: 2
- CTAN 462 Visual Effects Units: 2
- CTAN 464L Digital Lighting and Rendering Units: 2 **
- CTAN 465L Digital Effects Animation Units: 2 **
- IML 400 Creative Coding for the Web Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 466 Digital Studies Symposium Units: 2

Note:

**Juniors or seniors with a 3.0 GPA in good standing may elect to take graduate courses CTAN 508L (2), CTAN 564L (2) and CTAN 565L (2). Prerequisite required.*

Four units from the following list:

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- AHIS 429 Studies in Art, Science, and Technology Units: 4
- AHIS 477 Studies in Visual and Material Culture Units: 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- BISC 307L General Physiology Units: 4 **
- BISC 419L Environmental Microbiology Units: 4 **
- BISC 427 The Global Environment Units: 4 **
- BISC 483 Geobiology and Astrobiology Units: 4 **
- ENGL 375 Science Fiction Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 450L Geosystems Units: 4 **
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4
- PSYC 420 Animal Behavior Units: 4 **

Two unit capstone course:

- CTAN 423L Principles of Digital Animation: Visualizing Science Units: 2

Note:

***Prerequisite required.*

Screenwriting Minor

The minor in screenwriting is designed to train students in the creatively challenging field of writing for screen and television. Students learn the fundamentals of writing for film and television with the opportunity to specialize in writing feature length screenplays, teleplays in both drama and comedy, or analysis of the craft of screenwriting.

Application Procedures

To apply to the minor in screenwriting, a student must be in good academic standing, have a declared major, and be currently enrolled in or have completed with a passing grade CTWR 412 Introduction to Screenwriting.

Applications and information can be obtained at the Writing Division office, SCA 335, (213) 740-3303 and online at cinema.usc.edu.

Course Requirements for the Minor

The minor in screenwriting is a specialized course of study for students who desire a solid foundation in the craft of screenwriting. A total of 16 units is required to complete the screenwriting minor, 8 units from four fundamental courses and 8 units of electives.

Fundamentals And Feature Development (8 Units)

- CTWR 321 Introduction to Hour-Long Television Writing Units: 2 *
- CTWR 324 Introduction to Half-Hour Television Writing Units: 2 *
- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 415a Advanced Writing Units: 2 *
- CTWR 416 Motion Picture Script Analysis Units: 2
  *Prerequisite Required.

Total units: 8

Additional Electives (8 Units)

- CTWR 404 Foundations of Comedy Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 415b Advanced Writing Units: 2
  *
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 421 Writing the Hour-Long Dramatic Series Units: 2 max 4
  *
- CTWR 422 Creating the Dramatic Television Series Units: 2 max 4
- CTWR 430 The Writer in American Cinema and Television Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2 max 6
  *
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8
  *
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 max 8
  *
- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4 max 8
  *
- CTWR 441 Writing Workshop in Creativity and Imagination Units: 2
- CTWR 453 Advanced Feature Rewriting Units: 4
  *
- CTWR 459a Entertainment Industry Seminar Units: 2
- CTWR 459b Entertainment Industry Seminar Units: 2
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8
  *
- CTWR 499 Special Topics Units: 2, 3, 4 max 8
  *Prerequisite Required

Additional Requirements

Grade Point Averages

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

Graduate Courses

Students may not apply more than 16 units of graduate level course work toward their university degree.

Themed Entertainment Minor

Who designs theme parks, museums, fireworks shows, water fountain spectaculars and parades? Themed entertainment designers do. From cruise ships to casinos to immersive educational retreats, they design almost anything that involves submerging a real, live human being into a story in a truly robust, physical way. As new tools for entertainment and education develop, they continually push toward one, common goal: a single place where movies, games, theme parks and museums converge. It is a non-dystopian kind of Westworld where we truly and completely become the heroes and heroines of our own stories. And it is the ultimate adventure because there is nothing (at least nothing that we notice) between our full, physical selves and the stories we want to live.

To be eligible for the themed entertainment minor, a student must be in good academic standing and have a declared major. To declare the themed entertainment minor a student must get permission from the Interactive Media and Games Division (SCI 201) and submit a Change of Major/Minor form to Cinematic Arts Student Services (SCB 105).

Course Requirements for the Minor:

A total of 24 units is required for the themed entertainment minor: 4 lower-division units and 20 upper-division units.

Lower-Division Core Units (4 Units)

- CTIN 191 Survey of Themed Entertainment Units: 4

Upper-Division Core Units (14 Units)

- CTIN 452L Themed Entertainment Design Units: 4
- CTIN 456 Game Design for Business Units: 2
- CTPR 456 Introduction to Art Direction Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4

Electives (6 Additional Units)

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 430 Global Entertainment Units: 4
- CTAN 420 Concept Design for Animation Units: 2
- CTAN 460 Character Design Workshop Units: 2
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 492L Experimental Game Topics Units: 4
- CTPR 423 Introduction to Special Effects in Cinema Units: 2
- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2

Grade Point Average Requirement

A minimum grade of C (2.0) in each course is required. A grade of C- (1.7) or lower does not fulfill a minor requirement.

University Certificate

Business of Entertainment Graduate Certificate

The graduate certificate in the business of entertainment program provides graduate-level education in various aspects of the business of film, television, and new media.

Select 16 units from the following:

Courses (16 Units)

- CNTV 521 The World of the Producer Units: 4
- CNTV 522 The Television Industry: Networks, Cable and the Internet Units: 4
- CNTV 523 Feature Film Financing and the Studio System Units: 4
- CNTV 524 Digital Technologies and the Entertainment Industry Units: 4
- CNTV 525 Entertainment Marketing in Today's Digital Environment Units: 4
- CNTV 589 Graduate Film Seminar Units: 2 or 4 max 8
- CTPR 561 Publicity for Cinema and Television Units: 4
- CTPR 562 Seminar in Motion Picture Business Units: 2 or 4 max 8

- CTPR 563 The Business of Representation Units: 4

Note:

Successful completion of a graduate certificate program is acknowledged by a certificate awarded by the university. Admission to the graduate certificate in the business of entertainment program is only open to current USC graduate students. Courses credited to graduate certificate programs may be completed in conjunction with course work required for a graduate degree program in which the student is already enrolled. Applicability of courses to the student's primary degree program is determined by the student's home department.

Applicants must have earned an undergraduate degree with at least a 3.0 GPA. For further information contact the School of Cinematic Arts Office of Student-Industry Relations, SCA 235, (213) 740-4432.

The John C. Hench Division of Animation and Digital Arts

The John C. Hench Division of Animation and Digital Arts is an international and multicultural program focusing on animation in all its forms. The fundamental philosophy of the program strongly encourages innovation and experimentation, and emphasizes imagination, creativity and critical thinking.

Bachelor's Degree

Animation and Digital Arts (BA)

The Bachelor of Arts in Animation and Digital Arts is a unique four-year program granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within the framework that combines a broad liberal arts background with specialization in a profession. Areas of concentration might include character animation, experimental animation, visual effects, 3-D computer animation, science visualization and interactive animation.

Undergraduate students take their pre-professional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including a minimum of 16 lower-division units and a minimum of 26 upper-division units in Cinematic Arts.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Required Courses

- ART 110 Drawing for Art and Design Units: 4
- CNTV 101 Reality Starts Here Units: 2
- CTAN 101L Introduction to the Art of Animation Units: 2
- CTAN 102L Introduction to the Art of Movement Units: 2
- CTAN 201L Intermediate Animation Production Units: 3
- CTAN 202L Introduction to 3-D Character Animation Units: 3
- CTAN 301L 3-D Character Performance Animation Units: 3
- CTAN 302L Expanded Concepts in 2-D/3-D Animation Units: 3
- CTAN 305 Professionalism of Animation Units: 2
- CTAN 336 Ideation and Pre-Production Units: 2
- CTAN 401a Senior Project Units: 4
- CTAN 401b Senior Project Units: 4
- CTAN 432 The World of Visual Effects Units: 2
- CTAN 436 Writing for Animation Units: 2
- CTAN 451 History of Animation Units: 2

- CTCS 190g Introduction to Cinema Units: 4 or
- CTCS 201 History of the International Cinema II Units: 4

One course must be taken from the following list:

- CTAN 496 Directed Studies Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Two units must be selected from the following list:

USC Dornsife College of Letters, Arts and Sciences — Physical Education

- PHED 104a Self-Defense Units: 1
- PHED 104b Self-Defense Units: 1
- PHED 120a Yoga Units: 1
- PHED 120b Yoga Units: 1

USC Kaufman School of Dance

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

USC School of Dramatic Arts

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 216 Movement for Actors Units: 2

One course must be taken from the following list:

- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Total units: 52

Additional Requirements

Areas of Concentration

Areas of concentration might include character animation, experimental animation, 3-D computer animation, visualizing science, interactive animation and visual effects. Students work in consultation with the undergraduate coordinator and faculty to help them decide their course of study while at USC.

Senior Project

In the spring semester of their third year students develop their senior project through CTAN 336 Ideation and Pre-Production under the guidance of the lecturer. This project will focus on an area of concentration studied throughout the BA by the student. At the end of this class, students present their senior project concepts for review to the Division of Animation and Digital Arts faculty. Progression into CTAN 401a, CTAN 401b is contingent upon faculty committee approval.

In the final year, students concentrate on their senior projects, completing production and post-production. The student's project will be presented to the committee upon completion.

Completion is defined as a fully rendered, animated piece with a completed sound track. In the case of installation work, the piece must be mounted in a suitable space with all sound and animated

components completed and functional.

In the case of an interactive work, the piece must be fully functional with completed animation, sound and interactivity.

In addition to completion of the senior project, the student must provide the faculty committee with written and visual documentation of the research. This can be documented as a publishable paper (2,000 words), Website or interactive DVD.

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTAN 101, CTAN 102, CTAN 201, CTAN 202, CTAN 301, CTAN 302 or CTAN 401a, CTAN 401b after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Animation and Digital Arts Division Office, University Park, Los Angeles, CA 90089-2211, (213) 740-3986, or online at *anim.usc.edu*.

International Program

John C. Hench Animation and Digital Arts offers a fall semester abroad at Studio Art Centers International (SACI) in Florence, Italy. BA students will be required to take equivalent classes in animation and digital media while also benefiting from the wide range of liberal arts courses offered at SACI.

Master's Degree

Animation and Digital Arts (MFA)

The Master of Fine Arts degree in Animation and Digital Arts is a three-year (six semester) graduate program designed for students who have clearly identified animation and digital art as their primary interest in cinema. The program focuses on animation production, including a wide range of techniques and aesthetic approaches, from hand-drawn character animation to state-of-the-art interactive digital animation. While embracing traditional forms, the program strongly encourages innovation and experimentation, and emphasizes imagination, creativity and critical thinking. Students should graduate with a comprehensive knowledge of animation from conception through realization; an understanding of the history of the medium and its aesthetics; in-depth knowledge of computer animation software and the most important elements of digital and interactive media.

The program requires a minimum of 50 units: 32 units are in prescribed, sequential courses in the School of Cinematic Arts. The other 18 units are cinematic arts electives, 4 of which must be taken in the Division of Critical Studies. A thesis is required for the MFA degree. Ongoing workshops in new technologies, traditional and digital media provide additional educational opportunities for students.

Admission is granted once a year in the fall; there are no spring admissions. Approximately 14 students will be enrolled in each incoming class. In addition to practical production, the program also provides opportunities for fieldwork experience and internships to facilitate the student's transition into the profession. Prior knowledge of fundamental digital animation concepts and techniques is recommended.

Applicants for the MFA in Animation and Digital Arts must apply online. For specific instructions, including deadline information, please visit *cinema.usc.edu*.

The Graduate School Two-Thirds Rule

The school requires 50 units minimum to graduate from the MFA in Animation and Digital Arts program, and two-thirds must be at the 500 level, not including 4 units of CTAN 594a Master's Thesis CTAN 594b Master's Thesis.

Requirements for the MFA in Animation and Digital Arts

Year One, First Semester

- CTAN 451 History of Animation Units: 2
- CTAN 522 Animation Department Seminar Units: 1
- CTAN 544 Introduction to the Art of Animation Units: 3
- CTAN 577a Fundamentals of Animation Units: 2
- CTAN 579 Expanded Animation Units: 2

Year One, Second Semester

- CTAN 522 Animation Department Seminar Units: 1
- CTAN 536 Storytelling for Animation Units: 2
- CTAN 547 Animation Production I Units: 3
- CTAN 577b Fundamentals of Animation Units: 2
- Elective*

Year Two, First Semester

- CTAN 522 Animation Department Seminar Units: 1
- CTAN 555 Animation Design and Production Units: 4
- Elective*

Year Two, Second Semester

- CTAN 505 The Business of Animation Units: 2
- CTAN 522 Animation Department Seminar Units: 1
- CTAN 591 Animation Pre-Thesis Seminar Units: 2
- Elective*

Year Three, First Semester

- CTAN 594a Master's Thesis Units: 2

Year Three, Second Semester

- CTAN 594b Master's Thesis Units: 2

Total required units: 32

**A minimum total of 18 elective units must be taken.*

Cinematic Arts Electives

To complete the 50 units required for the MFA in Animation and Digital Arts, students are required to take a minimum of 18 School of Cinematic Arts elective units. Four of those units must be taken from the following Critical Studies courses:

Electives

- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4
- CTCS 587 Seminar in Television Theory Units: 4
- CTCS 673 Topics in Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4 max 8
- CTCS 679 Seminar in Genre and/or Narrative Theory Units: 4

Additional Requirements

Thesis Project

In order to begin work on the thesis project, students must first successfully propose their project to a committee of MFA animation and digital arts program faculty. Their proposal is prepared during the spring semester of their second year as part of their pre-thesis class CTAN 591.

In order to pass the pre-thesis class, the thesis proposal must be presented and approved by the thesis committee at the end of the fourth semester. Students cannot change their approved thesis project after the completion of CTAN 591. Throughout the pre-thesis and thesis years of study, students will meet regularly with an MFA animation and digital arts faculty adviser(s) and thesis committee to develop and refine the proposal and discuss the progress of their work. The adviser(s) will be a member of the thesis committee.

The proposal itself will include a written treatment of the project with a discussion of similar work in the field and its relationship to the proposed project. It will describe aesthetic issues to be explored and specific techniques to be employed in its realization. It will also include a storyboard or visualization, budget and schedule, in addition to supporting materials created by the student demonstrating his/her ability to pursue the project. The thesis committee will make comments and decide whether the student may go forward with his/her project. Upon acceptance, the student will begin work on the project, otherwise revising the proposal and meeting again with the committee.

A mid-residency review of the thesis project will take place in the first semester of the final year of study. The student must show that deadlines set in the proposal have been met and that progress consistent with the proposal has been made. The committee may, if necessary, suggest modifications to the project, which the student is then obligated to implement.

In the final year, students concentrate on their thesis projects, completing production and post-production. The student's thesis will be presented to the committee upon completion.

Completion is defined as a fully rendered, animated piece with a completed sound track (guide mix acceptable). In the case of live action and visual effects projects, at least 70 percent of the final film must be animated. In the case of installation work, the piece must be mounted in a suitable space with all sound and animated components completed and functional. In the case of an interactive work the piece must be fully functional with completed animation, sound and interactivity.

In addition to completion of the thesis project, the student must provide the thesis committee with written and visual documentation of the research. This will be documented as a Website or interactive DVD. The documentation comprises the following and should include a publishable research paper: synopsis; artist's statement and research paper; learning objectives — focus of research; type of project — animation, installation, interactive, etc.; research presentation in the format/medium in which the project is to be seen; script and storyboard or conceptual drawings if applicable; style approach, including source references for image shot structure, etc.; sound design and references; collaborators — if any; audience — who it is intended for and who will benefit from the research; budget; marketing and distribution plan.

Criteria for successful completion include: 40 percent originality, 40 percent quality of execution and 20 percent quality of research documentation.

Grade Point Average Requirements

A grade point average of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree. Courses below a C must be repeated.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

The Bryan Singer Division of Cinema and Media Studies

The Bryan Singer Division of Cinema and Media Studies of the School of Cinematic Arts offers programs leading to the Bachelor of Arts, Master of Arts and Doctor of Philosophy degrees. This comprehensive curriculum includes courses that analyze the power and responsibility of American and international film and television and new media technologies from formal/aesthetic, historical, economic and ideological perspectives.

The division is committed to understanding media texts and practices in relation to the world they represent; it studies not only the meanings of these texts but also the processes by which these meanings are constructed.

Applicants for the BA or MA or PhD degrees must submit the supplemental application and materials to the Cinema and Media Studies Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358, or online at cinema.usc.edu.

Bachelor's Degree

Cinema and Media Studies (BA)

The Bachelor of Arts degree in Cinema and Media Studies is granted by the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Undergraduate students take their preprofessional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including 28 lower-division and 24 upper-division units in cinematic arts. A maximum of 40 School of Cinematic Arts upper-division units will apply to the BA degree. Before graduating, cinema and media studies majors are encouraged to take at least one small non-lecture class that emphasizes student critical writing or research papers. This category may include (but is not limited to): CTCS 402, CTCS 411, CTCS 412, CTCS 414, sections of CTCS 464 or CTCS 469 that require a D clearance, CTCS 494, and CTCS 495.

Required Production Course

Undergraduates admitted to the Cinema and Media Studies Program are required to take CTPR 290 Cinematic Communication. CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Required Courses

- CNTV 101 Reality Starts Here Units: 2
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 191 Introduction to Television and Video Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTCS 473 Film and Media Theory Units: 4
- CTPR 290 Cinematic Communication Units: 4, 6

One course from the following:

- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4

Four courses from the following:

- CTCS 367 Global Media Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4

- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTCS 494 Advanced Cinema and Media Studies Seminar Units: 4
- CTCS 495 Honors Seminar Units: 4 *

Note:
Honors students only.

Additional Requirements

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not satisfy a major requirement.

Honors Program

Cinema and Media Studies offers an honors track for advanced students. Admission to the honors track is made at the end of the junior year and requires a 3.5 overall GPA. Completion of the honors track is dependent upon successful completion of a designated honors section of CTCS 495 during the senior year. In this course, students will work with faculty in a seminar environment and produce an advanced term paper based on original research and analysis.

Limitations on Enrollment

No more than 40 upper-division units can be taken within the major without prior approval of the Dean, USC Dornsife College of Letters, Arts and Sciences.

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an academic adviser every semester to review their progress. Contact the Cinematic Arts Student Services Office, SCB 105, (213) 740-8358, for an appointment.

Master's Degree

Cinema and Media Studies (MA)

The Master of Arts degree in Cinema and Media Studies is administered through the Graduate School. Candidates for the degree are subject to the general requirements of the Graduate School (see The Graduate School section). Thirty-six units are required at the 400 level or higher, including a comprehensive examination. At least two-thirds of these units must be at the 500 level or higher.

Media Production and Practice Courses

Each graduate student must pass one of the following 4-unit media production and practice classes with a grade of C or better. These courses provide a basic primer in media production and practice considered necessary for graduate studies in the program, so students can have a working knowledge of techniques and methods.

- CTIN 534L Experiments in Interactivity I Units: 4
- CTPR 507 Production I Units: 4
- IML 501L Seminar in Contemporary Digital Media Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 (4 units only)

Required Courses

- CTCS 500 Seminar in Film Theory Units: 4
- CTCS 506 Critical Studies Colloquium/Professional Seminar Units: 2
- CTCS 587 Seminar in Television Theory Units: 4

Three of the following:

- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2

Two of the following:

- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4

Note:
In addition, 8 units of cinematic arts electives are required.

Additional Requirements

Comprehensive Examination

As the final requirement for the MA degree, the comprehensive examination will be taken in the final spring semester of course work. There is no thesis option. The examination will consist of written responses to three questions selected from a list of fields, the appropriate fields chosen with the guidance of a faculty adviser.

If the student has completed all course work and is only taking the comprehensive examination, he or she must register in GRSC 810 Studies for Master's Examination.

Grade Point Average Requirements

A grade point average of 3.0 must be maintained in all graduate-level course work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Policies

The following policies apply to each student admitted to the MA program:

Students must maintain full-time enrollment except in a case of emergency in which the student can petition the department to enroll in fewer units.

Students who do not earn the minimum grade of B (3.0) in CTCS 500 or satisfy the degree requirements after repeating a required course will be disqualified from the program.

Time Limit

Although students are normally expected to complete the degree in two years, the degree must be completed within five years of the beginning of graduate work at USC.

Curriculum Review

At the beginning of their matriculation, and each semester thereafter, each MA candidate will confer with a designated faculty adviser who will monitor the student's progress.

University Certificate

Cinematic Arts Archiving and Preservation Graduate Certificate

The Graduate Certificate in Cinematic Arts Archiving and Preservation is open to all USC graduate students interested in the history and preservation of film, television and digital media. The certificate is designed specifically for students and practitioners who want to use their education and skills for advancing the knowledge of media through the preservation and dissemination of the historical artifacts that form the underpinnings of scholarship in the performing arts. Through this certificate, students will gain the knowledge, tools and skills necessary to preserve the materials that make up the history of entertainment and to lead scholars through the research process to the completion of books or media in their fields of study.

The Cinema and Media Studies Archival Certificate consists of 12 units, two 4-unit classes and two 2-unit internships. For more information please contact the Bryan Singer Division of Cinema and Media Studies SCA 320, 213-740-3334.

Certificate Requirements

- CTCS 520 Film History Through the Archives and Special Collections Units: 4
- CTCS 521 Media Archiving: History and Practice Units: 4
- CNTV 595 Professional Practicum Units: 1, 2, 4 *
  * CNTV 595 Must be taken twice for 2 units each.

Doctoral Degree

Cinema and Media Studies (PhD)

The degree of Doctor of Philosophy in Cinema and Media Studies is administered through the Graduate School. The PhD program is tailored to the individual student's particular needs and interests. The overall course of study will be designed by the student, the student's designated adviser and, following the screening procedure, the student's qualifying exam committee chair (see Screening Procedure under Media Production and Practice Courses).

Degree Requirements

Each PhD candidate must complete 68 units beyond the bachelor's degree, 43 of which must be at the 500 level or higher. (Up to 30 units may be transferred from graduate work completed at other institutions.) Dissertation units are not counted toward the 68-unit total. The required units will include seven to 12 courses in cinematic arts and 8 to 16 units in the minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field that supports the student's dissertation topic. Each student must complete the following course work toward the 68-unit total.

These courses should be taken before the screening procedure.

- CTCS 500 Seminar in Film Theory Units: 4
- CTCS 506 Critical Studies Colloquium/Professional Seminar Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Media Production and Practice Courses

Each candidate for the PhD must complete one of the following 4-unit courses with a grade of C or better. If the student enters the program with a master's degree in cinematic arts and possesses production experience, the student may request a waiver of this requirement. The waiver requires passing a written examination and submission of films/videos to the production faculty for review. This course should be taken before the screening procedure.

- CTIN 534L Experiments in Interactivity I Units: 4
- CTPR 507 Production I Units: 4
- IML 501L Seminar in Contemporary Digital Media Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4 (4 units only)

Two of the following:

- CTCS 673 Topics in Theory Units: 4
- CTCS 677 Cultural Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4
- CTCS 679 Seminar in Genre and/or Narrative Theory Units: 4
- CTCS 688 Moving Image Histories: Methods and Approaches Units: 4

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. This procedure is designed to review the student's suitability for continuing in the chosen PhD program. The School of Cinematic Arts has determined that this procedure will occur no later than the end of the student's third semester of graduate course work at USC beyond the master's degree. The screening procedure process will include the following steps:

1. If the faculty has determined during the admissions process that a comprehensive examination will be required as part of the screening procedure, an examination will be administered as appropriate. If the examination is passed to the faculty's satisfaction, the student may proceed to the next step in the screening procedure process. If the student fails to pass the examination, the faculty will determine if the student will be allowed to retake the examination the following semester before proceeding to the next step in the screening procedure process.
2. The student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if the student will be approved for additional course work. If approved to continue, a qualifying exam committee chair will be selected by the student, with the approval of the faculty, who will serve as the student's adviser. It is strongly recommended that full-time study be pursued following the successful completion of the screening procedure.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Cinema and Media Studies faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinema and Media Studies, the committee is ordinarily composed of four Cinema and Media Studies faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Cinema and Media Studies faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Dissertation Proposal Presentation

Working closely with the qualifying exam committee chair, the student will prepare to present his or her dissertation proposal to the full faculty. This will be a formal written proposal that will include a statement of the proposed topic, four fields for examination derived from the general dissertation topic area (including a field from the minor area), a detailed bibliography, and an appropriate and comprehensive screening list of film/television titles. Formal presentation of the dissertation proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic. Once the dissertation topic has been approved, the student will complete the Request to Take the PhD Qualifying Examination form available from the program coordinator.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also grade the examination. The qualifying examination comprises four examinations administered one each day for four days during a five-day period.

The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for the PhD degree after: (1) passing the screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable; (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Graduate School.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation based on original investigation and showing technical mastery of a special field, capacity for research and scholarly ability must be submitted.

CTCS 794

Registration for dissertation units, CTCS 794a and CTCS 794b, in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied toward the required 68 unit total. The student must register for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leaves of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the semester before the leave is to be taken. Refer to "Leave of Absence" in the Graduate and Professional Education section.

Changes of Committee

Changes in either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School Website.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student. When petitions are granted, students will be required to make additional CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

Cinematic Arts (Critical Studies) (PhD)

The degree of Doctor of Philosophy with an emphasis in Critical Studies is administered through the Graduate School. The PhD program is tailored to the individual student's particular needs and interests. The overall course of study will be designed by the student, the student's designated adviser and, following the screening procedure, the student's qualifying exam committee chair (see Screening Procedure under Graduate Preparation Production Courses).

Admission

A bachelor's or master's degree in cinematic arts, or a closely related field, is required for admission to the PhD program. Applicants with only a bachelor's degree must successfully fulfill all of the USC Critical Studies MA degree requirements as part of the degree program (see Screening Procedure).

Course Requirements

Each PhD candidate must complete 68 units beyond the bachelor's degree, 43 of which must be at the 500 level or higher. (Up to 30 units may be transferred from graduate work completed at other institutions.) Dissertation units are not counted toward the 68-unit total. The required units will include seven to 12 courses in cinematic arts and 8 to 16 units in the minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field which supports the student's dissertation topic. Each student must complete the following course work toward the 68 unit total:

1. *CTCS 500*, *CTCS 506*, *CTCS 510*, *CTCS 587*, *CTPR 507*. These courses should be taken before the screening procedure.
2. *Two of the following: CTCS 673*, *CTCS 677*, *CTCS 678*, *CTCS 679*, *CTCS 688*. These courses should be taken before the qualifying examination.

Graduate Preparation Production Course

Each candidate for the PhD must complete CTPR 507 Production I 4 with a grade of C or better. If the student enters the program with a master's degree in cinematic arts and possesses production experience, the student may request a waiver of this requirement. The waiver requires passing a written examination and submission of films/videos to the production faculty for review.

CTPR 507 Production I 4 is designed to introduce the fundamental principles of motion picture production. The course also introduces students to visual and auditory communication and individual filmmaking. Each student makes several non-dialogue personal projects, serving as writer, producer, director, cinematographer, sound designer and editor and takes a crew role on a collaborative project. Projects are shot on digital cameras and edited on non-linear systems. Approximately $1,200 should be budgeted for miscellaneous expenses, lab and insurance fees. This course should be taken before the beginning of the screening procedure.

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. This procedure is designed to review the student's suitability for continuing in the chosen PhD program. The School of Cinematic Arts has determined that this procedure will occur no later than the end of the student's third semester of graduate course work at USC beyond the master's degree. The screening procedure process will include the following steps:

1. If the faculty has determined during the admissions process that a comprehensive examination will be required as part of the screening procedure, an examination will be administered as appropriate. If the examination is passed to the faculty's satisfaction, the student may proceed to the next step in the screening procedure process. If the student fails to pass the examination, the faculty will determine if the student will be allowed to retake the examination the following semester before proceeding to the next step in the screening procedure process.
2. The student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if

the student will be approved for additional course work. If approved to continue, a qualifying exam committee chair will be selected by the student, with the approval of the faculty, who will serve as the student's adviser. It is strongly recommended that full-time study be pursued following the successful completion of the screening procedure.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Critical Studies faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Critical Studies), the committee is ordinarily composed of four Critical Studies faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Critical Studies faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Dissertation Proposal Presentation

Working closely with the qualifying exam committee chair, the student will prepare to present his or her dissertation proposal to the full faculty. This will be a formal written proposal which will include a statement of the proposed topic, four fields for examination derived from the general dissertation topic area (including a field from the minor area), a detailed bibliography, and an appropriate and comprehensive screening list of film/television titles. Formal presentation of the dissertation proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic. Once the dissertation topic has been approved, the student will complete the Request to Take the PhD Qualifying Examination form available from the program coordinator.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also grade the examination. The qualifying examination comprises four examinations administered one each day for four days during a five-day period.

The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for the PhD degree after: (1) passing the screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable; (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Graduate School.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation based on original investigation and showing technical mastery of a special field, capacity for research and scholarly ability must be submitted.

CTCS 794

Registration for dissertation units, CTCS 794a and CTCS 794b , in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied toward the required 68 unit total. The student must register for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leaves of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the semester before the leave is to be taken. Refer to "Leave of Absence" in the Graduate and Professional Education section.

Changes of Committee

Changes in either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School Website.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student. When petitions are granted, students will be required to make additional CTCS 794a, CTCS 794b, CTCS 794c, CTCS 794d, CTCS 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

Film and Television Production

The Division of Film and Television Production of the School of Cinematic Arts offers programs leading to the Bachelor of Arts, the Bachelor of Fine Arts and the Master of Fine Arts degrees.

The primary goals of the degree programs in film and television production are to develop the student's ability to express original ideas on film or video and to instill a thorough understanding of the technical and aesthetic aspects of motion pictures and television. Courses in production provide individual and group filmmaking experiences and the opportunity to learn all aspects of filmmaking in a collaborative environment.

Bachelor's Degree

Cinematic Arts, Film and Television Production (BA)

The Bachelor of Arts in Cinematic Arts, Film and Television Production is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within a framework which combines a broad liberal arts background with specialization in a profession. Bachelor of Arts students are enrolled in the USC Dornsife College of Letters, Arts and Sciences, where they take their preprofessional courses, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including 16 lower-division units and 26 upper-division units in Cinematic Arts. A maximum of 40 School of Cinematic Arts upper-division units will apply to the BA degree.

Applicants must submit a supplemental application and materials to the Undergraduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing.

Production Sequence

Candidates for the Bachelor of Arts degree in Cinematic Arts, Film and Television Production are required to take CTPR 294 Directing in Documentary, Fiction and New Media and CTPR 295 L Cinematic Arts Laboratory the first semester they are enrolled in the program. These courses are taken in preparation for the next phase of the production sequence, CTPR 310 Intermediate Production.

In CTPR 294, students explore the basic concepts of directing in television, documentary and dramatic narrative by working with actors, documentary production and the creation of short television projects.

In CTPR 295, students study the aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound and editing.

CTPR 310 Intermediate Production is the second phase of the production sequence. In this workshop, students work in small crews, learning to collaborate and explore the expressive principles of visual and audio communication; idea development and realization using image, movement, pace, the spoken word and other sounds. Most equipment and materials are provided by the school; however, approximately $2,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

To qualify for enrollment in CTPR 310, students must fulfill all requirements outlined in the guidelines distributed in CTPR 294.

Following CTPR 310, students must take CTPR 450 The Production and Post-Production Assistant, and refine their areas of interest by taking advanced-level practicum courses within the major disciplines of production: directing, editing, cinematography, sound, producing and production design. Thereafter students complete the final phase of the production sequence by taking one of the following courses: CTAN 448, CTPR 480, CTPR 484 or CTPR 486.

CTAN 448 Introduction to Film Graphics — Animation is a practical course in concepts, media and techniques related to the graphic film.

In CTPR 480 Advanced Production Workshop, production students form crews in which directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver a fictional narrative, documentary or experimental project in one semester.

Equipment and facilities are provided by the school. There are extra personal expenses associated with all production workshops.

To qualify for enrollment in CTPR 480, students must fulfill all requirements outlined in the CTPR 480 guidelines distributed in CTPR 450.

CTPR 484 Advanced Multi-Camera Television Workshop is a class in which students will produce a half-hour situation comedy pilot in one semester.

CTPR 486 Single Camera Television Dramatic Series (recommended preparation: CTPR 479) is a class in which students collaborate on the production and post-production of an original episodic drama, 44 minutes in length, that is shot on original sets.

CTPR 310, CTPR 480, CTPR 484 and CTPR 486 cannot be waived or substituted with another course or transfer credit under any circumstances.

Course Requirements

- CTCS 190g Introduction to Cinema Units: 4

- CTCS 200g History of the International Cinema I Units: 4 or
- CTCS 201 History of the International Cinema II Units: 4

- CTPR 294 Directing in Documentary, Fiction and New Media Units: 4
- CTPR 295L Cinematic Arts Laboratory Units: 4
- CTPR 310 Intermediate Production Units: 4, 6
- CTPR 450 The Production and Post-Production Assistant Units: 2
- CTWR 413 Writing the Short Script I Units: 2

and a choice of:

- CTWR 411 Television Script Analysis Units: 2
- CTWR 414 The Screenplay Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

One of the following critical studies courses:

- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Three of the following production practicum courses:

- CTPR 421 Practicum in Editing Units: 2
- CTPR 424 Practicum in Cinematography Units: 2
- CTPR 438 Practicum in Producing Units: 2
- CTPR 440 Practicum in Sound Units: 2 max 4
- CTPR 465 Practicum in Production Design Units: 2
- CTPR 478 Practicum in Directing Units: 2

One of the following courses:

- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTPR 480 Advanced Production Workshop Units: 4 max 12
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Single Camera Television Dramatic Series Units: 4

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTPR 294, CTPR 295 and CTPR 310 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

No more than 40 upper-division units can be taken in the major without approval of the dean, USC Dornsife College of Letters, Arts and Sciences.

Registration in graduate level courses (numbered 500) for undergraduate credit requires prior approval of the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Student Services Office (SCB 105), (213) 740-8358, for an appointment.

Cinematic Arts, Film and Television Production (BFA)

The Bachelor of Fine Arts in Cinematic Arts, Film and Television Production is a unique four-year program, offered by the School of Cinematic Arts, that combines a liberal arts background with comprehensive specialization in a profession. Students are provided an intensive production experience combined with requirements and electives from other School of Cinematic Arts programs including Critical Studies, Writing, Animation and Interactive Media. The degree requires 128 units, including 64 units in Cinematic Arts, many of which are taken in a sequential order.

Applicants must submit a supplemental application and materials to the Undergraduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing.

Production Sequence

Candidates for the Bachelor of Fine Arts degree in Film and Television Production are required to take CTPR 285 Lateral Thinking for Filmmaking Practice, CTPR 290 Cinematic Communication, CTPR 294 Directing in Documentary, Fiction and New Media and CTPR 295 L Cinematic Arts Laboratory. These courses are taken in the first two years of the program in preparation for the next phase of the production sequence, CTPR 310 Intermediate Production.

CTPR 285 introduces contemporary concepts of production, emphasizing the variety of contemporary media and significant related concepts. Students will create mini-projects using laptops, phones and networks.

CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

In CTPR 294, students explore the basic concepts of directing in television, documentary and dramatic narrative by working with actors, documentary production and the creation of short television projects.

In CTPR 295, students study the aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound and editing.

CTPR 310 Intermediate Production is the second phase of the production sequence. In this workshop students work in small crews, learning to collaborate and explore the expressive principles of visual and audio communication; idea development and realization using image, movement, pace, the spoken word and other sounds. Most equipment and materials are provided by the school; however, approximately $2,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

To qualify for enrollment in CTPR 310, students must fulfill all requirements outlined in the CTPR 310 guidelines distributed in CTPR 294.

Following CTPR 310, students must take CTPR 450 The Production and Post-Production Assistant, and refine their areas of interest by taking advanced-level practicum courses within the major disciplines of production: directing, editing, cinematography, sound, producing and production design. Thereafter students complete the final phase of the production sequence by taking one of the following courses: CTPR 480, CTPR 484 or CTPR 486.

In CTPR 480 Advanced Production Workshop, production students form crews in which directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver a fictional narrative, documentary or experimental project in one semester.

Equipment and facilities are provided by the school. There are extra personal expenses associated with all production workshops.

To qualify for enrollment in CTPR 480, students must fulfill all requirements outlined in the CTPR 480 guidelines distributed in CTPR 450.

CTPR 484 Advanced Multi-Camera Television Workshop is a class in which students will produce a half-hour situation comedy pilot in one semester.

CTPR 486 Single Camera Television Dramatic Series is a class in which students collaborate on the production and post-production of an original episodic drama, 44 minutes in length, that is shot on original sets.

CTPR 285, CTPR 290, CTPR 294, CTPR 295, CTPR 310, CTPR 480, CTPR 484 and CTPR 486 cannot be waived or substituted with another course or transfer credit under any circumstances.

Course Requirements

- CNTV 101 Reality Starts Here Units: 2
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTPR 285 Lateral Thinking for Filmmaking Practice Units: 2
- CTPR 290 Cinematic Communication Units: 4, 6
- CTPR 294 Directing in Documentary, Fiction and New Media Units: 4
- CTPR 295L Cinematic Arts Laboratory Units: 4
- CTPR 310 Intermediate Production Units: 4, 6
- CTPR 450 The Production and Post-Production Assistant Units: 2
- CTWR 413 Writing the Short Script I Units: 2
- CTWR 414 The Screenplay Units: 2

and a choice of:

- CTWR 411 Television Script Analysis Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

One of the following critical studies courses:

- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTCS 402 Practicum in Film/Television Criticism Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4

- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4

Three of the following production practicum courses:

- CTPR 421 Practicum in Editing Units: 2
- CTPR 424 Practicum in Cinematography Units: 2
- CTPR 438 Practicum in Producing Units: 2
- CTPR 440 Practicum in Sound Units: 2
- CTPR 465 Practicum in Production Design Units: 2
- CTPR 478 Practicum in Directing Units: 2

One of the following production courses:

- CTPR 480 Advanced Production Workshop Units: 4
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Single Camera Television Dramatic Series Units: 4

One course from the following:

- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2
- CTPR 466 The Art of the Pitch Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTPR 496 The Film Industry: Career Challenges and Choices for Women Units: 2

Four units from the following:

- CTAN 436 Writing for Animation Units: 2
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTAN 462 Visual Effects Units: 2
- CTAN 495 Visual Music Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 464 Game Studies Seminar Units: 2 max 4
- CTIN 482 Designing Social Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- IML 340 Remixing the Archive Units: 4 max 8
- IML 400 Creative Coding for the Web Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 466 Digital Studies Symposium Units: 2

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTPR 285, CTPR 290, CTPR 294, CTPR 295 and CTPR 310 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate-level courses (numbered 500) for undergraduate credit requires prior approval from the School of Cinematic Arts.

Curriculum Review

Cinematic Arts majors are expected to meet with an adviser every semester to review their progress. Contact the Cinematic Arts Student Services Office (SCB 105), (213) 740-8358, for an appointment.

Master's Degree

Cinematic Arts, Film and Television Production (MFA)

The Master of Fine Arts, Cinematic Arts, Film and Television Production, requires a minimum of 52 units in cinematic arts at the 400 or 500 level. A thesis is not required for the MFA degree.

Applications for the graduate production program are accepted for both fall and spring semesters. See a current Graduate Study Application for deadlines. Applicants must submit supplemental applications and materials to the Graduate Production Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

Graduate First Year Production Courses

CTPR 507, which brings together students from other School of Cinematic Arts divisions, introduces the fundamental principles of motion picture production, emphasizing visual and auditory communication. Projects are shot using digital cameras and edited on non-linear systems. Approximately $1,200 should be budgeted for miscellaneous expenses, lab and insurance fees. Production students must take CTPR 507 concurrently with CTPR 510 and CTWR 505 in the first semester.

In CTPR 508, students produce short films in small crews. The primary goal is to communicate effectively through sound/image relationships. Most equipment and materials are provided by the school, but approximately $2,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Students who earn a grade of C- (1.7) or less in either CTPR 507 or CTPR 508 will be disqualified, and will not be able to continue in the MFA program. In any other required Production course, students earning lower than a C (2.0) may repeat the requirement on a one-time-only basis upon approval of the division chair. Students earning a C- (1.7) or less after being allowed to repeat a required Production course will be disqualified from the program, and will not be allowed to continue.

Our program is distinguished by the understanding and hands-on practice our graduates achieve in all mediamaking disciplines; at the same time, each student pursues specialized interests in years two and three. To qualify for the MFA, each must demonstrate mastery of at least one of six disciplines: writing, producing, directing, cinematography, editing or sound. In the discipline chosen, the candidate must register for and complete an advanced project, as well as the defined prerequisites.

CTPR 507, CTPR 508, CTPR 510, CTPR 546, CTPR 547, CTPR 581a, CTPR 581b, CTPR 581c, CTPR 581z, CTPR 582a, CTPR 582b, CTPR 582z, CTPR 583, CTPR 585a, CTPR 585b, CTPR 585z and CTPR 587a, CTPR 587b, CTPR 587c, CTPR 587z cannot be waived or substituted with transfer credit under any circumstances.

Three-Year Requirements for the MFA in Production

Year One, First Semester

- CTPR 507 Production I Units: 4
- CTPR 510 Concepts of Cinematic Production Units: 2
- CTWR 505 Creating the Short Film Units: 2

Total units: 8

Year One, Second Semester

- CTPR 508 Production II Units: 6
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2

Total units: 8

Year Two, First and Second Semesters

- CTPR 506 Visual Expression Units: 2
- CTWR 529 Intermediate Screenwriting Units: 2

Choose 6 units from the following:

- CTPR 464 Directing the Television Sketch Comedy Show Units: 2

- CTPR 479 Single Camera Television Dramatic Pilot Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Single Camera Television Dramatic Series Units: 4
- CTPR 523 Introduction to Multiple-Camera Production Units: 2
- CTPR 546L Production III, Fiction Units: 6
- CTPR 547L Production III, Documentary Units: 6

One of the following:

- CTIN 501 Interactive Cinema Units: 2
- CTPR 479 Single Camera Television Dramatic Pilot Units: 2 *
- CTPR 497 Music Video Production Units: 2
- CTPR 522 Reality Television Survey Units: 2
- CTPR 523 Introduction to Multiple-Camera Production Units: 2
- CTPR 572 The World of Television: From Concept to Air and Everything in Between Units: 2

Note:

** Courses can only count toward one requirement. Students who choose CTPR 479 or CTPR 523 to satisfy this requirement cannot use either course to satisfy the Production III requirement.*

Six units from the required Cinematic Arts emphasis courses:

- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 486 Single Camera Television Dramatic Series Units: 4
- CTPR 531 Planning the Documentary Production Units: 2
- CTPR 532 Intermediate Directing Units: 2
- CTPR 533 Directing Techniques Units: 2
- CTPR 534 Intermediate Production Design Units: 2
- CTPR 535 Intermediate Editing Units: 2
- CTPR 537 Intermediate Cinematography Units: 2
- CTPR 538 Intermediate Producing Units: 2
- CTPR 540 Intermediate Sound Units: 2
- CTPR 551 Directing in a Virtual World Units: 2
- CTPR 552 Advanced Directing Units: 2
- CTPR 553 Developing the Advanced Project Units: 1
- CTPR 554 Advanced Sound Units: 2
- CTPR 556 Advanced Editing Units: 2
- CTPR 557 Advanced Cinematography Units: 2
- CTPR 558 Advanced Producing Units: 2
- CTPR 565 Making Media for Social Change Units: 2
- CTPR 573 Producing the Advanced Project Units: 1
- CTWR 533a Writing the Feature Script Units: 4
- CTWR 553 Advanced Rewriting Workshop Units: 4

Year Three, First and Second Semesters

One of the following courses:**

- CTIN 584a Individual Interactive Workshop Units: 4
- CTIN 584b Individual Interactive Workshop Units: 2
- CTIN 584c Individual Interactive Workshop Units: 2
- CTIN 584z Individual Interactive Workshop Units: 0
- CTPR 546L Production III, Fiction Units: 6 (taken for a second time in a different crew position or in addition to CTPR 547 or CTPR 479 and CTPR 486) max 12
- CTPR 547L Production III, Documentary Units: 6 (taken for a second time in a different crew position or in addition to CTPR 546 or CTPR 479 and CTPR 486) max 12
- CTPR 581a Individual Production Workshop Units: 4
- CTPR 581b Individual Production Workshop Units: 2
- CTPR 581c Individual Production Workshop Units: 2
- CTPR 581z Individual Production Workshop Units: 0
- CTPR 582a Advanced Production Seminar Units: 2
- CTPR 582b Advanced Production Seminar Units: 2
- CTPR 582z Advanced Production Seminar Units: 0
- CTPR 583 Graduate Television Production Units: 6
- CTPR 585a Advanced Producing Project Units: 2
- CTPR 585b Advanced Producing Project Units: 2
- CTPR 585z Advanced Producing Project Units: 0
- CTPR 587a Group Production Workshop Units: 4
- CTPR 587b Group Production Workshop Units: 2
- CTPR 587c Group Production Workshop Units: 2
- CTPR 587z Group Production Workshop Units: 0
- CTWR 533b Writing the Feature Script Units: 4

Note:

***Students must complete the prerequisites and follow the guidelines for these courses.*

One of the following courses:

- CNTV 457 The Entertainment Entrepreneur: Getting Your First Project Made Units: 2
- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CNTV 595 Professional Practicum Units: 1, 2, 4
- CTPR 458 Organizing Creativity: Entertainment Industry Decision Making Units: 2
- CTPR 496 The Film Industry: Career Challenges and Choices for Women Units: 2
- CTPR 566 Developing and Selling Your Film and TV Projects Units: 2

At least 4 units from the following cinema and media studies courses:

- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 585 Seminar in Film/Television Critical Theory and Production Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Additional Requirements

Grade Point Average Requirements

A grade point average of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Time Limit

Students must maintain satisfactory progress toward their master's degree at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree. Students are expected to meet with a faculty adviser every semester.

Graduate Review

One year prior to graduation, students must see their academic advisers for a curriculum and graduation review. Contact the Production Faculty Office for forms (213) 740-3317.

Interactive Media and Games Division

The Interactive Media and Games Division offers a Bachelor of Arts in Interactive Entertainment and a Master of Fine Arts in Interactive Media as well as a number of courses in computer-based entertainment for non-majors. The fundamental philosophy of the division is coherent with that of the school's program, stressing creativity of expression, experimentation and excellence in execution.

Bachelor's Degree

Interactive Entertainment (BA)

The Bachelor of Arts in Interactive Entertainment is granted through the USC Dornsife College of Letters, Arts and Sciences in conjunction with the School of Cinematic Arts. Students study within a framework, which combines a broad liberal arts background with specialization in a profession. Undergraduate students take their pre-professional courses in the USC Dornsife College of Letters, Arts and Sciences, including the general education requirements. Major courses are selected from the curriculum of the School of Cinematic Arts. The degree requires 128 units, including a minimum of 48 units in the major.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See General Education Program for more information.

Required Production Courses

Undergraduates admitted to the Interactive Entertainment Program are required to take CTPR 290 .

CTPR 290 introduces the interrelationship of visuals, sound and editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Required Courses

- CNTV 101 Reality Starts Here Units: 2

- CSCI 101L Fundamentals of Computer Programming Units: 3 or
- CTIN 101 Fundamentals of Procedural Media Units: 2

- CTCS 190g Introduction to Cinema Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTPR 290 Cinematic Communication Units: 4, 6

Note:

**Enrollment in CTIN 484 and CTIN 489 is concurrent*

At least 6 units of the following are required:

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 443L Character Development for 3-D Animation and Games Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 403L Advanced Visual Design for Games Units: 2
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 485L Advanced Game Development Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- IML 340 Remixing the Archive Units: 4 * max 8
- IML 346 Methods in Digital Research Units: 2 *

At least one of the following is required:

- CTCS 478 Culture, Technology and Communications Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 110 Statistical Analysis for Games: Storytelling with Numbers Units: 4
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTWR 410L Character Development and Storytelling for Games Units: 4
- IML 420m New Media for Social Change Units: 4 *

Note:

**Prerequisite: IML 104 or IML 140 or IML 201.*

At least one of the following is required:

- CTIN 459L Game Industry Workshop Units: 4
- CTIN 491L Advanced Game Project I Units: 4
- CTIN 492L Experimental Game Topics Units: 4

Note:

Four additional upper-division units of Cinematic Arts electives

Additional Requirements

Grade Point Average Requirements

A minimum grade of C, 2.0 (A = 4.0), must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not fulfill a major requirement.

Students who do not earn the minimum grade of C (2.0) in CTIN 190, CTIN 483, CTIN 484, CTIN 488 or CTIN 489 after repeating these requirements will be disqualified from the program.

Limitations on Enrollment

Registration in graduate-level courses (numbered 500) for undergraduate credit requires prior approval of the School of Cinematic Arts.

Curriculum Review

Cinematic arts majors are expected to meet with an adviser every semester to review their progress. Contact the Interactive Media Program Office, SCA 223, (213) 821-4472, for an appointment.

Master's Degree

Cinematic Arts (Media Arts, Games and Health) (MA)

The Master of Arts in Cinematic Arts with an emphasis in Media Arts, Games and Health is administered by the Graduate School in conjunction with the Creative Media & Behavioral Health Center. The curriculum is based on center crosscutting initiatives that represent the broadest descriptions of our vision and mission. Students benefit from emerging research, tools and methodologies that converge at the center, as well as the wide range of backgrounds represented by faculty, students and visiting scholars. Research is prioritized based on a combination of factors, including potential impact and benefit to society and overall alignment with center priorities. Some center initiatives include:

- **Sports and Exercise for Wellness:** investigation of novel assessment and treatment techniques using entertainment and technology for improvement of health outcomes related to obesity, nutrition and physical activity;
- **Healthy Brain Architecture:** production and dissemination of innovative storytelling products toward promotion of healthy behavior for brain development and affect regulation during the entire human lifespan;

- **Social and Sensorimotor Play:** investigation of novel assessment and treatment techniques using interactive play for improving social skills, visuospatial navigation and motor coordination in physical space;
- **Games for Health:** promotion, development and assessment of innovative games with behavioral health applications;
- **Storytelling for mHealth** (mobile health): mobile interactive entertainment with general health and wellness applications, or a specific chronic illness focus;
- **The Future of Health Care:** re-imagining the patient/user/player experience within and beyond health care settings.

The goal of the curriculum is to provide integrative research and practice-based training to enable students to combine prior/concurrent education and experience toward design, development and evaluation of health- and wellness-related interventions that incorporate entertainment media experiences (film, games, virtual reality, mobile media, public interactives, transmedia and emerging genres).

Candidates for the degree are subject to the general requirements of the Graduate School (see the Graduate School section). Thirty-six units are required at the 400 level or higher, including an integrative project. At least two-thirds of these units must be at the 500 level or higher.

Required Courses

- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 541 Design for Interactive Media Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- IML 543 Transdisciplinary Media Design Practicum Units: 4
- CTIN 593 Integrative Project: Media-based Interventions in Healthcare Units: 2, 4

Electives (8 units minimum from Cinematic Arts) Units: 18

Units: 36

Sample Schedule (Two Years, Full-time Study)

Year One, First Semester

- CTIN 541 Design for Interactive Media Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Electives

Units: 10

Year One, Second Semester

- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Electives

Units: 8

Year Two, First Semester

- IML 543 Transdisciplinary Media Design Practicum Units: 4

Electives

Units: 10

Year Two, Second Semester

- CTIN 593 Integrative Project: Media-based Interventions in Healthcare Units: 2, 4

Electives

Units: 8

Note:

In addition, 18 units of electives related to the student's area of study will be recommended by the student's adviser; at least 8 of these units should be from Cinematic Arts.

Electives**

At least 8 units from the following:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 451 History of Animation Units: 2
- CTAN 452 Introduction to 3-D Computer Animation Units: 2 *
- CTAN 462 Visual Effects Units: 2
- CTAN 470 Documentary Animation Production Units: 2
- CTAN 495 Visual Music Units: 2
- CTAN 501 Experiments in 2-D Digital Animation Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2
- CTAN 525 Gesture Movement for Animation Units: 2
- CTIN 401L Interface Design for Games Units: 2 *
- CTIN 405L Design and Technology for Mobile Experiences Units: 2 *
- CTIN 406L Sound Design for Games Units: 2
- CTIN 452L Themed Entertainment Design Units: 4 *
- CTIN 458 Business and Management of Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 484L Intermediate Game Development Units: 2 *
- CTIN 485L Advanced Game Development Units: 2 *
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2 *
- CTIN 499 Special Topics Units: 2, 3, 4
- CTIN 501 Interactive Cinema Units: 2
- CTIN 506 Procedural Expression Units: 2
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 544 Experiments in Interactivity II Units: 2 *
- CTPR 455 Survey of Production Design Units: 2
- CTPR 507 Production I Units: 4
- CTWR 518 Introduction to Interactive Writing Units: 2
- IML 501L Seminar in Contemporary Digital Media Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 535 Tangible Computing in the Humanities and Sciences Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4

Note:

**Prerequisite required.*
***Courses not listed may satisfy this requirement with approval of the program chair.*

CTIN 593 Integrative Project

All students are required to complete a project that showcases their integrative mastery of prior and newly acquired knowledge, skills and interests in CTIN 593. It is recommended that preparatory work for this project begins with a directed research proposal in CTIN 590, but the student can begin work sooner. Students are permitted to complete collaborative integrative projects if they can successfully articulate a clear timeline, feasibility, individual contributions and an alternate plan for completion if the collaboration becomes unsustainable. Building upon prior art and research (e.g., MFA thesis projects, sponsored research) is highly recommended because the project will be graded on the merit and impact of the intervention as a whole (vs. the aesthetic qualities or innovation of a standalone interactive artifact). Students need to form a committee of at least three members (USC faculty member, scientist or health professional, stakeholder). The criteria for successful completion will be set by the program director and the project committee advisers.

The following are examples of integrative projects:

(a) Design/development of an original creative intervention based on rigorous formative research, or

(b) Design adaptation of an existing intervention based on rigorous formative research, or

(c) Deployment and evaluation of an original or adapted intervention.

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree. A minimum grade

of B (3.0) must be earned in all required courses. Students who do not achieve a grade of B (3.0) in the required courses after repeating these requirements will be disqualified from the program. The core courses as well as CTIN 593 cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed five years from the first course at USC applied toward the Master of Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree. The degree director will review progress toward degree completion on an annual basis. Students who are not making satisfactory progress will be provided a remediation plan with required action deadlines.

Peer Mentoring Requirement

Students are required to provide six hours of peer and/or team mentoring per month to other students via advising, critique or skills workshops. Requests for mentoring will be submitted ad-hoc by students and faculty with a sign-up sheet.

Interactive Media (Games and Health) (MFA)

The Master of Fine Arts in Interactive Media with an emphasis in Games and Health is administered in conjunction with the Creative Media & Behavioral Health Center. The curriculum is based on center crosscutting initiatives that represent the broadest descriptions of our vision and mission. Students benefit from emerging research, tools and methodologies that converge at the center, as well as the wide range of backgrounds represented by faculty, students and visiting scholars. Research is prioritized based on a combination of factors, including potential impact and benefit to society, and overall alignment with center priorities. Some center initiatives include:

- **Sports and Exercise for Wellness:** investigation of novel assessment and treatment techniques using entertainment and technology for improvement of health outcomes related to obesity, nutrition and physical activity
- **Healthy Brain Architecture:** production and dissemination of innovative storytelling products toward promotion of healthy behavior for brain development and affect regulation during the entire human lifespan
- **Social and Sensorimotor Play:** investigation of novel assessment and treatment techniques using interactive play for improving social skills, visuospatial navigation and motor coordination in physical space
- **Games for Health:** promotion, development and assessment of innovative games with behavioral health applications
- **Storytelling for Mobile Health (mHealth):** mobile interactive entertainment with general health and wellness applications, or a specific chronic illness focus
- **The Future of Health Care:** re-imagining the patient/user/player experience within and beyond healthcare settings

This emphasis aims to provide specialized training and hands-on experience to enrolled MFA students toward design, development and evaluation of interactive entertainment for health and happiness. Students will obtain a broad perspective on theory, methods and practice through an intensive overview of core concepts of science with a lifespan perspective on brain development, lifelong resilience, wellness and illness. On a practical level, students will learn how to: (a) perform transdisciplinary formative research (e.g., literature reviews, prior art analyses) in order to establish background data and rationale for design and evaluation; (b) tailor intervention design and program design requirements to target population using transdisciplinary methodologies (e.g., ethnography, surveys, observation studies); (c) iteratively develop and/or adapt existing interventions focused on health and wellness in transdisciplinary team environments; (d) design and administer small studies for ecologically valid assessment of interventions (e.g., feasibility pilots, experimental designs, pilot clinical studies).

The degree requires 50 units.

Requirements for the MFA in Interactive Media (Games and Health)

Year One, First Semester

- CTCS 505 Survey of Interactive Media Units: 2
- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 541 Design for Interactive Media Units: 2

Total units: 9

Year One, Second Semester

- CTIN 503-Interactive Entertainment, Science and Healthcare Units: 2 or
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2

- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 544 Experiments in Interactivity II Units: 2

- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4

- CTWR 518 Introduction to Interactive Writing Units: 2

Total units: 9

Year Two, First Semester

- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 532L Interactive Design and Production I Units: 4
- CTPR 506 Visual Expression Units: 2
- IML 543-Transdisciplinary Media Design Practicum Units: 4

Total units: 11

Year Two, Second Semester

- CTIN 503-Interactive Entertainment, Science, and Healthcare Units: 2 or
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2

- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 542 Interactive Design and Production II Units: 4
- CTIN 548 Preparing the Interactive Project Units: 2

- CTIN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4

Total units: 11

Year Three, First Semester

- CTIN 594a Master's Thesis Units: 2
- Electives Units: 2

Total units: 4

Year Three, Second Semester

- CTIN 594b Master's Thesis Units: 2
- Electives Units: 2

Total units: 4

Additional Requirement

At least 2 units from the following:

- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4
- CTIN 458 Business and Management of Games Units: 2
- CTIN 497 Interactive Media Startup Units: 1 max 3
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2
- CTIN 558 Business of Interactive Media Units: 2

Electives*

At least 4 units from the following:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 ** max 4
- CTAN 451 History of Animation Units: 2

- CTAN 452 Introduction to 3-D Computer Animation Units: 2 max 4
- CTAN 462 Visual Effects Units: 2
- CTAN 470 Documentary Animation Production Units: 2
- CTAN 495 Visual Music Units: 2
- CTAN 502L Experiments in Immersive Design Units: 2
- CTAN 525 Gesture Movement for Animation Units: 2
- CTIN 401L Interface Design for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 452L Themed Entertainment Design Units: 4 **
- CTIN 458 Business and Management of Games Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 484L Intermediate Game Development Units: 2 **
- CTIN 485L Advanced Game Development Units: 2 **
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 489 Intermediate Game Design Workshop Units: 2 **
- CTIN 497 Interactive Media Startup Units: 1 max 2
- CTIN 499 Special Topics Units: 2, 3, 4
- CTIN 501 Interactive Cinema Units: 2
- CTIN 506 Procedural Expression Units: 2
- IML 500 Digital Media Tools and Tactics Units: 2
- IML 501L Seminar in Contemporary Digital Media Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 535 Tangible Computing in the Humanities and Sciences Units: 4
- IML 543-Transdisciplinary Media Design Practicum Units: 4

Notes:

**Courses not listed may satisfy this requirement with approval of the program chair.*

***Prerequisite required.*

Additional Requirements

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree.

A minimum grade of C (2.0) must be earned in all required courses. Students who do not achieve a grade of C (2.0) in the core courses CTIN 532, CTIN 534, CTIN 542 and CTIN 544 after repeating these requirements will be disqualified from the program. The core courses as well as CTIN 594a, CTIN 594b cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

Graduate Review

One year prior to graduation, students are required to file MFA forms for a curriculum and graduation review. Contact the Interactive Media Program Office for forms.

Interactive Media (MFA)

The Interactive Media Division offers a Master of Fine Arts in Interactive Media as well as a number of courses in computer-based entertainment for non-majors. The fundamental philosophy of the division is coherent with that of the programs of the school, stressing creativity of expression, experimentation and excellence in execution.

The MFA in Interactive Media is a three-year intensive program that requires 50 units of which 26 are requirements and 24 are electives chosen from a number of core area groupings. Students must take at least 6 units of expression studios, studying a breadth of skills involved in creating Interactive Media, at least 2 units of professionalization electives, 2 units of electives building technical skills and another 6 units of electives crafting a specialization in the field. Eight units of electives are totally open for exploration across the university. Two-thirds of the total units applied to the degree must be taken at the 500-level, so at least 10 500-level elective units must be taken. Students are expected to engage in an internship or professional work environment during the summer following their second semester. Students are required to complete an advanced interactive project which they design and produce in CTIN 594a and CTIN 594b Master's Thesis.

Computer and digital production facilities for the program are provided by the school. However, students should budget additional funds for incidental expenses for intermediate and advanced projects. Cost will vary depending on the scope of a student's project. For the first year production course, approximately $1,000 will be needed for miscellaneous costs, lab and insurance fees.

The program is intended to prepare students for creative careers in the emerging field of interactive entertainment. While the program does not require advanced computer capabilities, familiarity and comfort with computer-based authoring and production/post-production tools is recommended.

The creation of interactive media requires a combination of skills from the traditional media of film and television as well as a deep understanding of the effects of interactivity upon the quality of experience. Therefore, we emphasize and encourage collaboration with students in other Cinematic Arts programs.

Approximately 15 students are admitted in the fall semester (there are no spring admissions).

Applicants for the MFA in Interactive Media must submit a supplemental application and materials to the Interactive Media Program. For specific instructions contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-2911 or online at *cinema.usc.edu.*

Requirements for the MFA in Interactive Media

Year One, First Semester

- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 534L Experiments in Interactivity I Units: 4
- CTIN 541 Design for Interactive Media Units: 2
  Expression Studio - 2 units

Total units: 9

Year One, Second Semester

- CTCS 505 Survey of Interactive Media Units: 2
- CTIN 544 Experiments in Interactivity II Units: 2
  Expression Studio - 2 units
  Technical Skill - 2 units
  Electives - 2 to 4 units

Total units: 10 - 12

Year Two, First Semester

- CTIN 532L Interactive Design and Production I Units: 4
  Expression Studio - 2 units
  Electives - 4 to 6 units

Total Units: 10 - 12

Year Two, Second Semester

- CTIN 511 Interactive Media Seminar Units: 1
- CTIN 542 Interactive Design and Production II Units: 4
- CTIN 548 Preparing the Interactive Project Units: 2
  Professionalization/Specialization/Electives - 2 to 4 units

Total units: 9 -11

Year Three, First Semester

- CTIN 594a Master's Thesis Units: 2
  Specialization - 2 to 4 units

Total units: 4 - 6

Year Three, Second Semester

- CTIN 594b Master's Thesis Units: 2
  Specialization - 2 to 4 units

Total units: 4 - 6

Expression Studio

At least 6 units from the following list:

- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 506 Procedural Expression Units: 2
- CTPR 506 Visual Expression Units: 2 *
- CTWR 518 Introduction to Interactive Writing Units: 2

Note:

*Prerequisite required.

Specialization

At least 6 units from the following list:

- CSCI 420 Computer Graphics Units: 4 **
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CTAN 564L Motion Capture Fundamentals Units: 2 *
- CTCS 482 Transmedia Entertainment Units: 4
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 492L Experimental Game Topics Units: 4
- CTIN 503 Interactive Entertainment, Science, and Healthcare Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 526 Advanced Storytelling for Interactive Media Units: 2 *
- EE 450 Introduction to Computer Networks Units: 3
- IML 404 Tactical Media Units: 4 **

Note:

*Prerequisite required.

**Course requires an undergraduate prerequisite which may be waived for students with appropriate experience.

Technical Skill

At least 2 units from the following list:

- CTAN 443L Character Development for 3-D Animation and Games Units: 2 *
- CTAN 462 Visual Effects Units: 2
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 485L Advanced Game Development Units: 2
- CTIN 583 Game Development for Designers Units: 2

Note:

*Prerequisite required.

Professionalization

At least 2 units from the following list:

- CNTV 595 Professional Practicum Units: 1, 2, 4
- CTIN 458 Business and Management of Games Units: 2
- CTIN 497 Interactive Media Startup Units: 1
- CTIN 510 Research Methods for Innovation, Engagement and Assessment Units: 2

Additional Requirements

Thesis Project

In order to begin work on the thesis/advanced project, students must first successfully propose their project to a committee of MFA interactive media program faculty. The proposal is prepared during the second year of study in CTIN 548 Preparing the Interactive Project and is submitted at the end of the second year. The proposal itself will include a written treatment of the project with a discussion of similar work in the field and its relationship to the proposed project. It will describe aesthetic issues to be explored and specific techniques to be employed in its realization. It will also include a project visualization, design macro, risk assessment and a polished piece of the experience, equivalent to the milestones associated with the end of the pre production period. The faculty committee will make comments and decide whether the student may go forward with his or her project. Upon acceptance, the student will begin production work on the project, otherwise revising the proposal and meeting again with the committee.

In the third and final year, students concentrate on their thesis projects in CTIN 594a and CTIN 594b Master's Thesis, completing production and post-production. A final review will take place in the second semester of the third year. The committee will meet and the student must show and defend the work. The student does not need to submit a thesis paper in conjunction with this project, though students interested in doing so may take CTIN 510 and prepare a paper for academic publication.

Criteria for successful completion include: 50 percent originality and 50 percent quality of execution.

Internship

Though the Internship class is not required, the division requires all MFA students to do work at an internship or in a professional context while enrolled in the program. The graduate adviser will work with each student to find an appropriate work environment and certify the student's completion thereof.

Grade Point Average Requirement

An overall GPA of at least 3.0 (A = 4.0) must be maintained in all USC course work toward the master's degree.

A minimum grade of C (2.0) must be earned in all required courses. Students who do not achieve a grade of C (2.0) in the core courses CTIN 532L, CTIN 534L, CTIN 542 and CTIN 544 after repeating these requirements will be disqualified from the program. Two-thirds of the non thesis units applied to the degree must be taken at the 500 level or above. The core courses as well as CTIN 594a and CTIN 594b cannot be waived or substituted with transfer credits under any circumstances.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is invalidated and will not be applied toward the degree.

Graduate Review

One year prior to graduation, students are required to file MFA forms for a curriculum and graduation review. Contact the Interactive Media Program Office for forms.

Media Arts and Practice

Bachelor's Degree

Media Arts and Practice (BA)

The Bachelor of Arts in Media Arts and Practice offers a robust curriculum centered on the history, theory and practice of digital media in creative and scholarly contexts. Students will study the evolution of media in concert with new cinematic technologies, from the work of early innovators such as Laszlo Moholy-Nagy, through the pioneering experiments in information theory embodied by thinkers such as Claude Shannon, Norbert Wiener and Vannevar Bush, and on to the experiments of artists and designers working with interactivity, immersion, stereoscopy and performance for over a century. Students will also learn how to understand the relationship among media forms, emerging technologies and culture, and how to author in diverse media platforms for both critical and creative practice. The media arts and practice major is ideal for students who are interested in the expanded array of cinematic technologies that can be used for the creative and critical expression of ideas, as well as those who want to develop skills in visual communication for use in diverse fields.

Information about courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Program Requirements

A total of 56 units is required to complete the major. All courses must be taken for a letter grade.

Introductory Courses

- CNTV 101 Reality Starts Here Units: 2
- IML 201 The Languages of Digital Media Units: 4
- IML 230 Fundamentals of Media Design Units: 2
- IML 288 Critical Thinking and Procedural Media Units: 2
- IML 295Lm Race, Class and Gender in Digital Culture Units: 4
- IML 300 Reading and Writing the Web Units: 2
- IML 328 Sonic Media Art Units: 2
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2

Intermediate Courses

- IML 202 Media Arts and Practice Studio I Units: 2
- IML 203 Media Arts and Practice Studio II Units: 2
- IML 310 Professionalism for Media Arts Units: 2
- IML 346 Methods in Digital Research Units: 2

Choose 8 units from the following courses:

- IML 400 Creative Coding for the Web Units: 4
- IML 404 Tactical Media Units: 4
- IML 428 Exploring and Creating Sonic Environments Units: 4
- IML 435 Digital Narrative Design II Units: 4
- IML 436 Hypercinemas Studio Units: 4
- IML 454 Advanced Techniques of Spatial Representation Units: 4

Advanced Courses

- IML 441 Thesis Project I Units: 2
- IML 444 Thesis Project II Units: 2
- IML 466 Digital Studies Symposium Units: 2

Media Arts Electives

This requirement allows students to expand their inquiry into media arts as a discipline. Choose 8 units from the following courses:

- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 365 Future Cinema Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 422 Information Visualization Units: 4
- IML 450 Critical Play and Documentary Games Units: 4
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 499 Special Topics Units: 2, 3, 4

Technical Electives

This requirement allows students to expand their technical skillset by taking courses in other academic departments. Courses may be lower-division or upper-division, but they must incorporate a hands-on media production component and tool-based instruction appropriate to the medium. Choose 4 units from the following courses:

- CTAN 330 Animation Fundamentals Units: 2
- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4

Other courses may be applicable; please see an adviser for approval.

Additional Requirements

Thesis Sequence

The media arts and practice major culminates in a digital thesis project that students research, develop and construct during their senior year. These projects will engage a key issue faced by contemporary media arts practitioners and will represent the convergence of conceptual excellence and digital innovation.

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses. A grade of C- (1.7) or lower will not satisfy a major requirement.

Curriculum Review

Media arts and practice majors are expected to meet with an academic adviser every semester to review their progress. Contact the Media Arts and Practice program at map@cinema.usc.edu for an appointment.

Honors

Honors in Multimedia Scholarship

A century of mass media and the advent of digital communication have transformed the way ideas are expressed and understood across the university. As a result, the notion of literacy, which has traditionally referred to the reading and writing of printed materials, has fundamentally expanded to include new forms of expression. The Honors in Multimedia Scholarship program offers students an opportunity to learn new approaches to the production of knowledge through the critical application of multimedia. The program includes a systematic introduction to the history, theory and practice of multimedia scholarship within a range of disciplinary and interdisciplinary contexts. Students develop and refine their abilities to conduct research and publish work in formats appropriate to their field of study: video, audio, image, Web or some integration of these forms. The program is open to students from all disciplines.

Students are expected to integrate theory into the practice of multimedia scholarship; for this reason, courses include discussion of historical and theoretical material, instruction in basic research practices, as well as opportunities to develop skills in multimedia authorship, collaboration, leadership and creative thinking. Students earn Honors in Multimedia Scholarship by completing a minimum of 24 units of required course work culminating in a capstone interdisciplinary thesis during their final year.

To maintain small classes and allow for extensive discussion and project development, the Honors in Multimedia Scholarship program requires students to be highly motivated; there is extensive reading, writing and multimedia authoring. The required courses are not available for pass/no pass registration.

Information about courses and other program offerings can be obtained by emailing the Media Arts and Practice program at map@cinema.usc.edu.

Program Requirements

A total of 24 units is required to complete the honors designation. All courses must be taken for a letter grade.

Introductory Courses

- IML 104 Introduction to Digital Studies Units: 2 and
- IML 140 Workshop in Multimedia Authoring Units: 2 or
- IML 201 The Languages of Digital Media Units: 4

Introductory Courses II

- IML 230 Fundamentals of Media Design Units: 2

Media Arts Electives, Group I

Choose 8 units from the following courses:

- IML 288 Critical Thinking and Procedural Media Units: 2
- IML 300 Reading and Writing the Web Units: 2
- IML 328 Sonic Media Art Units: 2
- IML 335 Digital Narrative Design I Units: 2
- IML 354 Introduction to 3-D Modeling Units: 2
- IML 400 Creative Coding for the Web Units: 4
- IML 404 Tactical Media Units: 4
- IML 428 Exploring and Creating Sonic Environments Units: 4
- IML 435 Digital Narrative Design II Units: 4
- IML 436 Hypercinemas Studio Units: 4
- IML 454 Advanced Techniques of Spatial Representation Units: 4

Media Arts Electives, Group II

Choose 4 units from the following courses:

- IML 309 Integrative Design for Mobile Devices Units: 4
- IML 310 Professionalism for Media Arts Units: 2
- IML 320 Designing and Writing for Transmedia Narratives Units: 4
- IML 340 Remixing the Archive Units: 4
- IML 365 Future Cinema Units: 4
- IML 385 Design Fiction and Speculative Futures Units: 4
- IML 420m New Media for Social Change Units: 4
- IML 422 Information Visualization Units: 4
- IML 450 Critical Play and Documentary Games Units: 4
- IML 456 Nature, Design and Media Units: 2
- IML 458 The Embedded Story: Designing Digital Landscapes and Languages Units: 2
- IML 466 Digital Studies Symposium Units: 2
- IML 475 Media Arts Research Lab Units: 2, 3, 4
- IML 477 Embodied Storytelling and Immersive Docu-Narratives Units: 4
- IML 499 Special Topics Units: 2, 3, 4

Advanced Courses

- IML 346 Methods in Digital Research Units: 2
- IML 440 Interdisciplinary Thesis Units: 4

University Certificate

Digital Media and Culture Graduate Certificate

Contemporary scholarship is undergoing profound shifts as new technologies alter how scholars interact, conduct research, author and visualize their work, as well as how they teach. The certificate program in digital media and culture explores the shifting nature of scholarly expression, pedagogical practice and research in the 21st century, combining seminars with hands-on, lab-based workshops in order to facilitate sophisticated critical thinking and practice in and through multimedia.

Open to graduate students interested in emerging modes of creative, networked and media-rich scholarship, the program seeks to provide participants with a sophisticated conceptual framework for considering the emerging landscape of scholarship in the digital age, as well as a broad overview of contemporary scholarly multimedia as it intersects with media art, information design, interactive media and communication studies.

Program Requirements

A total of 12 units is required to complete the graduate certificate.

Courses

Choose 12 units from the following courses:

- IML 500 Digital Media Tools and Tactics Units: 2
- IML 501L Seminar in Contemporary Digital Media Units: 4
- IML 502 Techniques of Information Visualization Units: 4
- IML 520 Non-Fiction Cinematic Practice I Units: 2
- IML 521 Non-Fiction Cinematic Practice II Units: 2
- IML 535 Tangible Computing in the Humanities and Sciences Units: 4
- IML 543 Transdisciplinary Media Design Practicum Units: 4
- IML 555 Digital Pedagogies Units: 4
- IML 575 Graduate Media Arts Research Lab Units: 2, 3, 4
- IML 585 Creative Critical Writing Workshop Units: 2
- IML 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- IML 599 Special Topics Units: 2, 3, 4
- IML 605 Cinema to Post-Cinema and Beyond: History, Theory, Practice Units: 4

Doctoral Degree

Cinematic Arts (Media Arts and Practice) (PhD)

The PhD in Media Arts and Practice program offers a rigorous and creative environment for scholarly innovation as students explore the intersection of design, media and critical thinking while defining new modes of research and scholarship for the 21st century. Core to the program is its transdisciplinary ethos; after completing foundational course work, students design their own curricula, drawing on expertise across all divisions and research labs within the School of Cinematic Arts.

Admission

A bachelor's or master's degree in media arts, or a closely related field, is required for admission to the PhD program. In addition to submitting an application to USC Graduate Admissions, applicants for the PhD must submit the supplemental application and materials to the Media Arts and Practice Division. For specific instructions, contact the School of Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 840-8358, or online at cinema.usc.edu/imap.

Course Requirements

Each PhD candidate must complete 64 units beyond the bachelor's degree, exclusive of IML 794a, IML 794b, IML 794c, IML 794d, IML 794z. (Up to 28 units may be transferred from graduate work completed at other institutions.) At least two-thirds of the units applied towards the degree (including transfer work and not including IML 794a, IML 794b, IML 794c, IML 794d, IML 794z) must be at the 500 level or higher. The required units will include 8 to 16 units in a minor area. The minor will be chosen by the student in close consultation with the adviser and will be in an academic field that supports the student's dissertation topic and project. Each student must complete the following course work:

1. IML 600 4, IML 601 4, IML 602 4, IML 603 1, IML 604 4, IML 605 4. These courses should be taken before the screening procedure.
2. At least 8 units in theory based course work within Cinematic Arts.
3. At least 14 units in practice-based course work within Cinematic Arts. Courses outside of Cinematic Arts will be considered for approval by the student's adviser. The above courses should be taken before the qualifying exam.
4. At least 4, but no more than 8 units of IML 794a 2, IML 794b 2, IML 794c 2, IML 794d 2, IML 794z 0.

Screening Procedure

The Graduate School requires that programs administer an examination or other procedure at a predetermined point in the student's studies as a prerequisite to continuation in the doctoral program. The screening procedure in the School of Cinematic Arts is designed to review the student's suitability for continuing in the chosen PhD program. Two separate screening procedures will measure a student's progress at two points in their work toward the degree. The first screening will occur no later than the end of the student's third semester of graduate course work beyond the master's degree or after 46 units of graduate work beyond the bachelor's degree. The second screening will occur no earlier than one-half of

a semester following the first screening. The screening procedure process will include the following steps:

1. **First screening.** Prior to the first screening, the student will select a faculty adviser and formulate a provisional course of study. At the first screening, the student will be interviewed and his or her progress in the program will be reviewed by the faculty to determine if the student will be approved for additional course work. Following a successful first screening, the student, in consultation with the faculty adviser, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Media Arts and Practice), the committee is ordinarily composed of five faculty members with familiarity with the Media Arts and Practice program.
2. **Second screening.** Working closely with the faculty adviser, the student will prepare to present his or her qualifying exam fields and associated bibliographies and mediographies as well as a dissertation project proposal, to a subcommittee of Media Arts and Practice faculty. This will be a formal written proposal detailing the proposed topic, three fields for examination derived from the general dissertation topic area. Formal presentation of the dissertation project proposal will occur no later than the end of the semester prior to taking the qualifying examinations. The qualifying exam committee must approve the dissertation topic.

Qualifying Exam Committee

Following a successful screening procedure, the student, in consultation with the qualifying exam committee chair and the Media Arts and Practice faculty, will formally establish a five-member qualifying exam committee. The composition of the qualifying exam committee will be as specified by the Graduate School. For the PhD in Cinematic Arts (Media Arts and Practice), the committee is ordinarily composed of four cinematic arts faculty members and an outside member from the candidate's minor area.

Foreign Language Requirement

The Cinematic Arts faculty will advise each student as to whether or not a foreign language is required. This requirement is determined by the student's dissertation topic. The requirement must be met at least 60 days before the qualifying examination.

Qualifying Examinations

Written and oral examinations for the PhD are given twice a year, generally in November and April. Questions for the written portion of the examination will be drafted by members of the qualifying exam committee who will also assess the examination. The qualifying examination comprises three examinations administered one day each for three days over a five-day period. The oral examination will be scheduled within 30 days after the written examination. All qualifying exam committee members must be present for the oral portion of the qualifying examination.

Admission to Candidacy

A student is eligible for admission to candidacy for a PhD degree after: (1) passing the second screening procedure; (2) presenting the dissertation proposal and having it approved; (3) satisfying the language requirement, if applicable, (4) completing at least 24 units in residence; and (5) passing the written and oral portions of the qualifying examination. Admission to candidacy is by action of the Associate Vice Provost for Graduate Programs.

Dissertation Committee

The dissertation committee is composed as specified by regulations of the Graduate School. A dissertation project based on original investigation and showing technical mastery of a special field, capacity of research and scholarly ability must be submitted.

IML 794

Registration for dissertation units, IML 794a IML 794b, in the two semesters following admission to candidacy is the minimum requirement. These units cannot be applied towards the required 64 unit total. The student must register for IML 794a, IML 794b, IML 794c, IML 794d, IML 794z each semester after admission to candidacy until the degree requirements are completed. No more than 8 units of credit can be earned in IML 794a, IML 794b, IML 794c, IML 794d, IML 794z.

Defense of Dissertation

An oral defense of the dissertation is required of each PhD candidate. The dissertation committee will decide whether the examination is to take place after completion of the preliminary draft or the final draft of the dissertation. The oral defense must be passed at least one week before graduation.

Policies

The following policies apply to each student admitted to the PhD program.

Residency Requirements

At least one year of full-time graduate study (24 units excluding registration for IML 794a, IML 794b, IML 794c, IML 794d, IML 794z) must be completed in residence on the main USC campus. The residency requirement may not be interrupted by study elsewhere. Residency must be completed prior to the qualifying examination.

Grade Point Average

An overall GPA of 3.0 is required for all graduate work. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

Leave of Absence

A leave of absence may be granted under exceptional circumstances by petitioning the Graduate School the semester before the leave is to be taken.

Change of Committee

Changes to either the qualifying exam or dissertation committee must be requested on a form available from the Graduate School.

Completion of All Requirements

Everything involved in approving the dissertation must be completed at least one week before graduation. Approval by the dissertation committee, the Office of Academic Records and Registrar, and the thesis editor must be reported on the triple card and submitted to the Graduate School by the date of graduation.

Time Limits

The maximum time limit for completing all requirements for the PhD degree is eight years from the first course at USC applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere within five years from the proposed enrollment in a PhD program must complete the PhD in six years. Extension of these time limits will be made only for compelling reasons upon petition by the student.

When petitions are granted, students will be required to make additional IML 794a IML 794b IML 794c IML 794d IML 794z registrations. Course work more than 10 years old is automatically invalidated and cannot be applied toward the degree.

The Peter Stark Producing Program

Master's Degree

Producing for Film, Television, and New Media (MFA)

The Peter Stark Producing Program is a two-year (four semester) full-time graduate program.

Approximately 24 Peter Stark Program students are enrolled each fall (there are no spring admissions). The curriculum places equal emphasis on the creative and the managerial, to enhance and develop artistic skills and judgment while providing a sound background in business essentials. Each course is continually updated to ensure that the Stark program remains responsive to the needs of our students and the ever-changing film, television and new media landscape, and prepare students for careers as creative decision-makers in those fields.

A minimum of 44 units of 500-level courses is required for the Peter Stark Producing Program leading to the MFA degree. There are no electives; all Stark students take the same classes at the same time in a mandated sequence. In CMPP 541a and CMPP 541b, first-year students get hands-on filmmaking experience, working on collaborative projects in different roles. Projects are shot and edited digitally. Equipment is provided by the school.

The thesis completion requirement is a detailed plan for a film, documentary, television or webseries project comprising a developed script and notes for improvement, a schedule, budget assumptions and a marketing/distribution plan.

The completion of an entertainment industry internship of at least eight weeks, at some point in the program, is a requirement for graduation. One possible way of doing this is the summer internship program (in the summer between the two years) in which the Stark program solicits paid internships for students at film, television and new media companies. However, though the program has been fortunate in securing enough paid positions in the past, they are dependent on how many companies sign up, so the paid summer internships are not guaranteed. Therefore, students often find internships (some paid, some unpaid) on their own or through opportunities the program receives, during the two-year program.

During the second year, Peter Stark Producing Program students have an opportunity to initiate and produce a 20-minute short film financed by the program. Projects are selected on a competitive basis.

Films must be produced by a Stark student or team of two Stark students. Each Stark student may only perform one major task on the film, i.e., director or writer or producer. Each team has a professional adviser available as needed.

Inquiries regarding the program should be addressed to: The Peter Stark Program, USC School of Cinematic Arts, University Park, Los Angeles, CA 90089-2211. Telephone (213) 740-3304, FAX (213) 745-6652 or email pstark@cinema.usc.edu.

Two-Year Requirements for the MFA in Producing for Film, Television, and New Media

Year One, First Semester

- CMPP 541a Producing Workshop Units: 4
- CMPP 548 Introduction to Producing for Television Units: 2
- CMPP 550 Script Analysis for the Producer Units: 2
- CMPP 563 Producing Symposium Units: 1
- CMPP 589a Graduate Film Business Seminar Units: 3

Total units: 12

Year One, Second Semester

- CMPP 541b Producing Workshop Units: 4
- CMPP 560 Script Development Units: 2
- CMPP 568 Producing for Television Units: 2
- CMPP 589b Graduate Film Business Seminar Units: 4

Total units: 12

Year Two, First Semester

- CMPP 561 Motion Picture and Television Marketing Units: 2
- CMPP 565 Scheduling and Budgeting Units: 4
- CMPP 566 Finance Units: 2
- CMPP 571 Producing the Screenplay Units: 2

Total units: 10

Year Two, Second Semester

- CMPP 564 Digital Media and Entertainment Units: 2
- CMPP 569 Seminar on Non-Mainstream Producing Units: 2
- CMPP 570 Advanced Television Units: 2
- CMPP 592 Individual Project Seminar Units: 4

Total units: 10

Grade Point Average Requirement

An overall GPA of 3.0 (A = 4.0) is required for graduation. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate course. A grade of C-, D or F in any course may be cause for termination.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The degree must be completed three years after the beginning of graduate work at USC.

The John Wells Division of Writing for Screen and Television

Bachelor's Degree

Writing for Screen and Television (BFA)

The Bachelor of Fine Arts in Writing for Screen and Television is a unique, four-year program for students who seek intensive professional preparation for a career in screen and television writing. This rigorous program emphasizes small, workshop-style classes, and attracts students from all over the world. Students attend a variety of guest speaker presentations, take high level industry internships, are provided with mentors and taught by world-class professors.

Each fall, a class of 30 undergraduate writing students is selected to begin the program. A total of 128 units is required for completion of the Bachelor of Fine Arts degree; 66 of these units are taken in a prescribed sequential order. There are no spring admissions.

Applicants must submit supplemental application and materials to the program office. For specific instructions, contact The John Wells Division of Writing for Screen and Television, University Park, Los Angeles, CA 90089-2211 or telephone (213) 740-3303, or online at cinema.usc.edu.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Required Production Courses

Undergraduate writing students are required to take CTPR 290 Cinematic Communication. This introductory production course is taken during the sophomore year.

CTPR 290 introduces the interrelationship of visuals, sound and

editing in cinematic communication. Students participate in directing and producing workshops as well as individual and group projects. Approximately $1,000 should be budgeted for miscellaneous expenses, lab and insurance fees.

Four-Year Major Requirements (66 units)

Year One, First Semester

- CNTV 101 Reality Starts Here Units: 2
- CTCS 190g Introduction to Cinema Units: 4
- CTPR 409 Practicum in Television Production Units: 2, 4
- CTWR 100g Story: Character, Conflict, and Catharsis Units: 4

Total units: 12

Year One, Second Semester

- CTCS 201 History of the International Cinema II Units: 4
- CTWR 250 Breaking the Story Units: 2
- CTWR 321 Introduction to Hour-Long Television Writing Units: 2

Total units: 10

Year Two, First Semester

- CTPR 290 Cinematic Communication Units: 4, 6 (6 units only)
- CTWR 206a Writing the Screenplay Units: 4
- CTWR 416 Motion Picture Script Analysis Units: 2

Total units: 12

Year Two, Second Semester

- CTWR 206b Writing the Screenplay Units: 4
- CTWR 411 Television Script Analysis Units: 2
- CTWR 421 Writing the Hour-Long Dramatic Series Units: 2
  or
- CTWR 434 Writing the Half-Hour Comedy Series Units: 2

Total units: 8

Year Three, First Semester

- CTCS 464 Film and/or Television Genres Units: 4 or
- CTCS 469 Film and/or Television Style Analysis Units: 4

- CTWR 305 Advanced Screenwriting: The Relationship Screenplay Units: 4
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4
  or
- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4

Total units: 12

Year Three, Second Semester

- CTWR 449 Rewriting the Original Dramatic Series Pilot Units: 4
  or
- CTWR 453 Advanced Feature Rewriting Units: 4

Total units: 4

Year Four, First Semester

- CTWR 418a Senior Thesis Units: 4 or
- CTWR 419a Senior Thesis in Dramatic Television Units: 4
  or
- CTWR 420a Senior Thesis in Half-Hour Television Comedy Units: 4

Total units: 4

Year Four, Second Semester

- CTWR 418b Senior Thesis Units: 4 or
- CTWR 419b Senior Thesis in Dramatic Television Units: 4

  or
- CTWR 420b Senior Thesis in Half-Hour Television Comedy Units: 4
- CTWR 459a Entertainment Industry Seminar Units: 2

Total units: 6

Electives

Suggested electives in Cinematic Arts include:

- CTWR 404 Foundations of Comedy Units: 2
- CTWR 407 Creating the Comedic Character Units: 2
- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 417 Script Coverage and Story Analysis Units: 2
- CTWR 422 Creating the Dramatic Television Series Units: 2
- CTWR 430 The Writer in American Cinema and Television Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2 max 6
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8
- CTWR 437 Writing the Original Situation Comedy Pilot Units: 4 max 8
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4
- CTWR 439 Writing the Original Dramatic Series Pilot Units: 4 max 8
- CTWR 449 Rewriting the Original Dramatic Series Pilot Units: 4 max 8
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8
- CTWR 477 Staff Writing the Sketch Comedy Show Units: 2 max 6
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4 max 8
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4 max 8
- CTWR 499 Special Topics Units: 2, 3, 4 max 8

Grade Point Average Requirements

A minimum grade of C (2.0) must be earned in all required and prerequisite courses (a grade of C- (1.7) or lower will not fulfill a major requirement).

Master's Degree

Writing for Screen and Television (MFA)

The Master of Fine Arts degree in Writing for Screen and Television, is an intensive two-year degree program that concentrates on writing for narrative film and television. During the course of their studies, students benefit from a wide array of internship and mentorship opportunities available as a result of the university's close links to the Los Angeles film industry's top screenwriters, directors, production companies and studios.

Course work includes practical instruction in everything a working writer needs to learn about the filmmaker's art and craft. Writing is taught in small workshop-style classes. The approach focuses on the visual tools of storytelling, developing stories from characters and then on an Aristotelian three act structure. Fractured narratives, ensemble stories, experiments with time and points of view, as well as other idiosyncratic styles of storytelling, are also addressed. The curriculum covers other professional concerns, including legal issues, agents and the Writer's Guild, as well as the history and analysis of cinema and television. Classes are taught by working writers with a wide variety of skills, experience and approaches.

Each fall 32 students are selected to begin the Graduate Writing for Screen and Television Program; there are no spring admissions. Applicants must submit a supplemental application and materials to the Graduate Writing for Screen and Television Program. For specific instructions, contact the Cinematic Arts Office of Admission, University Park, Los Angeles, CA 90089-2211, (213) 740-8358 or online at *cinema.usc.edu*.

A total of 44 units is required. A minimum of 30 units must be 500-level or above.

Required Courses (33–35 units)

Year One, First Semester

- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2

- CTWR 521 Advanced Hour-Long Television Drama Units: 2 or
- CTWR 534 Advanced Half-Hour Television Comedy Units: 2

- CTWR 572 Practicum in Directing Actors for Film Units: 2 or 4

Total units: 8

Year One, Second Semester

- CTWR 502 Graduate Writing Symposium Units: 1
- CTWR 514b Basic Dramatic Screenwriting Units: 2
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2

- CTWR 537 Advanced Half-Hour Comedy Series Pilot Units: 4 or
- CTWR 539 Advanced Hour-Long Drama Series Pilot Units: 4

Total units: 9

Year Two, First Semester

- CTWR 515a Practicum in Screenwriting Units: 4 or
- CTWR 517a Thesis in Half-Hour Television Comedy Units: 4 or
- CTWR 519a Thesis in Television Drama Units: 4

Total units: 4

Year Two, Second Semester

- CTWR 515b Practicum in Screenwriting Units: 4 or
- CTWR 517b Thesis in Half-Hour Television Comedy Units: 4 or
- CTWR 519b-Thesis in Television Drama Units: 4

- CTWR 559 The Business of Writing for Screen and Television Units: 2

Total units: 6

Note:

A minimum of two units of course work with a production component is required.

Courses with a Production Component (2 Units)

- CTAN 448 Introduction to Film Graphics — Animation Units: 4
- CTIN 501 Interactive Cinema Units: 2
- CTPR 476 Directing The Comedic Scene Units: 2
- CTPR 479 Single Camera Television Dramatic Pilot Units: 2
- CTPR 484 Advanced Multi-Camera Television Workshop Units: 4
- CTPR 504 Fundamentals of Production Units: 4
- CTPR 507 Production I Units: 4
- CTWR 438 Linked Narrative Storytelling for the Web Units: 2, 4
- CTWR 487 Staff Writing the Multi-Camera Television Series Units: 4
- CTWR 497 Staff Writing the Single-Camera Half-Hour Series Units: 4

Note:

A minimum of four units of critical studies course work is required.

CTCS Courses (4 Units)

- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- CTCS 501 World Cinema Before 1945 Units: 2
- CTCS 502 World Cinema After 1945 Units: 2
- CTCS 503 Survey History of the United States Sound Film Units: 2
- CTCS 504 Survey of Television History Units: 2
- CTCS 505 Survey of Interactive Media Units: 2
- CTCS 510 Case Studies in National Media and/or Regional Media Units: 4 max 12
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 569 Seminar in Film and Television Authors Units: 4
- CTCS 587 Seminar in Television Theory Units: 4

Electives (9-11 units)

Students may choose from the following electives to complete their degree. Additional courses beyond the required 4 units of CTCS course work, from the critical studies list of courses, may be taken as electives, as can additional courses from the list of courses with a production component. Electives outside of cinematic arts are available with departmental approval.

Electives

- CNTV 495 Internship in Cinematic Arts Units: 1, 2, 4 max 4
- CTAN 436 Writing for Animation Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 483 Introduction to Game Development Units: 4
- CTIN 488 Game Design Workshop Units: 4
- CTIN 558 Business of Interactive Media Units: 2
- CTPR 486 Single Camera Television Dramatic Series Units: 4
- CTPR 506 Visual Expression Units: 2
- CTWR 404 Foundations of Comedy Units: 2
- CTWR 411 Television Script Analysis Units: 2
- CTWR 431 Screenwriters and Their Work Units: 2 max 6
- CTWR 432 Television Writers and Their Work Units: 2 max 6
- CTWR 499 Special Topics Units: 2, 3, 4 max 8
- CTWR 518 Introduction to Interactive Writing Units: 2
- CTWR 526 Advanced Storytelling for Interactive Media Units: 2
- CTWR 541 Dreams, the Brain, and Storytelling Units: 2
- CTWR 555 Pitching for Film and Television Units: 2
- CTWR 557 Seminar in the Business of Writing and Producing Television Units: 2
- CTWR 560 Advanced Business Practices for Writers Units: 2
- CTWR 599 Special Topics Units: 2, 3, 4 max 8

Writing Intensive Electives

- CTWR 410L Character Development and Storytelling for Games Units: 4
- CTWR 433 Adaptations: Transferring Existing Work to the Screen Units: 2
- CTWR 435 Writing for Film and Television Genres Units: 2, 3, 4 max 8
- CTWR 468 Screenwriting in Collaboration Units: 4 max 8
- CTWR 520 Advanced Scene Writing Workshop Units: 2
- CTWR 522 Advanced Hour-Long Television Development Units: 2
- CTWR 549 Advanced Rewriting Workshop in Hour-Long Drama Units: 4
- CTWR 550 Advanced Story Development Units: 2
- CTWR 553 Advanced Rewriting Workshop Units: 4
- CTWR 585 Advanced Genre Writing Units: 2 or 4 max 8

Note:

Courses listed as writing intensive electives are considered heavy writing classes; students may take a maximum of three courses and 10 units of writing intensive courses per semester, required and/or elective.

Additional Requirements

Grade Point Average Requirement

An overall grade point average of 3.0 (A = 4.0) must be maintained in all courses. In addition, an overall grade point average of 3.0 in all units attempted is required to qualify for registration in CTWR 515a, CTWR 515b, CTWR 517a, CTWR 517b or CTWR 519a, CTWR 519b. Courses in which a grade of C- (1.7) or lower is earned will not apply toward a graduate degree.

In lieu of a thesis the student is required to either complete a full-length screenplay, which will be developed in CTWR 515a, CTWR 515b; or a pilot script and a series bible for a half-hour television comedy, which will be developed in CTWR 517a, CTWR 517b; or an original one-hour drama television pilot, mid-season episode and series bible, which will be developed in CTWR 519a, CTWR 519b; this final work must be accepted by the Division of Writing Graduation Committee.

Time Limit

Students must maintain satisfactory progress toward their master's degrees at all times. The time limit to complete all requirements is three years from the first course at USC applied toward the Master of Fine Arts degree. Course work more than seven years old is automatically invalidated and may not be applied toward the degree.

Writing for Screen and Television Certificate

The Writing for Screen and Television Certificate is awarded for one year of study.

Applicants must be recognized writers outside of the field of screenwriting.

The course of study is no less than 16 units total, over two semesters. Writers, both U.S. and international, should appeal directly to the chair for admission in the fall semester.

Admission is granted to only one or two scholars a year, and is of the highest selectivity. Applicants must have earned an undergraduate degree with at least a 3.0 GPA. Additionally, candidates must show compelling reason for not applying to a formal degree program.

The general course of study is as follows:

First Semester

- CTWR 513 Writing the Short Script Units: 2

- CTWR 514a Basic Dramatic Screenwriting Units: 2 or
- CTWR 515a Practicum in Screenwriting Units: 4

- CTWR 516 Advanced Motion Picture Script Analysis Units: 2
- CTWR 572 Practicum in Directing Actors for Film Units: 2 or 4

Total units: 8

Second Semester

- CTPR 536 Editing for Scriptwriters Units: 2

- CTWR 514b Basic Dramatic Screenwriting Units: 2 or
- CTWR 515b Practicum in Screenwriting Units: 4

- CTWR Electives Units: 2-6

Total units: 8

University Certificate

Writing for Screen and Television Certificate

The Writing for Screen and Television Certificate is awarded for one year of study.

Applicants must be recognized writers outside of the field of screenwriting.

The course of study is no less than 16 units total, over two semesters. Writers, both U.S. and international, should appeal directly to the chair for admission in the fall semester.

Admission is granted to only one or two scholars a year, and is of the highest selectivity. Applicants must have earned an undergraduate degree with at least a 3.0 GPA. Additionally, candidates must show compelling reason for not applying to a formal degree program.

The general course of study is as follows:

First Semester

- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2
  or
- CTWR 515a Practicum in Screenwriting Units: 4
- CTWR 516 Advanced Motion Picture Script Analysis Units: 2
- CTWR 572 Practicum in Directing Actors for Film Units: 2 or 4

Total units: 8

Second Semester

- CTPR 536 Editing for Scriptwriters Units: 2
- CTWR 514b Basic Dramatic Screenwriting Units: 2
  or
- CTWR 515b Practicum in Screenwriting Units: 4
  CTWR Electives

Total units: 8

USC Bovard College

USC Bovard College graduate programs are designed to provide professionals with specialized knowledge and skills to advance their careers in a student-centered and supportive learning environment. Our first graduate program is the Master of Science in Human Resource Management. This innovative online program, designed by some of the most influential minds in the profession, emphasizes the strategic role that human resources plays in the performance of organizations.

Founded in 2015, the USC Bovard College is proudly named after Emma Bovard, one of the first students to enroll at USC in 1880 and an early advocate for equal access to quality educational opportunities. In addition to providing rigorous graduate programs for professionals in flexible, convenient formats, USC Bovard College supports individuals during key academic and career transitions through programs such as USC Summer Programs and USC Bovard Scholars.

USC Bovard College
1150 S. Olive Street, Suite 300
Los Angeles, CA 90015
(213) 821-3000
info@bovardcollege.usc.edu

Administration
Anthony Bailey, *Dean*
John Keim, *Chief Academic Officer*
Gregory Vigil, *Chief Operating Officer*
Shamir Patel, *Director of Admissions*

Faculty
Gerald E. Ledford Jr., PhD, *Adjunct Professor*
Alec R. Levenson, PhD, *Adjunct Professor*
Jeffrey J. McHenry, PhD, *Adjunct Professor*
Christine Porath, PhD, *Adjunct Professor*
Ian Williamson, PhD, *Adjunct Professor*
Ian Ziskin, MILR, *Adjunct Professor*

Master's Program

Admissions Requirements

To be considered for the MS in Human Resource Management program, candidates must meet the following admissions standards:

- Bachelor's degree, or equivalent, from a regionally accredited college or university.
- Normally a cumulative undergraduate GPA of at least 3.0 (based on a 4.0 grading scale) or documented professional-level achievement.
- For international applicants, a valid score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE).

Admissions Materials

Required:

- A completed Graduate Admissions Application
- Application fee: $90
- A scanned copy of your official transcripts, to be uploaded with your online application. Once your application is complete and if you are accepted into the program, you will then be asked to request your official transcripts from all previously attended institutions in order to register for classes. (Note: Transcripts should be mailed to one of the Graduate Admission office addresses provided in the link. Do not mail transcripts to Bovard College or individual academic departments.)
- An up-to-date professional résumé
- For international applicants, official Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or Pearson Test of English (PTE) score report.

For applicants that do not meet the undergraduate GPA requirements and/or do not have at least two years of work experience, we require submission of the following supplemental materials:

- Letters of recommendation (two required, three preferred)
- Statement of purpose (approximately 500 – 1,000 words addressing why you want a MSHRM degree, why the program at USC is the best program for you, and how this program is going to help you in your career)

USC Bovard College completes a comprehensive review of all applications. We do not use a formula. Successful applicants will have demonstrated academic and/or professional success.

Master's Degree

Human Resource Management (MS)

The Master of Science in Human Resource Management program is designed to prepare professionals to advance their careers in the field of human resources (HR). The program emphasizes the strategic role that human resources plays in the performance of global organizations, providing students with the knowledge and skills needed to be effective partners. In addition to core HR principles, students examine the full spectrum of human capital management concepts, including talent acquisition and retention, employee motivation, change management, and organizational culture. Students will learn about key HR processes, including talent management, total rewards, performance management, learning and development, employee relations, and HR analytics. Finally, students will explore key topics that are increasingly important to HR, including managing in a global context, diversity and inclusion, principled leadership, HR technology, and corporate social responsibility.

HRM Core

All core HRM courses are required.

- HRM 500 Human Resource Strategy Units: 2
- HRM 505 Organizational Culture and Employee Outcomes Units: 2
- HRM 510 Leadership in Human Resources Units: 2
- HRM 515 Organization Design Units: 2
- HRM 520 Talent Management Units: 2
- HRM 525 Total Rewards Units: 2
- HRM 530 Learning and Development Units: 2
- HRM 535 Employee Relations Units: 2
- HRM 540 Human Resources Analytics Units: 2
- HRM 545 Management of Diverse and Global Human Resources Units: 2
- HRM 550 Change Management and Organization Development Units: 2
- HRM 555 Anticipating the Future of Human Resources Units: 2

USC Dornsife College of Letters, Arts and Sciences

The USC Dornsife College of Letters, Arts and Sciences is the academic heart of the University of Southern California. The oldest, largest and most diverse of USC's academic divisions, USC Dornsife is composed of over 8,000 undergraduate and graduate students and nearly 900 faculty. The breadth and depth of USC Dornsife is vast with more than 40 academic departments and programs across the humanities, social sciences and natural sciences, and dozens of research centers and institutes.

USC Dornsife fosters the liberal arts ethos of small classes and close working relationships between students and faculty within the context of a great research university, where internationally recognized scholars are constantly pursuing new ventures. Undergraduates select from more than 150 courses of study as well as explore opportunities such as overseas studies, service-learning and internships. With approximately 50 doctoral degree and master's programs administered through the USC Graduate School, USC Dornsife not only trains the next generation of scholars, but also ensures that America's research enterprise remains competitive.

By immersing its students in deep scholarship and discovery-based learning opportunities, USC Dornsife prepares its graduates to become tomorrow's leaders, prepared to succeed in any field or advanced degree program.

Administration

Amber Miller, PhD, *Dean and Anna H. Bing Dean's Chair*
Peter C. Mancall, PhD, *Divisional Dean for the Humanities and Social Sciences*
Stephen Bradforth, PhD, *Divisional Dean for Natural Sciences*
Steven Lamy, PhD, *Vice Dean for Academic Programs*
Donal Manahan, PhD, *Vice Dean for Students*
Jane M. Cody, PhD, *Associate Dean for Academic Programs*
James R. McElwain, AIA, *Architect*
Richard Fliegel, PhD, *Associate Dean for Undergraduate Programs*
Mary Ho, *Assistant Vice Dean for Diversity and Strategic Initiatives*
Vance Ito, *Chief Finance Officer and Associate Dean*
Stephen Mackey, *Vice Dean for Administration and Finance*
Karen Rowan-Badger, *Associate Dean of Admissions and Student Services*
Eddie Sartin, *Senior Associate Dean for Advancement*

Graduate Studies in Letters, Arts and Sciences

Graduate studies leading to the master's and PhD degrees are available within most departments of the USC Dornsife College of Letters, Arts and Sciences. Candidates for graduate degrees must complete both the departmental requirements listed for each degree and the general requirements set by The Graduate School.

Undergraduate Programs

The USC Dornsife College of Letters, Arts and Sciences awards the Bachelor of Arts (BA) and the Bachelor of Science (BS) in a number of disciplines. Each degree requires a minimum of 128 units.

Majors

Students in the college may major in a single discipline or combine several interests in an interdisciplinary program.

Selecting a Major

A major may be chosen because the student is especially interested in a subject, because of particular abilities in certain areas, or because it is an especially fitting preparation for a profession. The choice of a major may thus become part of planning for a career. But a choice in the college does not limit the student to a single career or line of work. Liberal arts majors are unusually adaptable and the skills learned prepare students for any career they choose.

A student may declare a major at any time, but is expected to record his or her major in the Office of Academic Records and Registrar at or before the beginning of the junior year or completion of 64 units. This allows sufficient time to fulfill the course requirements of the major in the student's third and fourth years. For some majors, however, and especially for a major in one of the natural sciences aiming for the BS degree, it is advantageous to declare the major sooner, so the program can be spaced over the full four years.

Changing a Major

If, after a major has been declared, the student wishes to change to a different field (or add another field of study to the existing one), a Change of Major form must be filed. The form may be obtained in the USC Dornsife Advising Office or the Office of Academic Records and Registrar in John Hubbard Hall. The form must be completed and returned to the Office of Academic Records and Registrar. When a major is changed, the new department adviser must sign the form.

Types of Majors and Major Requirements

Departmental Major (BA or BS Degree)

A departmental major for the BA degree consists of specified lower-division courses and, generally, not less than 24 or more than 32 upper-division units in a single department or discipline. A greater concentration of units in a single discipline is usually required in majors for the BS degree than in majors for the BA degree.

The specific requirements for each department major will be found in the departmental sections of this catalogue.

Double Major (BA/BA or BS/BS)

A double major consists of two majors that allow the student to earn the same degree, either a BA or BS degree, within the college. The student must complete the requirements for both majors and whatever other course work is needed to complete 128 units. Combinations of interdepartmental and department majors are also possible. See the Undergraduate Degree Programs page for rules governing the overlap of courses allowed for a double major.

Interdepartmental Majors

Humanities or Social Sciences Major (BA Degree)

A humanities or social sciences major consists of not less than 32 upper-division units within departments in the humanities or departments in the social sciences. Of the 32 required upper-division units for the interdepartmental major, 20 are typically taken in one department, and the additional 12 units are taken from applicable courses in the area in which the department of concentration is housed. See the departmental listing for more specific requirements for the interdepartmental major, including lower-division requirements.

Physical Sciences Major (BS Degree)

The departments of chemistry, earth sciences, and physics and astronomy, offer a physical sciences major in the natural sciences and mathematics. The major requires specific lower-division courses in chemistry, earth sciences, mathematics, physics. In addition, students must take 28 upper-division units that apply to the major from one of the four departments. Of the 28 required upper-division units, at least four units must be taken in each of the four cooperating departments.

Program Major (BA or BS Degree)

The college has a number of special programs, many of which offer majors. A program major consists of designated courses, which include not less than 24 upper-division units chosen from the list of courses which make up the program.

Programs are often organized either around the study of a region or a topic that is not specific to any single discipline, or around two or more disciplines that have joined together to deal with a common problem or issue. Program majors are interdisciplinary and offer unusual range to students who have topical interests. Specific requirements for all program majors are listed under the program titles.

Dual Degree

A dual degree is one that includes course work from two schools or two different degree programs within the same school that have been organized into a single program. Listings of graduate dual degrees can be found under Programs, Minors and Certificates. The

student receives two diplomas.

Progressive Degree Program

A progressive degree program enables a USC Dornsife College of Letters, Arts and Sciences undergraduate to begin work on a master's degree while completing requirements for the bachelor's degree. The progressive degree may be in the same or different departments, but should be in a closely-related field of study. Students in a progressive degree program must fulfill all requirements for both the bachelor's degree and the master's degree, except for the requirement of a specific number of units for the two separate degrees. The master's degree may be awarded at the same time as, but not prior to, the bachelor's degree. The student receives two diplomas. Further details about progressive degrees can be found here.

Second Bachelor's Degree

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

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

The first and second bachelor's degrees may be completed at the same time, but it is not required.

Substitution for Major Requirements

If a student wishes to make an adjustment to the major requirements in his or her department or program, the department adviser may, with the support of the department, substitute a comparable upper-division course for a required one. Substitutions and waivers of USC or transfer courses for upper-division requirements are to be limited to 25 percent. Lower-division courses cannot be substituted for upper-division requirements.

Unit Limitation

No more than 40 upper-division units in the major may be applied to any degree under the jurisdiction of the USC Dornsife College of Letters, Arts and Sciences. A student wishing to exceed this limit must obtain the approval of the major department and the dean of undergraduate programs.

Minors

USC Dornsife College of Letters, Arts and Sciences offers a wide array of minors that can provide unique breadth and complement or enhance the major field of study. Many of the college minors themselves are interdisciplinary and combine classes in two or more college departments. They may also combine with internships or classes in one of USC's professional schools.

Basic Requirement for a Degree from the USC Dornsife College of Letters, Arts and Sciences

For those undergraduate students earning a degree in USC Dornsife, a minimum of 104 units applicable to the degree must be earned in college academic departments. For students graduating with a minor or a second bachelor's degree, this minimum is reduced to 96 units. Other exceptions will be considered by the dean of undergraduate programs in USC Dornsife.

This policy also applies to transferable courses (see Course Work Taken Elsewhere).

Units Required Each Semester

The student is expected to complete about 16 units each semester; 18 units are generally considered to be the maximum number in a manageable program. If the student wants to enroll in more than 18 units, he or she may do so, but should consult first with their academic adviser.

Grade Point Average Requirement

A grade point average of at least C (2.0) on all units attempted at USC is required for undergraduate degrees. The college requires a minimum 2.0 grade point average in upper-division courses applied toward the major. Some departments require grades of C or higher in specified courses. A grade point average of at least B (3.0) on all units attempted at USC is required for master's degrees. A grade point average of at least B (3.0) on all units attempted at USC is required for doctoral degrees.

Advising and Academic Services

USC Dornsife Advising Office

Email: cas@dornsife.usc.edu
dornsife.usc.edu/advisement/

Grace Ford Salvatori 315
(213) 740-2534
FAX: (213) 740-3664
Majors Advised:

- Environmental Science and Health
- Environmental Studies
- Forensics and Criminality (minor)
- Health and Human Sciences
- Health and Humanity
- NGO's and Social Change
- Philosophy
- Philosophy, Politics, and Law
- Sociology
- Pre-Law

Kaprielian Hall 357
(213) 821-4316
Majors Advised:

- American Studies
- Anthropology
- Archaeology
- Art History
- Astronomy
- Biophysics
- Central European Studies
- Classics
- Comparative Literature
- Contemporary Latino and Latin American Studies
- East Asian Languages and Cultures
- French
- Global Studies
- Italian
- Mathematics
- Middle East Studies
- Physics
- Religion
- Spanish
- Pre-Grad

Hancock Foundation Building 107
(213) 740-3800
Majors Advised:

- Biochemistry
- Biological Sciences
- Chemistry
- Human Biology
- Neuroscience
- Pre-Grad

USC Dornsife Advising Office provides a wide range of advising services and programs that integrate students, faculty, staff, academic disciplines and curricula into a meaningful educational experience. Academic advisors work closely with students to help them integrate into the academic life of USC Dornsife and provide curricular guidance so students can graduate in a timely manner.

Academic advising is mandatory for all students entering USC Dornsife until they have completed 32 units. All students in USC Dornsife are strongly encouraged to seek individual academic advisement at least once each semester until graduation. Guidance regarding academic requirements, policies and program planning is available by appointment or on a walk-in basis.

The services of a college ombudsman are available to students who have academic concerns that cannot be adequately addressed by the usual mechanisms of consulting instructors, department chairs or other university offices. The ombudsman can be particularly helpful in the case of grade appeals that are complex in nature. The ombudsman functions as an intermediary between the student, the faculty and other offices on campus.

Advising for Pre-law Programs

Students who are interested in going to law school consult one-on-one with academic advisors in the Dornsife College Advising Office who specialize in this area. Pre-law students are supported in all aspects of the law school application process, including writing an effective personal statement and requesting appropriate letters of recommendation.

Pre-law advisors also help students target appropriate law schools and inform students about pre-law and law-related events and student organizations. Pre-law students are also invited to subscribe to an email listserv sponsored by the Dornsife College Advising Office to stay connected with pre-law resources and information

Advising for Graduate School Programs

The pre-graduate school advisors assist USC undergraduates and alumni interested in applying to all graduate programs other than law and medicine. The advisors help students determine when and if they should apply to graduate school and guide students in the process of researching and choosing appropriate schools and programs. Students receive support in navigating the admission process, writing statements of purpose, requesting letters of recommendation, exploring test preparation resources and identifying and pursuing sources of funding.

Off-Campus Programs and Studying Abroad

Office of Overseas Studies

Mark Taper Hall of Humanities 341
(213) 740-3636
FAX: (213) 740-2265
Email: overseas@usc.edu
dornsife.usc.edu/overseas

The Office of Overseas Studies provides opportunities for students to study abroad for a semester or a year. Eligible students can choose among 55 academic programs in 29 countries. The 8-week summer Pembroke-King's Programme at Cambridge University is also offered through this office. Financial aid and scholarships may be applied to the cost of semester and year programs.

USC Dornsife Academic Programs

Grace Ford Salvatori 320
(213) 740-8555
Email: adap@dornsife.usc.edu
dornsife.usc.edu/off-campus-programs

USC Dornsife also offers short-term academic programs in several different formats in the United States and abroad. Unique programmatic opportunities, such as *Problems without Passports* and *Maymester* courses, extend undergraduate learning outside the walls of the university to just about anywhere in the world. Students will gain research experience, participate in problem-based learning courses, study in a foreign country, and add a unique boost to future resumes.

Washington D.C. Semester Program

Email: dornsifedc@usc.edu
dornsife.usc.edu/dornsife-dc/

The Washington, D.C. Semester Program provides a unique, semester-long opportunity for Dornsife students to study and work in the nation's capital. The immersive program capitalizes on the D.C. experience. Courses are drawn from areas with direct policy relevance such as foreign policy, politics and the political process and economics. All students complete an internship with one of Washington's many policy-focused organizations, including government agencies, non-governmental organizations, advocacy groups, think tanks, consulting firms and congressional offices. The Dornsife D.C. program is open to students from all majors while maintaining a focus on practical policy, both domestic and international.

Office of Pre-Health Advisement

Hedco Neurosciences Building 120
(213) 740-4844
FAX: (213) 740-5653
Email: prehealth@dornsife.usc.edu
dornsife.usc.edu/pre-health

The Office of Pre-Health Advisement serves current USC students, alumni and post-baccalaureate students who are interested in pursuing a career within the health professions (e.g., medicine, dentistry, pharmacy, etc.). Pre-health advisors are committed to providing an array of student-centered advisement services and support tools tailored to meet the individual needs, interests and goals of pre-health students. The program promotes a sense of community; meaningful relationships with students, staff and faculty; academic excellence; leadership; wellness; and learning through community service, clinical exposure, laboratory research and campus organizations.

Pre-health students are supported in all aspects of the health professional school application process, including writing an effective personal statement and requesting appropriate letters of recommendation. The office also offers pre-health curriculum planning; assistance with major and minor selection; and workshops, events and opportunities for clinical, research and volunteer activities. The office encourages involvement in the campus community and pre-health student organizations.

Departments and Programs

General Education Program

Grace Ford Salvatori Hall, Room 320
(213) 740-2961
FAX: (213) 740-4839
usc.edu/ge
Director: Richard Fliegel, PhD

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see here.

Course Listing

For a complete list of general education courses, see the general education section.

Other Requirements

In addition, all students at USC must complete a two-course

writing requirement. All students in the USC Dornsife College of Letters, Arts and Sciences and some in the professional schools (see listing for each school's requirements) must also satisfy the foreign language requirement.

Writing Requirement

In their writing classes students learn to think critically, to build sound arguments and to express their ideas with clarity. The writing requirement comprises two courses (which cannot be taken on a pass/no pass basis).

Lower-division Writing Requirement

Most undergraduates take WRIT 150 Writing and Critical Reasoning–Thematic Approaches as their first writing course. Students enroll in this writing course either in the fall or spring of their freshman year.

Students in the Thematic Option program satisfy this requirement with CORE 111.

Some students are better served by taking a preparatory course before they enroll in WRIT 150. Entering freshmen who score below a specified level on the verbal portion of the SAT take the University Writing Examination. Based on the result of this examination, certain students enroll in WRIT 120 Introduction to College Writing or WRIT 121 Introduction to College Writing in a Second Language during their first semester at USC. Clearance to register for these preparatory courses may be obtained at the Writing Program Office.

International students take the University Writing Examination after having completed any course work required by the American Language Institute.

Upper-division Writing Requirement

An advanced writing course, taken in a student's junior or senior year, is geared toward students' areas of special interest, such as the arts and humanities, science, law, engineering or business. In this course, students learn to integrate more complex information and construct more sophisticated arguments.

Foreign Language Requirement

Students may satisfy the foreign language requirement only by (1) earning a passing grade in Course III of a foreign language sequence at USC or its equivalent elsewhere or (2) scoring on the placement examination at a level considered by the department as equivalent to the completion of Course III or (3) scoring on a national or statewide examination at a level set by the department and approved by the USC Dornsife College of Letters, Arts and Sciences. Students who can supply proof of at least two years of full-time secondary schooling beyond the age of 14 taught in a foreign language may request exemption from the foreign language requirement. The USC Language Center has established a procedure for students who have demonstrated chronic difficulties with foreign language acquisition. Students may in some cases be approved to complete the requirement using an alternative set of courses. For additional information contact the USC Language Center, THH 309, (213) 740-1188, language.usc.edu.

All students earning degrees granted by or under the jurisdiction of the USC Dornsife College of Letters, Arts and Sciences or earning degrees in programs of other schools that require three semesters of foreign language who do not meet the criteria of (1), above, must take a placement examination to determine their level of language proficiency. Placement in elementary and intermediate foreign language courses is made by the appropriate placement examination. Transfer courses, which meet foreign language level I and level II subject requirements will not meet the prerequisite for the next course in a sequence. Students may be advised to repeat, without additional credit, a semester or semesters of instruction if their skills are judged insufficient at the time of testing.

All students who as freshmen enrolled in degree programs that have a foreign language requirement are expected to fulfill that requirement by the time they have completed 64 units at USC. Students who do not satisfy the foreign language requirement before the completion of 48 units at USC will have a "mandatory advisement requirement" warning them of the need to complete the foreign language requirement. Students who do not satisfy the requirement before the completion of 64 units at USC will be required to seek approval to register.

Students admitted as transfers for whom foreign language is a requirement should fulfill it before they have completed 48 units at USC. Students who do not satisfy the foreign language requirement before the completion of 32 units at USC will have a "mandatory advisement requirement" warning them of the need to complete the foreign language requirement. Students who do not satisfy the requirement before the completion of 48 units at USC will be required to seek approval to register.

Students admitted into programs without a foreign language requirement who subsequently make a change of major into a program with a foreign language requirement must satisfy the requirement before completion of 48 units at USC after switching into the major.

International students whose native language is not English are exempt from the foreign language requirement. Students with advanced skills in languages other than those taught at USC may request exemption from the foreign language requirement if (1) they can supply proof of at least two years of full-time secondary schooling taught in a foreign language beyond the age of 14, or (2) if they can pass a competency exam testing for advanced language skills and administered at USC subject to the availability of suitable academic examiners; the competency exam will test proficiency in speaking, reading and writing skills. Students with documented learning disabilities or physical impairments inhibiting language acquisition may petition for substitution.

American Studies and Ethnicity

American Studies and Ethnicity integrates humanistic and social scientific perspectives, and brings them to bear on an examination of the United States with a particular emphasis on comparative study of the peoples, cultures, history and social issues of the Western United States. The department offers four separate majors in American Studies and Ethnicity, African American Studies, Asian American Studies, and Chicano/Latino Studies; and minors in American Studies and Ethnicity, American Popular Culture and Jewish American Studies. The graduate program offers a PhD for students interested in broad interdisciplinary training at an advanced level to study the peoples, cultures and institutions of the United States in courses that integrate modes of inquiry from the humanities and the social sciences. Drawing upon the cultural resources of a cosmopolitan city on the Pacific Rim and upon the strength and diversity of its professional schools as well as departments in the USC Dornsife College of Letters, Arts and Sciences, these degree programs provide a richly interdisciplinary curriculum that is unique for its constitution of American Studies and Ethnic Studies as comparative and interethnic program that takes as its focus a region — Los Angeles, California and the West — marked by challenging social and cultural changes.

American Studies and Ethnicity offers challenging and diverse opportunities to study the peoples, cultures and institutions of the United States in interdisciplinary courses. Combining the study of history with literature, the arts and the social sciences, American Studies and Ethnicity seeks to bring together these various disciplines and modes of inquiry in a common project: the effort to understand the diverse peoples and cultures that have composed the United States and to provide critical perspectives on the words, deeds, myths and material practices that have shaped this country in its full regional, ethnic, class and gender diversity. An education in American Studies and Ethnicity will be particularly appropriate for students interested in pursuing careers in law, journalism, government, foreign service, social work, international business,

public administration and education.

American Studies and Ethnicity is administered by an executive committee comprising the chair, directors of the four majors and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, the opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

3620 S. Vermont Ave., KAP 462
Los Angeles, CA 90089-2534
(213) 740-2426
FAX: (213) 821-0409
Email: aseinfo@dornsife.usc.edu
dornsife.usc.edu/ase

Chair: Nayan Shah, PhD
King Faisal Chair in Islamic Thought and Culture and Professor of Religion and American Studies and Ethnicity: Sherman Jackson, PhD*
Turpanjian Chair in Civil Society and Social Change and Professor of Sociology and American Studies and Ethnicity: Manuel Pastor, Jr., PhD*
USC Associates Chair in Humanities: John Carlos Rowe, PhD *(English)*
Professors: Sarah Banet-Weiser, PhD* *(Communication)*; Dorinne Kondo, PhD *(Anthropology)*; Laura Pulido, PhD; David Román, PhD* *(English)*; George J. Sánchez, PhD* *(History)*; Nayan B. Shah, PhD
Associate Professors: Judith Jackson Fossett, PhD*; Macarena Gómez-Barris, PhD; Sarah Gualtieri, PhD* *(History)*; Thomas Gustafson, PhD* *(English)*; Stanley Huey, Jr., PhD *(Psychology)*; Lanita Jacobs, PhD* *(Anthropology)*; Kara Keeling, PhD *(Cinematic Arts)*; Joshua David Kun, PhD *(Communication)*; Viet Nguyen, PhD* *(English)*; Francille Rusan Wilson, PhD
Assistant Professors: Chris Finley, PhD; Juan De Lara, PhD
Lecturer: Alicia Chavez, PhD
Emeritus Professor: Felix Gutierrez, PhD *(Journalism)*
*Recipient of university-wide or college teaching award.

Undergraduate Degrees

Honors Program

The program offers a two-semester honors program for qualified students, first identified in AMST 350 or by the program adviser. Students spend their first semester in the program in an honors senior seminar, AMST 492, focused on developing their research and methods for the honors thesis. During the second semester, all honors students are required to take AMST 493 in which each completes a thesis project on a topic of his or her own choosing under faculty direction. Contact the program adviser for further information. To graduate with honors, program majors must successfully complete an honors thesis and have a minimum GPA of 3.5 in their major course work.

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies.

Minor in Race, Ethnicity and Politics

See the Department of Political Science.

Graduate Degrees

The major objective of the graduate program in American Studies and Ethnicity is to prepare future faculty with the research and teaching abilities to understand and communicate the diversity of American society and culture. This is accomplished by stressing the importance of an interdisciplinary perspective which integrates social analysis with cultural approaches. The program's most significant areas of specialization are: (1) the theoretical study of race and ethnicity, particularly as it is constructed through gender, class, sexuality and the state; (2) a regional focus on Los Angeles and the American West; and (3) an emphasis on the study of cultural production in the United States, with particular attention on the theoretical directions and methodological innovations in the interdisciplinary study of American culture.

Admission Requirements

Requirements for admission include: scores satisfactory to the program in the verbal, quantitative and analytical General Test of the Graduate Record Examinations; evidence of competence in writing English and analytical abilities; a satisfactory written statement by the applicant of aims and interests in pursuing interdisciplinary graduate work; letters of recommendation from at least three college instructors; and grades satisfactory to the department earned by the applicant at other institutions.

All applicants are required to take the GRE and submit their complete undergraduate record; at least three letters of recommendation and a statement of purpose should be sent to the director of the program. Applicants are urged to submit written materials as supportive evidence.

Degree Requirements

These degrees are under the jurisdiction of the USC Graduate School. Refer to The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

American Popular Culture

The interdisciplinary major in American Popular Culture helps students to assess from a variety of perspectives the icons and ideas they encounter every day, to think critically about the images and assertions of the mass media and commercial culture, and to see the experience of popular culture as it interacts with questions of gender and ethnicity in the American context. Students choose five classes, including one upper-division elective, from a curriculum organized to explore: critical approaches to popular culture; gender and ethnicity in American popular culture; and popular culture in the arts. Thirty six units are required, four at the lower-division and 32 at the upper-division level.

Lower-Division Requirements

Choose one course (4 units).

- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206mg The Politics and Culture of the 1960s Units: 4
- AMST 285gm African American Popular Culture Units: 4

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Critical Approaches to Popular Culture

- AMST 301gp America, the Frontier, and the New West Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- HIST 380 American Popular Culture Units: 4

Gender and Ethnicity in American Popular Culture

- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 385 African American Culture and Society Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- ENGL 343m Images of Women in Contemporary Culture Units: 4

Popular Culture in the Arts

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4

- ENGL 371g Literary Genres and Film Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- HIST 481 Producing Film Histories Units: 4
- MUJZ 419m The Jazz Experience: Myths and Culture Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4

Electives

Choose four additional courses (16 units) from the lists above or below. One must be an upper-division course in a department you have not already chosen for the major.

- AHIS 100g Introduction to Visual Culture Units: 4
- AHIS 250m Modernity and Difference: Critical Approaches to Modern Art Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 365m African American Art Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 2 or 4
- COMM 206 Communication and Culture Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 310 Media and Society Units: 4
- COMM 312 The Business and Culture of Celebrity Units: 4
- COMM 360 The Rhetoric of Los Angeles Units: 4
- COMM 366 Designing Media and Communication Projects for Social Change Units: 4
- COMM 371 Censorship and the Law: From the Press to Cyberspace Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 396 Fashion, Media and Culture Units: 4
- COMM 413 Propaganda, Ideology and Public Controversy Units: 4
- COMM 415m African American Rhetoric and Image Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 456 Entertainment, Marketing and Culture Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- CRIT 371 Art in the Public Realm: Contemporary Issues Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 403 Studies in National and Regional Media Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 408 Contemporary Political Film and Digital Media Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- CTCS 462 Critical Theory and Analysis of Games Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4
- DANC 212g Dance in Popular Culture Units: 4
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- ENGL 341 Women in English Literature before 1800 Units: 4
- ENGL 342g Women in English and American Literature after 1800 Units: 4
- JOUR 467 Gender and the News Media Units: 4
- LING 375 Sociolinguistics Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 365 Visual Sociology of the City and Its Residents Units: 4
- SOCI 410 The Sociology of Popular Culture Units: 4
- THTR 488mw Theatre in the Community Units: 4
- THTR 295 Theatre in Los Angeles Units: 2 (4 units required)

American Studies and Ethnicity (African American Studies) (BA)

African American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of African Americans, with a particular emphasis on the development and culture of the African American communities in California and the West as well as on both historical and contemporary effects of global issues on African American communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the African American experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

African American Studies is administered by an executive committee comprising the chair, directors of the four majors and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, the opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in African American Studies, or courses certified for African American Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200 (or AMST 230), AMST 350 and AMST 498; one course from each of the following three lists: History, Literature and Culture, and Social and Political Issues; and additional elective courses for a total of 16 units chosen from the courses certified in African American Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
  or
- AMST 230g Introduction to African American Studies Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 250gmw The African Diaspora Units: 4
- AMST 252gmw Black Social Movements in the U.S. Units: 4

- AMST 332m Post-Civil Rights Black America Units: 4
- HIST 355 The African-American Experience Units: 4
- HIST 453 The Age of Emancipation Units: 4
- HIST 455 Advanced Topics in African-American History Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4

Literature and Culture

- AHIS 365m African American Art Units: 4
- AHIS 475m Blackness in American Visual Culture Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 385 African American Culture and Society Units: 4
- CTCS 407 African American Cinema Units: 4
- ENGL 446 African-American Poetry and Drama Units: 4
- ENGL 447m African-American Narrative Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 206mg The Politics and Culture of the 1960s Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 337m Islam in Black America: From Slavery to Hip Hop Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 344m Islamic Law and American Society Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 466m The Psychology of African Americans Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 445 African American Anthropology Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- POSC 421 Ethnic Politics Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 469 Black Religion in America Units: 4

Upper-division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the African American Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

American Studies and Ethnicity (Asian American Studies) (BA)

Asian American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of Asian Pacific Americans, with a particular emphasis on the development and culture of the Asian American communities in California and the West as well as on both historical and contemporary effects of global issues on Asian American communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the Asian American experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Asian American Studies is administered by an executive committee comprising the chair, directors of the four majors and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, an opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in Asian American Studies, or courses certified for Asian American Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: *History, Literature and Culture, and Social and Political Issues*; and additional elective courses for a total of 16 units chosen from the courses certified in Asian American Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 378m Introduction to Asian American History Units: 4

Literature and Culture

- AMST 150gw The American War in Viet Nam Units: 4
- AMST 449m Asian American Literature Units: 4
- REL 336 Re-viewing Religion in Asian America Units: 4

Social and Political Issues

- AMST 220gmw The Making of Asian America Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- POSC 328 Asian American Politics Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Asian American Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4

- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

American Studies and Ethnicity (BA)

Program Major Requirements

Ten courses in American Studies and Ethnicity or courses certified for American Studies and Ethnicity credit are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: *History, Literature and Culture, and Social and Political Issues*; and additional elective courses for a total of 16 units chosen from the courses certified in American Studies and Ethnicity at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

100/200/300/400-Level Required Courses

One course from each of the following categories:

History

- AMST 250gmw The African Diaspora Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 373m History of the Mexican American Units: 4
- AMST 378m Introduction to Asian American History Units: 4
- AMST 379 Arabs in America Units: 4
- HIST 100gm The American Experience Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years
- HIST 355 The African-American Experience Units: 4
- HIST 380 American Popular Culture Units: 4
- HIST 457 The American West Units: 4
- HIST 458 History of California Units: 4

Literature and Culture

- AHIS 365m African American Art Units: 4
- AHIS 465 Studies in American Art Units: 4
- AHIS 475m Blackness in American Visual Culture Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- AMST 385 African American Culture and Society Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- ENGL 442 American Literature, 1920 to the Present Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4
- ENGL 446 African-American Poetry and Drama Units: 4
- GESM 120g Seminar in Humanistic Inquiry Units: 4
- REL 336 Re-viewing Religion in Asian America Units: 4
- REL 483 Religion and Popular Culture in the United States Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 111g Sex in America Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 150gw The American War in Viet Nam Units: 4
- AMST 201g LGBTQ America Units: 4
- AMST 202m Interethnic Diversity in the West Units: 4
- AMST 204g Introduction to Native Studies Units: 4
- AMST 206mg The Politics and Culture of the 1960s Units: 4
- AMST 220gmw The Making of Asian America Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 332m Post-Civil Rights Black America Units: 4
- AMST 337m Islam in Black America: From Slavery to Hip Hop Units: 4
- AMST 340m Latina/o LA Units: 4
- AMST 344m Islamic Law and American Society Units: 4
- AMST 345 Law and American Indian Studies Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- AMST 452m Race, Gender and Sexuality Units: 4
- AMST 466m The Psychology of African Americans Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- GESM 130g Seminar in Social Analysis Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- POSC 421 Ethnic Politics Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 333 Religion in the Borderlands Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 355m Immigrants in the United States Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Undergraduate Studies Director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 345 Law and American Indian Studies Units: 4

- AMST 392 Undergraduate Research Methods Units: 2
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8

American Studies and Ethnicity (Chicano/Latino Studies) (BA)

Chicano/Latino Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social and political experience of Chicanos and Latinos, with a particular emphasis on the development and culture of the Chicano/Latino communities in California and the West as well as on both historical and contemporary effects of global issues on Chicano/Latino communities. By drawing upon courses in American Studies and Ethnicity and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytic tools and methods of interpretation appropriate for studying the Chicano/Latino experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Chicano/Latino Studies is administered by an executive committee comprising the chair, directors of the four majors, and other faculty members. In addition to the college academic adviser, the directors of the majors serve as advisers to majors and minors, providing, in conjunction with the sequence of courses, an opportunity for students to undertake an interdisciplinary concentration under close faculty supervision. It is recommended that students meet with the appropriate major director to plan a coherent set of courses to fulfill the major or minor requirements.

Program Major Requirements

Ten courses in Chicano/Latino Studies, or courses certified for Chicano/Latino Studies credit, are required. The 10 courses must be distributed as follows: the three core requirement courses of AMST 200, AMST 350 and AMST 498; one course from each of the following three lists: History, Literature and Culture, and Social and Political Issues; and additional elective courses for a total of 16 units chosen from the courses certified in Chicano/Latino Studies at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- AMST 498 Senior Seminar in American Studies and Ethnicity Units: 4 *

Note:

**Honors students will substitute AMST 492 Research Methods in American Studies and Ethnicity.*

Required Courses

One course from each of the following categories:

History

- AMST 373m History of the Mexican American Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years

Literature and Culture

- AMST 305 Art and Performance in the Americas Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- SPAN 413m Social and Geographic Varieties of Spanish Units: 4

Social and Political Issues

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 340m Latina/o LA Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 389m Carceral Geographies Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- POSC 428 Latino Politics Units: 4
- PSYC 462m Culture and Mental Health Units: 4
- REL 333 Religion in the Borderlands Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4

Upper-Division Elective Courses

Additional courses for a total of 16 units from the lists above or below, or other American Studies and Ethnicity courses with the approval of the Chicano/Latino Studies director, 300 level or higher. No more than two total courses in the major may be taken outside the college.

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 348m Race and Environmentalism Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 392 Undergraduate Research Methods Units: 2
- AMST 452m Race, Gender and Sexuality Units: 4
- AMST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 max 12
- AMST 493 Senior Honors Thesis in American Studies and Ethnicity Units: 4
- AMST 499 Special Topics Units: 2, 3, 4 max 8
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Minor

American Popular Culture Minor

The interdisciplinary minor in American Popular Culture helps students to assess from a variety of perspectives the icons and ideas they encounter every day, to think critically about the images and assertions of the mass media and commercial culture, and to see the experience of popular culture as it interacts with questions of gender and ethnicity in the American context. Students choose five classes, including one upper-division elective, from a curriculum organized to explore: critical approaches to popular culture; gender and ethnicity in American popular culture; and popular culture in the arts. Twenty units are required, four at the lower-division and 16 at the upper-division level.

Lower-Division Requirements

Choose one course (4 units)

- AMST 150gw The American War in Viet Nam Units: 4
- AMST 205g Introduction to American Popular Culture Units: 4
- AMST 206mg The Politics and Culture of the 1960s Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Critical Approaches to Popular Culture: choose one (4 units)

- AMST 301gp America, the Frontier, and the New West Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- ENGL 392 Visual and Popular Culture Units: 4

- GESM 120g Seminar in Humanistic Inquiry Units: 4
- HIST 380 American Popular Culture Units: 4

Gender and Ethnicity in American Popular Culture: choose one (4 units)

- AMST 357m Latino Social Movements Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 385 African American Culture and Society Units: 4
- AMST 395m African American Humor and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- ANTH 445 African American Anthropology Units: 4
- GESM 130g Seminar in Social Analysis Units: 4

Popular Culture in the Arts: choose one (4 units)

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- ENGL 375 Science Fiction Units: 4
- HIST 481 Producing Film Histories Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Electives (4 units)

Choose one additional upper-division course from the lists above, in a department you have not already chosen for the minor.

American Studies and Ethnicity Minor

Course Requirements

For the minor in American Studies and Ethnicity, five courses in American Studies and Ethnicity, or courses certified for American Studies and Ethnicity credit, are required. The five courses must be distributed as follows: two core requirement courses and three additional elective courses chosen from the courses certified in American Studies and Ethnicity at the 300 level or above.

Core Requirements

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4

Upper-Division Elective Courses

Three courses from the American Studies and Ethnicity major lists, or other American Studies and Ethnicity courses with the approval of the American Studies and Ethnicity director, at the 300 level or higher. No more than one course in the minor may be taken outside the college.

Jewish American Studies Minor (American Studies)

Jewish American Studies is a multidisciplinary program designed to provide students with a critical understanding of the historical, cultural, social, political and religious experience of Jewish Americans, with a particular emphasis on the development and culture of Jewish communities in California and the West as well as on both historical and contemporary effects of global issues on American Jewish communities. By drawing upon courses in American Studies and by emphasizing comparative as well as interdisciplinary study, this program offers training in the analytical tools and methods of interpretation appropriate for studying the American Jewish experience in its particularity and ethnic and cultural study in general. The program is particularly appropriate for students interested in integrating studies in the humanities and social sciences and for students preparing to work and interact with diverse communities and cultures in the United States and abroad in such fields as education, human services, business, journalism and public administration.

Successful completion of 20 units in American Studies and Judaic Studies are required to qualify for the minor.

Core Requirements

- AMST 202m Interethnic Diversity in the West Units: 4
- JS 300 American Jewish History Units: 4

Three courses from the following:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 415 The American Jewish Experience in Film Units: 4
- JS 428 Blacks and Jews: Conflicts and Alliances Units: 4

Native American Studies Minor

This minor is an overview of Native American studies. We will study Indigenous intellectualism and resistance through Indigenous language revitalization, art, decolonization and political resistance.

Minimum Required Units: 20

Students choose five classes in American Studies and Ethnicity, or courses certified for American Studies and Ethnicity credit. The five courses are distributed as follows: two core requirement courses and three additional elective courses chosen from the courses listed below.

Core Requirements - 8 Units

- AMST 204g Introduction to Native Studies Units: 4
  and
- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
  or
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4

Elective Courses - 12 Units

- AMST 140gw Borderlands in a Global Context Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 345 Law and American Indian Studies Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- ENGL 444m Native American Literature Units: 4
- HIST 271g Telling Native American Stories Units: 4

Doctoral Degree

American Studies and Ethnicity (PhD)

Master of Arts

The department does not accept applicants for a Master of Arts degree. All graduate work in American Studies and Ethnicity at USC is taken as part of a PhD program, and the MA in American Studies and Ethnicity is intended only as a transitional degree in the process of completing requirements for the PhD, although in some cases students may be invited to attempt a terminal MA

After completing at least 30 units, taking AMST 500 and at least one research seminar, maintaining a GPA of at least 3.0, making successful academic progress and taking the qualifying exam, students will either be granted a transitional master's degree and continue on towards the PhD or be granted a terminal master's degree.

Doctor of Philosophy in American Studies and Ethnicity

Application deadline: December 1

Students may earn the PhD in American Studies and Ethnicity by successfully completing the following requirements.

Total Units Required

The student's course work must total at least 64 units. No more than eight units of 794 Doctoral Dissertation and no more than four units of 790 Research may count toward the 64 units.

Course Requirements

AMST 500 Introduction to American Studies and Ethnicity is required of all doctoral students, and it is highly recommended that students complete this course in the first year of residence. Two 600-level graduate seminars are required for the degree, with at least one of these being an interdisciplinary seminar offered by American Studies and Ethnicity. The second 600-level course must be approved by the director of graduate studies.

Foreign Language Requirement

PhD students are required to demonstrate proficiency in one foreign language. This requirement must be met before a student is eligible to take the qualifying examination. Competency may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better), or by passing a foreign language exam that tests proficiency in reading comprehension and translation.

Methods Requirement

Students are required to show competency in two theoretical methodologies from a list approved by the American Studies and Ethnicity department. In most cases, competency is established by successfully completing one course concentrating in a specific method offered by a department or school, although more advanced courses in that method may be suggested by a qualifying exam committee. The following methodologies fulfill the methods requirement: literary/textual analysis; historical/archival analysis; ethnography; cultural/visual analysis; spatial practices and analysis; and, quantitative analysis.

Disciplinary Requirement

The department of American Studies and Ethnicity believes that the strongest interdisciplinary research is conducted alongside a strong background in at least one disciplinary field by successfully completing at least four graduate courses in one discipline. These four courses must include at least one methodology course, one 600-level or above advanced seminar and two graduate reading courses at the 500- or 600-level. Each of these courses can also fulfill other requirements in the PhD program, particularly the methods requirement and the course requirements listed above.

Screening Procedures

The performance of every first-year doctoral student is formally assessed by the director of the program and the student's assigned adviser at the end of the spring semester and before a student has completed 24 units toward the degree. Unsatisfactory progress toward the degree requires either remedy of the deficiencies or termination of the student's graduate program. After successfully passing the assessment procedures, each student will be encouraged to establish a qualifying exam committee.

At the end of the second year, student progress will be evaluated and each student will formally establish the members of his or her interdisciplinary examination committee from faculty he or she has worked with during the first two years. A meeting of the director of the program, qualifying exam committee members and potential members of this examination committee will take place directly after the second year to identify remaining deficiencies in a student's training and identify solutions before the qualifying examination process begins.

Qualifying Examination

Following completion of course work, the student must sit for a qualifying examination at a time mutually agreed upon by the student and the qualifying exam committee. Students seeking the PhD will select four fields for examination. Every student must be examined by faculty from at least two different disciplines, as well as having one outside member on his or her examination committee.

This five-person examination committee will direct the student toward his or her qualifying examination, which will consist of both written and oral parts, in the third year. Examinations are graded honors, pass, low-pass or fail. The qualifying examination has two phases: written examinations in each field followed by a single oral examination on all four fields. Students with one fail, a low-pass in their dissertation field or more than two low-pass grades will not be permitted to enter the oral phase of the examination process. The qualifying exam committee determines whether the candidate may retake any exam graded low-pass or fail.

Dissertation

After the qualifying examination has been passed, an interdisciplinary dissertation committee of at least three faculty members from the examination committee must approve a dissertation prospectus before full-time research commences. Only at this point is a student admitted to candidacy for the PhD degree and will thereafter concentrate on the dissertation. After students become candidates for the PhD degree, they must register for 794 Doctoral Dissertation each semester thereafter until the dissertation is completed.

The final state of the program is the submission of a dissertation that makes an original and substantial contribution to its field of study. The final copy of the dissertation must conform to the regulations of the Graduate School.

Advisement

Upon entering the program, each student will be assigned an academic adviser from among the faculty closest to the student's own academic interests. Students should seek advice on their program of studies from this academic adviser, the director of the program and the director of graduate and professional studies.

Once a student formally establishes an interdisciplinary examination committee, the chair of this committee becomes the student's main academic adviser, along with other members of this qualifying exam committee. The committee must be in place and approved by the Graduate School at the time the student schedules a qualifying examination.

The dissertation committee becomes the student's main advising unit after the qualifying examination, with the chair having the principal responsibility of advisement. At all stages of the student's progress through the program, the director of the program and the director of graduate and professional studies will be available for advisement and counsel as well.

Transfer of Credit

A transfer of credit statement is prepared by the Degree Progress Department for students admitted to full graduate standing.
The application of any available transfer credit is contingent on successful completion of the screening exam and is determined by the director of the program no later than the end of the second year according to the following guidelines: credit will only be allowed for courses (1) from accredited graduate schools; (2) of grade B (3.0 on a four-point scale); (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and fitting into the program for the degree; and (4) approved by the Graduate School. Graduate transfer credit will not be granted for life experience, credit by examination, noncredit extension courses, correspondence courses, thesis course supervision or creative writing courses.

The maximum number of transfer credits which may be applied toward the MA degree is four units, and a maximum of 24 units of transfer credits may be applied toward the PhD degree. The Graduate School stipulates that transfer units must have been completed within 10 years of admission for the doctoral program to be applied toward the degree.

Anthropology

The Department of Anthropology offers a BA in Anthropology with tracks in cultural anthropology, medical anthropology and biological anthropology; a BA in Anthropology with a concentration in visual anthropology; a BA in Global Studies; minor programs in cultural anthropology, medical anthropology, folklore and popular culture, and Southeast Asia and its people; an MA in Anthropology; a certificate in visual anthropology; a progressive master's degree in visual anthropology; and a PhD in Anthropology. The Department of Anthropology encourages students to become involved in ethnographic research and fieldwork while gaining a firm theoretical foundation in anthropology. Special areas of emphasis in the department are provided by visual anthropology, biocultural approaches to human evolution, a medical anthropology program that examines the body, illness and healing from a cultural perspective, a folklore oriented course of study that links cultural practice to interpretive strategies and a newly initiated Global Studies major that seeks to provide conceptualizations of linkages of the global with the local. All of these topical interests are unified by a methodological approach that puts ethnography at the core and views personally experienced fieldwork as the foundation of our academic discipline.

Grace Ford Salvatori 120
(213) 740-1900
FAX: (213) 747-8571
Email: anthro@dornsife.usc.edu
Chair: Gary Seaman, PhD

Faculty

University Professor and ARCO/William F. Kieschnick Chair in the Neurobiology of Aging and Professor of Anthropology, Gerontology, Biological Sciences, and Psychology: Caleb E. Finch, PhD
Andrew W. Mellon Professor of the Humanities, Linda and Harlan Martens Director of the Early Modern Studies Institute and Professor of Anthropology and History: Peter C. Mancall, PhD
Albert G. and Frances Lomas Feldman Professor of Social Policy and Health: Lawrence Palinkas, PhD *(Social Work)*
Professors: Eugene Cooper, PhD; Gelya Frank, PhD *(Occupational Science)*; Janet Hoskins, PhD; Dorinne Kondo, PhD *(American Studies)*; Nancy Lutkehaus, PhD; Cheryl Mattingly, PhD; Alison Renteln, PhD *(Political Science)*; Andrei Simic, PhD; Craig Stanford, PhD* *(Biological Sciences)*
Associate Professors: Lanita Jacobs, PhD; Gary Seaman, PhD
Adjunct Professor: Jane Goodall, PhD
Adjunct Professor of the Practice: Andre Singer, PhD
Professor (Teaching): Erin Moore, PhD
Associate Professors (Teaching): Tok Thompson, PhD; Thomas Ward, PhD
Assistant Professor (Teaching): Thomas Garrison, PhD
Lecturers: Jennifer Cool, PhD; Tracie Mayfield, PhD; Rudy Melson, DrPH; Kenneth Seligson, PhD; Emily Zeamer, PhD
Emeritus Professor: G. Alexander Moore, PhD
Associate Professor Emerita: Joan Weibel-Orlando, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Interdisciplinary Law and Society Minor
See the Department of Political Science.

Minor in Photography and Social Change
See Sociology.

Graduate Programs

The Center for Visual Anthropology

The primary goals of the Center for Visual Anthropology (CVA) are: to promote the incorporation of visual modes of expression into the academic discipline of anthropology; to promote mutual understanding and collaboration between professionals in the visual media and in anthropology; to create an awareness of the anthropological perspective in documentaries produced for mass audiences; to improve the materials and techniques available for using film in teaching anthropology; to encourage the collection, archiving and analysis of visual documentation for anthropological research. The Ethnographics laboratory is a part of the Center for Visual Anthropology, which provides archival and computer facilities for students and faculty who work with non-linear editing systems and interactive media in anthropology. The primary mission of the Ethnographics Lab is to promote the integration of all forms of information, whether text, graphics of time-based media, into a new synthesis of anthropological knowledge. It provides support for research and representation in multimedia formats carried out in a new laboratory facility based on computer AV technologies and software.

The Jane Goodall Research Center is the designated repository of field data from Jane Goodall's work among the primates of Gombe National Park in Tanzania. A computer interactive multimedia archive of these materials is being implemented to make them available to students, faculty and other interested scholars.

Facilities

The CVA housed at the Social Science Building on the USC campus and at the C-Lab, is equipped with - broadcast-quality production and editing facilities in video.

These include Super 8 systems and highband 3/4" as well as 1/2" videos. Editing facilities include Super 8 editors, JVC 1/2" editing systems, a Sony 3/4" time code system, an online editing system and an AVID system. Editing and viewing facilities are also located in the School of Cinematic Arts. The CVA maintains a complete still photography lab and darkroom.

Policy on Films and Videos Produced by Students

All films and videos produced with school equipment, funding or facilities are the property of USC. Any income from distribution of student-produced films and videos will be used for the benefit of CVA students through production budgets, equipment purchases or scholarships.

Bachelor's Degree

Anthropology (BA)

The BA, Anthropology has three tracks: cultural anthropology and archaeology, medical anthropology and biological anthropology. Each track has five core courses and five additional required courses depending on the track. The total number of units for each program is 40-44.

In addition to the general education requirements, the following courses are required.

Cultural Anthropology and Archaeology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Principles of Human Organization Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4

- ANTH 202g Archaeology: Our Human Past Units: 4
- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 410a Ethnographic Field Methods and Practicum Units: 4
- ANTH 410b Ethnographic Field Methods and Practicum Units: 4
- ANTH 440 History of Anthropological Theory Units: 4

Five additional courses are required

Five additional courses are required, of which at least two must be topical and at least one must represent an area of world ethnography.

The following Anthropology courses are considered topical:

- ANTH 302 Humans and Ancient Environments Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 306 Primate Social Behavior and Ecology Units: 4

- ANTH 309L Virtual and Digital Culture, Heritage and Archaeology Units: 4
- ANTH 317 Imaging Indians: From Warriors to Windtalkers Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 335 Comparative Muslim Societies Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- ANTH 355 Urban Anthropology Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 365 Life History in Anthropological Perspective Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 375 Applied Anthropology Units: 4, 2 years
- ANTH 407 Peasant Society Units: 4
- ANTH 460 Economic Anthropology Units: 4
- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 2 or 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- ANTH 476 Ethnographic Film Theory from an Historical Perspective Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 405 Evolutionary Medicine Units: 4

The following courses are cross-listed with Anthropology and are also considered topical:

- AMST 395m African American Humor and Culture Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4
- SWMS 385m Men and Masculinity Units: 4

The following Anthropology courses are considered to represent an area of world ethnography:

- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 311 Old World Archaeology Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 315g North American Indians Units: 4
- ANTH 316gmp North American Indians in American Public Life Units: 4
- ANTH 320 Male and Female in Pacific Society Units: 4
- ANTH 322 Anthropology of Bali Units: 4
- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ANTH 324 Regional Ethnology: China Units: 4, 2 years
- ANTH 326 Ethnography of European Culture Units: 4
- ANTH 327 Anthropology of the Middle East and Islam Units: 4
- ANTH 328m Culture Change and the Mexican People Units: 4
- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- ANTH 335 Comparative Muslim Societies Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- ANTH 435x Ethnic Diversity in China/Inner Asia Units: 4

The following course is cross-listed with Anthropology and is also considered to represent an area of world ethnography:

Medical Anthropology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Principles of Human Organization Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4

- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 410a Ethnographic Field Methods and Practicum Units: 4
- ANTH 410b Ethnographic Field Methods and Practicum Units: 4
- ANTH 440 History of Anthropological Theory Units: 4

Five additional Anthropology courses are required

Five additional Anthropology courses are required, which should include at least three courses from the following list, one of which may be lower-division:

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 365 Life History in Anthropological Perspective Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- HBIO 405 Evolutionary Medicine Units: 4

Biological Anthropology Track Requirements

Required Courses, Lower-Division

- ANTH 201g Principles of Human Organization Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4

- HBIO 200Lg The Human Animal Units: 4

Required Courses, Upper-Division

- ANTH 440 History of Anthropological Theory Units: 4

- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ANTH 491 Directed Research for Honors Units: 4

- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4

Five additional upper-division Anthropology courses are required,

Five additional upper-division Anthropology courses are required, which should include at least three from the following:

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 375 Applied Anthropology Units: 4, 2 years
- HBIO 306 Primate Social Behavior and Ecology Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4

Anthropology (Visual Anthropology) (BA)

In addition to the general education requirements, the following courses are required.

Required Courses, Lower-Division

- ANTH 200Lg The Human Animal Units: 4
- ANTH 263g Exploring Culture through Film Units: 4

Required Courses, Upper-Division

- ANTH 410a Ethnographic Field Methods and Practicum Units: 4
- ANTH 410b Ethnographic Field Methods and Practicum Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 475 Ethnographic Film Analysis Units: 4
- ANTH 476 Ethnographic Film Theory from an Historical Perspective Units: 4

One Course To Be Selected From:

- ANTH 470 Multidisciplinary Seminar in Visual Anthropology Units: 2 or 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4

Two Courses To Be Selected From:

- Two 300- or 400-level anthropology courses not listed among the required courses Units: 8

Total upper-division units: 32

Global Studies (BA)

The Department of Anthropology offers a course of study that leads to a BA degree in Global Studies. As with any degree in the USC Dornsife College of Letters, Arts and Sciences, students are required to complete all applicable general education, writing, diversity and language requirements. Specific degree requirements include 16 units of required core courses within anthropology (4 lower level, 12 upper level), 16 units of required humanities or social science electives, and 8 units of language courses (in addition to the 8 units required of all USC Dornsife students), for a total of 40 units. The Department of Anthropology offers a course of study that leads to a BA degree in Global Studies. As with any degree in the USC Dornsife College of Letters, Arts and Sciences, students are required to complete all applicable general education, writing, diversity and language requirements. Specific degree requirements include 16 units of required core courses within anthropology (4 lower level, 12 upper level), 16 units of required humanities or social science electives, and 8 units of language courses (in addition to the 8 units required of all USC Dornsife students), for a total of 40 units.

The 16 units of required courses in the humanities and/or social sciences must be taken in the Departments of Anthropology, Comparative Literature, History, International Relations, Political Science and Religion. Students must choose these units from a list of electives (see below). Some substitutions can be made with the approval of the thesis adviser. The choice of these courses allows students to tailor the degree to their individual needs, but students are expected to take their elective courses with a focus on one geographical area or set of issues. The 8 additional units of language may be taken at USC or fulfilled elsewhere in compliance with the same guidelines that apply to the USC Dornsife foreign language requirement.

In addition to specific course work, students in the global studies major should complete at least one and are recommended to complete two study abroad programs with at least one semester abroad during the junior year. Ideally, a student would spend one summer abroad and one semester abroad prior to the senior year.

In the senior year, global studies majors take a senior seminar in the fall semester and write a senior thesis under the supervision of a regional scholar in the spring semester. A regional scholar can be chosen from any of the six participating departments — Anthropology, Comparative Literature, History, International Relations, Political Science and Religion — and this scholar should have some expertise in the country or region where the student has spent a semester abroad. Students will receive guidance in the selection of a regional scholar to supervise their senior thesis.

International Careers

Global studies is an ideal course of study for students wishing to work for international organizations, either governmental organizations or non-governmental ones (NGOs). Along with the required core and collateral courses, the elective units allow sufficient flexibility to complete course prerequisites for regional and area studies programs, law school and business school. The global studies academic adviser can provide direction in planning course selections toward specific fields.

Required Core Course, Lower-Division (4 Units)

- ANTH 205g Introduction to Global Studies and Overseas Research Units: 4

Required Core Courses, Upper-Division (12 Units)

- ANTH 325 Global Studies Research Methods Units: 4
- ANTH 415 Global Studies Senior Seminar Units: 4

- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 or
- ANTH 491 Directed Research for Honors Units: 4

Approved Elective Courses (16 Units)

Humanities Elective Courses:

- AMST 250gmw The African Diaspora Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 250g Cultures of Latin America Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- COLT 382gw Zen and Taoism in Asian Literature Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- FREN 347 Race, Gender and Power in Francophone Literature Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 369 Aztecs, Mayas, and other Indigenous Peoples of the Americas Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 413 The Age of Revolution Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- IR 376 U.S.-Japan Encounters: War, Trade, and Culture Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 331 Religions of East Asia Units: 4
- REL 332 Religions of Japan Units: 4
- REL 334 Religion and Colonial Encounter Units: 4
- REL 415 Seminar in Buddhism Units: 4
- REL 417 Seminar in South Asian Religions Units: 4

Social Science Elective Courses:

- ANTH 235g The Changing Pacific: History, Culture, Politics Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- ANTH 301 The Performance of Healing Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 327 Anthropology of the Middle East and Islam Units: 4
- ANTH 328m Culture Change and the Mexican People Units: 4
- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- ANTH 333gm Forms of Folklore Units: 4
- ANTH 335 Comparative Muslim Societies Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 410a Ethnographic Field Methods and Practicum Units: 4
- ANTH 410b Ethnographic Field Methods and Practicum Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- ANTH 460 Economic Anthropology Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4

- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 250 Critical Issues in Comparative Politics Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 260 Global Ethnic Politics Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 365 World Political Leadership Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Minor

Cultural Anthropology Minor

Required Courses, Lower-Division

- ANTH 201g Principles of Human Organization Units: 4 or
- ANTH 263g Exploring Culture through Film Units: 4

Required Course, Upper-Division

- ANTH 440 History of Anthropological Theory Units: 4

Two Courses To Be Selected From:

- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 460 Economic Anthropology Units: 4
- One world area specialization course Units: 4

Folklore and Popular Culture Minor

The minor in folklore and popular culture provides an academic foundation for students interested in the many genres in the field including folktales, myths, legends, proverbs, jokes, games, folk medicine, and folk and indigenous musical traditions, from around the world. Through interdisciplinary course work, students will learn techniques of collecting, analyzing and interpreting the traditional expressive culture of diverse groups. Students will analyze the interrelationships of folklore and national, regional and ethnic identities. After becoming acquainted with methods of interpreting different forms of folklore, students will see how value systems are reflected in the data, so that students understand the ideological underpinnings of group formation, group identity, conflict and strategies for resolution. By focusing on the individual, informal culture, and the tension between the individual and myriad groups to which they belong, folklore provides yet another window into understanding how individuals function in complex societies. Since the field is historically grounded and culturally comparative, folklore provides important perspectives on the human condition.

Course Requirements

For the minor in folklore and popular culture, students must complete five courses, as distributed below.

Core Requirement

- ANTH 333gm Forms of Folklore Units: 4

Lower-Division Courses (Choose One)

- AMST 285gm African American Popular Culture Units: 4
- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COMM 206 Communication and Culture Units: 4
- HIST 271g Telling Native American Stories Units: 4
- MUSC 102gw World Music Units: 4

Upper-Division Courses (Choose Three)

- AMST 330m Black Music and the Political Imagination Units: 4
- AMST 395m African American Humor and Culture Units: 4
- ANTH 301 The Performance of Healing Units: 4
- ANTH 332g Anthropology and Narrative Medicine Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 409 Indigenous Languages in the Contemporary World Units: 4
- ANTH 445 African American Anthropology Units: 4
- ANTH 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CLAS 325 Ancient Epic Units: 4
- CLAS 380 Approaches to Myth Units: 4
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 440 Music as Communication Units: 4
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- GERM 346 German Folklore and Popular Culture Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- MDA 330 The Armenian Heritage: History, Arts, and Culture Units: 4
- MUSC 444 American Roots Music: History and Culture Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4

Medical Anthropology Minor

Medical anthropology examines the body, illness and healing from a cultural perspective, including comparative studies of folk healing systems, curing rituals and Western biomedical practices.

Required Course (4 units)

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- HBIO 200Lg The Human Animal Units: 4

One Course (4 Units) To Be Selected From:

- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 201g Principles of Human Organization Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4

Upper-Division Courses: Four Of The Following (16 Units):

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- ANTH 375 Applied Anthropology Units: 4, 2 years
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 445 African American Anthropology Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Southeast Asia and its People Minor

This minor allows students to supplement more narrowly defined departmental majors with a multidisciplinary focus on an area of great importance both to global developments and to cultural heritage issues in California and the United States. There is no language requirement and no required courses, but students must take one lower and four upper-division courses dealing with Southeast Asian cultures and people of Southeast Asian heritage in the United States. The focus of this new minor is on transnational connections and the new area of global culture.

Lower Division

Choose one class (4 units)

- AMST 220gmw The Making of Asian America Units: 4
- ANTH 250g Race and Sexual Politics in Southeast Asia Units: 4
- ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions Units: 4
- POSC 120 Comparative Politics Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4

Upper Division

Choose four classes (16 units), including at least one class from each list.

Southeast Asia

- ANTH 322 Anthropology of Bali Units: 4
- ANTH 373 Magic, Witchcraft and Healing Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 377 Asian Political Thought Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 334 Religion and Colonial Encounter Units: 4

Southeast Asia and the United States

- HIST 344 The Vietnam War, 1945–1975 Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- REL 336 Re-viewing Religion in Asian America Units: 4

Note:

Courses have no prerequisites.

Master's Degree

Anthropology (MA)

Degree Requirements

Students are not accepted for the MA in Anthropology alone, but the MA in Anthropology can be granted after two years of course work and satisfactory completion of the screening exams.

Required Courses

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 503 Regional Ethnography Units: 4 or
- ANTH 506 Primate Behavior and Sociobiology Units: 4

- ANTH 562 The Practice of Ethnography Units: 4 (or another methods course approved by the supervisor for primatologists)
- Four 4-unit graduate-level courses in anthropology Units: 16

Total units: 32

Note:

A screening examination must be taken before a student has completed more than 24 units of course work and should be submitted in the third year of residence. The exam consists of three written field statements, a working bibliography and an oral defense.

Visual Anthropology (MVA)

Students can apply for the Master of Visual Anthropology only if they have a strong undergraduate background in visual anthropology and have a clearly outlined project for a documentary based on ethnographic research that can be completed within a year from the time that they are admitted.

Required Courses

- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 575 Seminar in Ethnographic Film Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4
- ANTH 577L Advanced Anthropological Media Seminar Units: 4

- MDA 501 Introduction to Visual Studies: Methods and Debates Units: 4 or

One elective from among the following recommended courses (4 units):

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 503 Regional Ethnography Units: 4
- ANTH 509 Key Topics in Linguistic Anthropology Units: 4
- ANTH 510 Urban Anthropology Units: 4
- ANTH 601 Feminist Issues in Anthropology Units: 4
- ANTH 602 The Anthropology of Popular Culture Units: 4
- ANTH 603 Experiments in Ethnographic Writing Units: 4
- ANTH 604 Bodies and Practices Units: 4
- ANTH 605 Race: Performance, Politics, Cultural Production Units: 4
- ANTH 606 Seminar on Nationalism and Ethnicity Units: 4
- MDA 599 Special Topics Units: 2, 3, 4

Total units: 28

Note:

The final documentary project must be submitted in rough cut format by the end of August following the completion of all course work in May.

University Certificate

Visual Anthropology Certificate

Students can be admitted to the certificate program in visual anthropology after they have completed their PhD qualifying examinations. The certificate is an interdisciplinary program, with training in digital video production provided by the USC School of Cinematic Arts. Professional skills in video production are designed to help students present their research results to a wider audience and to use visual media effectively in communicating ideas about anthropology. After completing fieldwork, students take a year-long editing sequence and practicum (ANTH 576 and ANTH 577) to finish a visual project, which will complement the written dissertation.) A total of 16 units is required.

Required Courses

- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 575 Seminar in Ethnographic Film Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4

- ANTH 577L Advanced Anthropological Media Seminar Units: 4

Note:

Students may begin to take course work required for the certificate in their first year, but they cannot complete their project until they have satisfied other requirements for doctoral candidacy. The Certificate in Visual Anthropology is received at the same time as the PhD.

Doctoral Degree

Anthropology (PhD)

Students may apply online for graduate study in the doctoral program at usc.edu/admission/graduate/apply. The PhD requires 60 units of course work. These include the 32 units required for the MA (16 units of required courses and 16 of graduate electives), 4 additional graduate units, plus a sequence of two graduate courses in an outside field. The additional required units for the PhD are ANTH 790 Research (8 units) and ANTH 794a Doctoral Dissertation, ANTH 794b Doctoral Dissertation (2-2 units). Before being admitted to PhD candidacy, the student must fulfill the language requirement, present an expanded version of the field statements at a qualifying examination, write a dissertation prospectus and pass the qualifying examination. Having completed this work, the student will conduct fieldwork and write the doctoral dissertation.

Degree Requirements

Required Courses

- ANTH 501 History and Foundations of Anthropology Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 562 The Practice of Ethnography Units: 4
- ANTH 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (minimum 8 units required)
- ANTH 794a Doctoral Dissertation Units: 2
- ANTH 794b Doctoral Dissertation Units: 2
- 4 anthropology graduate electives Units: 20

Note:

Completion of the program requires 60 units.

Additional Requirements

Foreign Language Requirement

A reading knowledge of a scholarly language (normally chosen from among Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Russian or Spanish) is required before admission to candidacy. If some other field language is required for the dissertation research to be successfully completed (for example, Maya, Hebrew, Javanese, etc.), this will be communicated to the student upon submission of the field project required for admission to candidacy.

Art History

Art history combines the study of art with the study of culture. The undergraduate major not only receives sound training in the history of art but also a basis in other humanistic disciplines. The curriculum is designed to guarantee students a general knowledge of both western and eastern art, and to offer a variety of upper-division courses in specialized areas. Majors are exposed to a diversity of theoretical approaches and encouraged to sharpen their critical and conceptual thinking. This foundation has enabled many art history graduates to pursue advanced degrees in nationally recognized programs, to enter diverse fields, including law or business, and to pursue careers in the arts. A special feature of the undergraduate program is the apprenticeship, which affords upper-division students the opportunity to work in the professional art world in return for elective credit. Students gain valuable job skills in local museums, galleries, auction houses, and art foundations. Apprenticeship placement is also available during the summer months throughout the United States.

Von KleinSmid Center 351
(213) 740-4552
FAX: (213) 740-8971
Email: arthist@dornsife.usc.edu
dornsife.usc.edu/ahis
Chair: Amy F. Ogata, PhD

Faculty

University Professor and Leo S. Bing Chair in English and American Literature and Professor of English, Art History and History: Leo Braudy, PhD
Provost Professor of English and Art History: Kate Flint, PhD
Professors: John Bowlt, PhD *(Slavic Languages and Literatures)*; Diane Ghirardo, PhD *(Architecture)*; Selma Holo, PhD; Amelia Jones, PhD *(Fine Arts)*; Carolyn M. Malone, PhD; Amy Ogata, PhD; John Pollini, PhD; Vanessa Schwartz, PhD *(History)*
Associate Professors: Daniela Bleichmar, PhD*; Jennifer Greenhill, PhD; Suzanne Hudson, PhD; Sonya Lee, PhD; Ann Marie Yasin, PhD (Classics)
Assistant Professors: Susanna Berger, PhD; Megan Luke, PhD
Assistant Professor (Teaching): Hector Reyes, PhD
Lecturer: Samantha Burton, PhD
Adjunct Associate Professor of the Practice: Miya Mizuta Lippit *(East Asian Languages and Cultures)*
**Recipient of university-wide or school teaching award.*

Undergraduate Degree

Art History Honors Program

Candidates for the BA in the Department of Art History can earn a designation on their transcripts of departmental honors. Admission to the Honors Program is required.

Prerequisites: 3.5 overall GPA, 3.5 major GPA or better, completion of at least three upper-division art history courses at the time of admission, submission of an application form to the undergraduate faculty adviser.

Required for departmental honors: maintain GPA requirements stated above and complete AHIS 495a and AHIS 495b Undergraduate Honors Thesis.

Interdisciplinary Minor in Early Modern Studies

This minor brings together the resources of the Departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. For complete listing of requirements, see the Department of English.

Graduate Degrees

Graduate students in art history pursue a wide range of subject matter, using a variety of methodologies and techniques. Graduates may also pursue parallel interests by taking courses in outside departments such as history, classics, East Asian languages and cultures, Slavic languages and literatures, French, German, Italian and others. Graduate students are encouraged to participate in annual conferences and symposia. Travel grants are available through the department. In addition to image databases, electronic access to university library catalogues, courtesy privileges and cross-registration of course work at UCLA, our graduate students have access to numerous research opportunities in and around Southern California at institutions such as the Los Angeles County Museum of Art, the Huntington Library, Art Collections and Botanical Gardens, the Archives of American Art, the Institute for Modern Russian Culture, the J. Paul Getty Museum and the Getty Research Institute, the Museum of Contemporary Art, Los Angeles, and the USC Pacific Asia Museum.

Admission

Admission to all programs is granted through the Graduate School in conjunction with the Department of Art History; all applicants must meet the requirements of both. Interviews are strongly encouraged.

All applicants must complete the department's supplemental application form.

Complete details for all graduate programs can be found in the *Guidelines for Graduate Studies in Art History*, obtainable upon admission.

Areas of Concentration

Greek and Roman Art and Archaeology, Roman/Late Roman and Early Byzantine Art and Architecture, Medieval Art and Archaeology, Renaissance Art, Baroque Art, 18th and 19th Century European Art, 19th and 20th Century British and Transatlantic Studies, American Art and Visual Culture, Modern and Contemporary Art, Modern European and American Architecture, Design and Material Culture, Art and Architecture of China and Central Asia, Japanese Art, Latin American Art, Art of the Ancient Americas, Modern Visual Culture, and History of Photography.

Bachelor's Degree

Art History (BA)

In art history, undergraduates are provided with a sound, broad foundation in art from a variety of offerings. On this basis, exploration of the art of many eras and cultures proceeds in a program designed to develop an awareness of the integral role played by art as an expression of the human condition and society throughout history. A grade of C or higher is required in departmental courses for all undergraduate majors.

Curriculum Requirements

The Bachelor of Arts in Art History requires 128 units.

General Education and Diversity Requirements

Candidates for the Bachelor of Arts in Art History must complete the general education and diversity requirements of the USC Dornsife College of Letters, Arts and Sciences.

Major Requirements

The major requires 40 units as follows.

Lower-Division Requirements (8 Units)

- AHIS 120gp Foundations of Western Art Units: 4 or
- AHIS 121gp Art and Society: Renaissance to Modern Units: 4

Choose one course from:

- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4

Total units: 8

Additional Requirements (32 units)

- AHIS 494 Undergraduate Proseminar in Art History Units: 4 is required

Seven additional courses

Seven additional courses to include five courses with a minimum of one in each of four out of the following five areas of study, only one of which may be at the 200 level.

Greek and Roman art and archaeology

- AHIS 201g Digging into the Past Units: 4
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4

Medieval art

- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 330 Medieval Art Units: 4

Renaissance and Baroque art

- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- AHIS 304m Gender and Difference in the Early Modern Period Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 344 Baroque Art Units: 4

Modern and contemporary art

- AHIS 250m Modernity and Difference: Critical Approaches to Modern Art Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 361 British Modernism, 1780-1918 Units: 4
- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 365m African American Art Units: 4
- AHIS 366 Picturing Democracy: American Art and Visual Culture, 1750-1900 Units: 4
- AHIS 367 Early American Modernism: American Art and Visual Culture Units: 4
- AHIS 368 Modern Art I: 1700–1850 Units: 4
- AHIS 369 Modern Art II: 1851–1940 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4

Non-European traditions

- AHIS 282 Korean Art Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 376 Introduction to African Art Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- AHIS 386 Early Japanese Art Units: 4
- AHIS 387 Later Japanese Art Units: 4

and two that must be at the 400-level

- AHIS 400x Undergraduate Apprenticeship Units: 2 counts for elective credit only and may not be applied to the major.
- AHIS 494 Undergraduate Proseminar in Art History Units: 4 (the capstone course) may be taken in either the junior or senior year.

Note:

The following courses require written permission of the chair of the Art History Department: AHIS 495a Undergraduate Honors Thesis (2-2), AHIS 495b Undergraduate Honors Thesis (2-2) and AHIS 499 Special Topics (2–4, max 8).

Minor

Art History Minor

Art history combines the study of art with the study of culture broadly conceived. The art history minor offers a concentrated course of study that includes a variety of objects from different historical periods and cultures in relation to their makers, patrons, viewers and critics. Students in the minor are trained to analyze visual images and information through a process of intensive looking, reading, research and writing.

Lower-division Curriculum (8 units)

Choose Two Lower-Division Courses; Only One May Be At The 200 Level

- AHIS 120gp Foundations of Western Art Units: 4
- AHIS 121gp Art and Society: Renaissance to Modern Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AHIS 201g Digging into the Past Units: 4
- AHIS 220g Medieval Visual Culture Units: 4
- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- AHIS 250m Modernity and Difference: Critical Approaches to Modern Art Units: 4
- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- AHIS 270 L.A. Now: Contemporary Art in Los Angeles Units: 4
- AHIS 282 Korean Art Units: 4

Upper-division Requirement (16 units)

Choose from 300- and 400-level AHIS courses. At least one course must be at the 400 level.

Visual Culture Minor

A critical approach to art history is the departure point for the minor in visual culture, which is dedicated to the analysis of the visual arts, broadly defined to include fine art, film and television, photography and video, illustrated books, advertising, architecture and design. Students are required to take two introductory courses in the history and theory of art. These courses will prepare them for focused study in one of three concentrations: (1) photography, film and the reproduction of images, (2) popular culture or (3) gender and sexuality.

Required Courses

- AHIS 100g Introduction to Visual Culture Units: 4

- COMM 306 Innovation, Entertainment, and the Arts Units: 4 or
- AHIS 250m Modernity and Difference: Critical Approaches to Modern Art Units: 4 (Gateway Course)

Four courses to be selected from one of the following three tracks:

(1) Photography, Film and the Reproduction of Images

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- COLT 452 Representation and Cognition in Photography Units: 4
- COLT 480 Dada and Surrealism Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 400 Non-Fiction Film and Television Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- HIST 225g Film, Power, and American History Units: 4
- HIST 381 Cinema and History Units: 4
- HIST 481 Producing Film Histories Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

(2) Popular Culture

- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 450 Visual Culture and Communication Units: 4
- COMM 455 Advertising and Society Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4 (prerequisite: COMM 300)
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- HIST 380 American Popular Culture Units: 4
- PAS 400 New Models of Art in City-Space Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

(3) Gender and Sexuality

- AHIS 304m Gender and Difference in the Early Modern Period Units: 4
- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- ARCH 442m Women's Spaces in History: "Hussies," "Harems" and "Housewives" Units: 4
- COLT 480 Dada and Surrealism Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- HIST 245gm Gender and Sexualities in American History Units: 4

Total units required*: 24

Note:

**32 units if students select FAPH 309a Intermediate Photography with 8 units of prerequisites*

Master's Degree

Art History (MA)

The department does not accept applicants for the Master of Arts in art history. Although the MA is not offered as a terminal degree, but only en route to the PhD, a student may be eligible for the MA on leaving the program after two years. A minimum of 32 units is required for the degree, and the student must pass the second year review which includes the departmental equivalent of a thesis: a revised seminar paper demonstrating original thought, research skills and writing proficiency. The opportunity to gain experience as a teaching assistant is available on a competitive basis. Transfer work applicable to the MA program must have been completed within seven years of the date of application.

Degree Requirements

A minimum of 32 units, usually taken during a two-year period, is required for the Master of Arts in Art History, to be distributed as follows:

Required Courses

- AHIS 500 Methods and Theory of Art History Units: 4
- Additional 500-level courses Units: 28

Total units: 32

Additional Requirements

Course Distribution

Courses will be at the 500 level; 400-level courses may be accepted with approval of the graduate adviser. No more than two seminars with the same course number can be taken for credit toward the master of arts. AHIS 500 normally must be taken in the first semester of study.

Foreign Language Requirement

All candidates must pass a reading proficiency examination in one language, normally French or German. Substitutions may be made upon faculty recommendation and approval of the chair of art history when it is deemed appropriate to the student's course of study (i.e., Italian, Chinese, Japanese, Greek, etc.). The language requirement should be completed by the end of the first year.

Graduate Certificate

For Business

History of Collecting and Display Certificate

This program, open to University of Southern California PhD students of art history as well as qualified students from other USC departments with written permission from their home department and the Department of Art History, is devoted to the study of the history of collecting and display of works of art and related materials across a broad chronological and geographical spectrum.

The program provides a means of advancing knowledge about the presentation, circulation and consumption of works of art, as distinct from the more traditional art historical investigation of the conditions surrounding their production. Additionally, this program is designed to remedy a widely perceived disjunction between the ways art history is practiced in the museum and the academy. Each academic department will determine the number of units completed which may be applied to the student's graduate degree in that department.

Required Courses

- AHIS 501 Problems in the History and Theory of Collecting and Display Units: 4
- AHIS 504 Museum Research Assistantship Units: 1

Two of the following courses:

- AHIS 502 Markets, Value and the Institutions of Art Units: 4
- AHIS 503 Categories and Collections Units: 4
- AHIS 550 Art, Business and the Law Units: 4

Total units: 13

Visual Studies Graduate Certificate

The field of visual studies encompasses a diverse range of images and artifacts as well as the history, processes and technologies of vision itself. This certificate will provide PhD students with the tools necessary to think critically about visual objects and experience and to apply that thinking to their ongoing scholarly work and doctoral research. Students will combine the sustained analysis of specific representations with attention to broader philosophical frameworks and historical conditions.

Graduate students intending to concentrate in visual studies must be admitted to a PhD program at USC. While fulfilling all the requirements for their departmental graduate degree, they may also earn a certificate of competency in visual studies. To receive this certificate, students must take VISS 501 Introduction to Visual Studies: Methods and Debates, a team-taught VISS 599 Special Topics course, and two other graduate seminars from an approved list of relevant courses, 500 level and above, for a total of at least 16 units. Directed research may not be taken toward certificate requirements.

In addition to the completion of these course requirements, students must demonstrate a focus on visual studies as part of their doctoral dissertation. Alternatively, they may take an oral examination based on three research papers they have written within the context of their visual studies course work. The oral exam will be administered by faculty members affiliated with the visual studies graduate certificate. Faculty will be responsible for judging the adequacy of the visual studies component in the student's dissertation or oral examination.

Certificate Requirements (8 Units)

- VISS 501 Introduction to Visual Studies: Methods and Debates Units: 4
- VISS 599 Special Topics Units: 2, 3, 4 max 8

Approved Certificate Courses (8 Units)

- AHIS 501 Problems in the History and Theory of Collecting and Display Units: 4
- AHIS 505 Seminar in Feminist Theory and Visual Culture Units: 4
- AHIS 515 Seminar in Contemporary Art Units: 4 max 16
- AHIS 520 Seminar in Modern Art Units: 4
- AHIS 529 Seminar in Art, Science, and Technology Units: 4
- AMST 519 Indigenous, Decolonial and Transhemispheric American Studies Units: 4
- ANTH 502 Contemporary Theory in Anthropology Units: 4
- ANTH 576L Anthropological Media Seminar Units: 4
- ANTH 577L Advanced Anthropological Media Seminar Units: 4
- ANTH 602 The Anthropology of Popular Culture Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 654 Art, Artists and Society Units: 4
- CSLC 501 Introduction to Comparative Media Studies Units: 4
- CSLC 640 Seminar in Film and Visual Studies Units: 4
- CTCS 511 Seminar: Non-Fiction Film/Video Units: 4
- CTCS 517 Introductory Concepts in Cultural Studies Units: 4
- CTCS 518 Seminar: Avant-Garde Film/Video Units: 4
- CTCS 564 Seminar in Film and Television Genres Units: 4
- CTCS 567 Seminar in Film/Television and a Related Art Units: 4
- CTCS 677 Cultural Theory Units: 4
- CTCS 678 Seminar in Film Theory and Medium Specificity Units: 4
- CTCS 688 Moving Image Histories: Methods and Approaches Units: 4
- EALC 509 Transnational Korean Cinema Units: 4
- EALC 510 Contemporary Japanese Cinema Units: 4
- EALC 512 Japanese Literature and Film Units: 4
- EALC 535 Proseminar in Chinese Visual Culture Units: 4
- ENGL 502 Contemporary Literary and Cultural Theory Units: 4
- ENGL 592 Contemporary British and American Literatures and Cultures Units: 4
- ENGL 620 Literature and Interdisciplinary Studies Units: 4 max 12
- HIST 520 Modernity and Its Visual Cultures Units: 4
- HIST 620 Research Seminar on Modern Visual Culture Units: 4
- IML 501L Seminar in Contemporary Digital Media Units: 4
- SLL 665 Seminar in Russian Culture and the Arts Units: 3 max 9
- THTR 525 Seminar in Contemporary Theatre Units: 4
- THTR 535 Seminar in Aesthetics of the Theatre Units: 4

Doctoral Degree

Art History (PhD)

Application deadline: December 1.

The doctor of philosophy in the Art History program normally requires at least three years of course work and two years of dissertation research. Applicants may be admitted directly into the program after receiving the BA Other applicants may already hold an MA in art history or the equivalent from USC or another accredited school.

Every student will be subject to departmental screening procedures, which involve periodic review by the art history graduate committee. The committee may recommend at any time, after a written warning, based on a student's grades, evaluation of instructors or rate of progress toward the degree, that a student be dropped from the program. Such recommendations will become effective at the end of the semester during which the recommendation is made.

Course Requirements

Master of Arts and Doctor of Philosophy units total 60. Up to 32 master of arts units from USC or 16 from other institutions may be transferred with approval of the faculty. Transfer work applicable to the PhD program must have been completed within 10 years of the date of application. AHIS 500, or equivalent, is required of all graduate students. Four units are for work on the dissertation. (Two units of dissertation credit each semester — including summer — for a minimum registration period of two semesters.)

Foreign Language Requirements

All candidates must pass reading proficiency examinations in a minimum of two languages, normally French and German or the requisite languages in Asian art. Substitutions and/or additions may be made with faculty recommendation and approval of the chair of the Art History Department when appropriate to the student's program. Additional foreign language beyond the minimum may be required depending on the student's program of study. All language requirements must be completed prior to taking the qualifying exam.

Screening Examinations

Passing the following procedures are prerequisite to continuation in the doctoral program, as stated in the departmental graduate guidelines. Before the student has completed 24 units, the first-year examination must be passed. Before the student has completed 48 units, the second-year review must be passed.

Qualifying Examination

At the end of the second year, the student will nominate a five-member qualifying exam committee for the qualifying examination that includes one member from outside the Department of Art History. The student is expected to pass the qualifying examination in a major field and satisfy the requirements for the minor and outside fields by the end of the third year. Forms for permission to take the qualifying examination must be submitted at least 60 days before the date of the scheduled examination. The written portion of

the examination will be followed by an oral examination. The oral examination will be given to discuss in greater depth the student's knowledge of the dissertation proposal; the oral lasts approximately two hours. After passing the qualifying examination, the student will be admitted to candidacy for the PhD

Dissertation

Following the completion of the qualifying exam, the qualifying exam committee will be reduced to three members, including one member from outside the department, who will guide and finally approve the dissertation.

Biological Sciences

The Department of Biological Sciences has research faculty with specialties in four disciplines: human and evolutionary biology, marine environmental biology, molecular and computational biology, and neurobiology. A diversity of upper-division undergraduate and graduate courses permits biology majors to choose an emphasis in any of these four disciplines. (See the Neuroscience section of the catalogue for descriptions of the graduate degree in Neuroscience). The department offers both BA and BS degrees in biological sciences and an honors program in which a student can earn either a BA or a BS degree in biological sciences with honors. The department also offers both BA and BS degrees in human biology and a BS in quantitative biology. The BS in biochemistry is offered as a joint program with the Department of Chemistry. The honors program is available to students who maintain a GPA of 3.5 in the sciences and who have completed their freshman year. The honors program includes research opportunities, seminars and thesis preparation courses. Applications for the Honors Program are available in Allan Hancock Foundation (AHF), Room 105A. Undergraduates in biological sciences have the opportunity to become involved in laboratory or field research by taking research courses for some of their elective units. Minors are offered in biotechnology, computational biology and bioinformatics, human movement sciences, marine biology, and natural science.

At the graduate level, the department offers challenging degree programs that lead to a PhD in: integrative and evolutionary biology; marine biology and biological oceanography; molecular biology; and computational biology and bioinformatics. The department also offers progressive MS degrees in marine and environmental biology and molecular genetics and biochemistry.

Allan Hancock Foundation Building 107
(213) 740-2777
FAX: (213) 740-8123
Email (undergraduate programs):
biodept@dornsife.usc.edu
Email (graduate programs):
marinebi@dornsife.usc.edu
molecule@dornsife.usc.edu
ieb@dornsife.usc.edu
dornsife.usc.edu/bisc

Chair: Douglas Capone, PhD

Faculty

University Professor and ARCO/William F. Kieschnick Chair in the Neurobiology of Aging and Professor of Gerontology, Biological Sciences, Anthropology and Psychology: Caleb E. Finch, PhD
University Professor and Milo Don and Lucille Appleman Professor of Biological Sciences: Larry W. Swanson, PhD
University Professor and USC Associates Chair in Natural Sciences: Michael S. Waterman, PhD
University Professor, Fletcher Jones Foundation Chair in Computer Science, and Professor of Computer Science, Biological Sciences, and Psychology: Michael Arbib, PhD
Distinguished Professor of Chemistry, Biological Sciences, Biochemistry, and Chemical Engineering & Materials Science and Dana and David Dornsife Chair in Chemistry: Arieh Warshel, PhD
Distinguished Professor of Biological Sciences, Molecular Biology and Biochemistry, and Ester Dornsife Chair in Biological Sciences: Norman Arnheim, PhD*
James E. Birren Chair in Gerontology and Professor of Gerontology and Biological Sciences: Kelvin Davies, PhD
McCulloch-Crosby Chair in Marine Biology: Jed A. Fuhrman, PhD*
William and Julie Wrigley Chair in Environmental Studies and Professor of Biological Sciences: Douglas G. Capone, PhD
Elizabeth Garrett Chair in Convergent Bioscience and Provost Professor of Biological Sciences, Biomedical Engineering, Physiology and Biophysics, Stem Cell Biology and Regenerative Medicine, Pediatrics, Radiology and Ophthalmology: Scott Fraser, PhD
Provost Professor of Biological Sciences, Chemistry, Neurology, Physiology & Biophysics, and Chemical Engineering & Materials Science: Ray Stevens, PhD
W. M. Keck Provost Professor of Stem Cell Biology and Regenerative Medicine and Biological Sciences: Andrew McMahon, PhD
Wrigley Chair in Environmental Studies and Professor of Earth Sciences and Biological Sciences: Kenneth Nealson, PhD
Dean's Professor of Biological Sciences and Professor of Medicine, Biomedical Engineering, and Aerospace & Mechanical Engineering: Peter Kuhn, PhD
Paxson H. Offield Professor of Fisheries Ecology and Professor of Biological Sciences: Dennis Hedgecock, PhD
Gabilan Assistant Professor of Biological Sciences: Irene Chiolo, PhD
Gabilan Assistant Professor of Biological Sciences: Carly Kenkel, PhD
Gabilan Assistant Professor of Biological Sciences and Earth Sciences: Naomi Levine, PhD
Gabilan Assistant Professor of Biological Sciences: Carolyn Phillips, PhD
Gabilan Assistant Professor of Biological Sciences: Lindsey Schier, PhD
Professors: Frank Alber, PhD; Jan P. Amend, PhD *(Earth Sciences)*; Oscar M. Aparicio, PhD; Donald Arnold, PhD; Christopher Boehm, PhD; David Bottjer, PhD *(Earth Sciences)*; Sarah Bottjer, PhD; David Caron, PhD*; Lin Chen, PhD; Xiaojiang Chen, PhD; Pinchas Cohen, PhD *(Gerontology)*; Casey Donovan, PhD; Suzanne Edmands, PhD; Steven Finkel, PhD; Henryk Flashner, PhD *(Aerospace and Mechanical Engineering)*; Susan Forsburg, PhD; Myron F. Goodman, PhD; Zach Hall, PhD *(Cell and Neurobiology)*; Albert A. Herrera, PhD* *(Vice Chair)*; Judith Hirsch, PhD; David Hutchins, PhD; Dale Kiefer, PhD; Chien-Ping Ko, PhD; Michael Lieber, PhD *(Pathology)*; Emily R. Liman, PhD; Donal T. Manahan, PhD; Jill McNitt-Gray, PhD; James W. Moffett, PhD; Aiichiro Nakano, PhD *(Computer Science)*; Sergey Nuzhdin, PhD; John A. Petruska, PhD; Michael Quick, PhD; Remo Rohs, PhD; Richard Roberts, PhD *(Chemistry)*; Sergio Sañudo-Wilhelmy, PhD; Richard Simerly, PhD *(Medicine)*; Craig Stanford, PhD; Cornelius W. Sullivan, PhD; Fengzhu Sun, PhD; Paul Thompson, PhD *(Neurology)*; John Tower, PhD; Lorraine Turcotte, PhD; Alan Watts, PhD; Berislav Zlokovic, PhD *(Physiology and Biophysics)*
Associate Professors: Liang Chen, PhD; Ian Ehrenreich, PhD; Robert Girandola, PhD; Andrew Gracey, PhD; John F. Heidelberg, PhD; David D. McKemy, PhD*; Matthew Michael, PhD; Peter Qin, PhD *(Chemistry)*; Fei Sha, PhD *(Computer Science)*; Andrew Smith, PhD; Paul Thomas, PhD *(Preventive Medicine)*; Eric A. Webb, PhD; Wiebke Ziebis, PhD
Assistant Professors: James Boedicker, PhD *(Physics)*; Sean Curran, PhD *(Gerontology)*; Dion Dickman, PhD; Moh El-Naggar, PhD* *(Physics)*; Christoph Haselwandter, PhD *(Physics)*; Bruce Herring, PhD; Samuel Andrew Hires, PhD; Scott Kanoski, PhD; Vsevolod Katritch, PhD; Fabien Pinaud, PhD; Matthew Pratt, PhD *(Chemistry)*; Kai Wang, PhD *(Psychiatry)*; Chao Zhang, PhD *(Chemistry)*
Professor (Research): James Hicks, PhD

Associate Professors (Research): Linda Duguay, PhD; Feixue Fu, PhD
Assistant Professors (Research): Peter Calabrese, PhD; Laura Gomez Consamau, PhD; Wenyuan Li, PhD; Phuong Pham, PhD
Adjunct Professors: Luis Chiappe, PhD; Kirk Fitzhugh, PhD; Gordon Hendler, PhD; Burt Jones, PhD; Steve A. Kay, PhD, DSc; Marinelli, PhD; Joel W. Martin, PhD; Tony Michaels, PhD; Xiaoming Wang, PhD
Adjunct Associate Professor: Regina Wetzer, PhD
Adjunct Assistant Professors: Rahul Jandial, PhD; Arshad Khan, PhD; Beth Orcutt, PhD
Adjunct Professor (Research): Simon Tavaré, PhD
Adjunct Associate Professor (Research): Rodolfo Iturriaga, PhD
Adjunct Assistant Professors (Research): Joel Hahn, PhD; Richard Thompson, PhD
Associate Professor (Teaching): Karla B. Heidelberg, PhD
Assistant Professors (Teaching): Christa Bancroft, PhD; Oliver Rizk, PhD
Senior Lecturer: Gudrun Floyd, MS
Lecturers: Stephanie Bogart, PhD; Nancy Castro, PhD; Tamara Espinet, MS; Raffaella Ghittoni, PhD; Michael Hadjidaniel, PhD; Laura Held, BS; Grayson Jaggers, PhD; Helaine Lopes, PhD; Gioia Polidori Francisco, PhD; Bruce Yazejian, PhD
Emeritus Professors: Michael Appleman, PhD; Richard Deonier, PhD; Arnold S. Dunn, PhD; William O. McClure, PhD*; Russel Zimmer, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

Advisement in the Department of Biological Sciences is required each semester. First semester freshman and transfer advisement takes place during orientation. Advisement in all remaining semesters takes place during the pre-registration period. The undergraduate coordinator forwards advisement appointment information each semester to all students in biological sciences and biochemistry.

Pre-Medical and Other Pre-Professional Preparation

The department offers specially planned courses within the biological sciences to prepare students for admission to professional schools (medicine, dentistry, veterinary science, occupational therapy, physical therapy, pharmacy, optometry, public health), paramedical sciences (medical technology, physician's assistant, clinical and public health microbiology, clinical biochemistry), naturalist and environmental positions in the public and private sectors, jobs in industry (biotechnology), and graduate study (basic biological and biomedical fields). With the proper selection of courses under the guidance of the Department of Biological Sciences and the USC Rossier School of Education, the BS degree satisfies the California requirements for secondary school teaching in the life sciences.

Honor Society

The Department of Biological Sciences offers membership in Phi Sigma, a national honor society, to selected biology majors (Alpha Alpha Chapter at USC.) Phi Sigma is devoted to the promotion of research and academic excellence in the biological sciences. Students with a GPA above 3.0 who have interest in research and have completed core requirements for the first two years in biological sciences are eligible. Major activities range from presentation of papers by members and lectures by outside speakers to field trips, laboratory demonstrations and joint research projects.

Maymester Courses on Catalina Island

The Biological Sciences Department in conjunction with the USC Wrigley Institute for Environmental Studies (WIES) sponsors 4-week Maymester programs at USC's Phillip K. Wrigley Marine Sciences Center (WMSC) on Santa Catalina Island. The Maymester courses focus on conservation biology, animal physiology, aquatic microbiology and field techniques in marine biology and biological oceanography. These courses are open to all biology majors as well as students in other departments and other institutions with a strong biology background. Students are primarily in their junior or senior years and may participate in any of the courses offered.

All the courses are taught by USC faculty and supported by USC graduate student teaching assistants. The classes are specialized to take advantage of the unique facilities and setting of Santa Catalina Island.

Students live on Catalina Island for the entire length of the course. Rates for room and board at the USC Wrigley Marine Science Center are comparable to those on campus. For those wishing to return to the mainland on the weekend — free transportation is provided each Friday to leave and each Monday to return.

For more information, students should contact the instructor(s) for the course of interest. Additional information can also be found at dornsife.usc.edu/wrigley/education/.

Minor in Craniofacial and Dental Technology

For a complete listing of course requirements, see the Herman Ostrow School of Dentistry of USC.

Minor in Biotechnology

The Marshall School and the departments of biological sciences and chemistry in the USC Dornsife College of Letters, Arts and Sciences jointly offer the minor in biotechnology. This minor brings essential knowledge in the basic sciences together with the corporate skills needed in a rapidly growing industry. The minor is especially well suited for the business, biology, chemistry or engineering student seeking a career in business and/or the biomedical/bio-technical sciences. See Biotechnology Minor for a list of required courses.

Graduate Degrees

Degree Programs in Biological Sciences

The graduate programs in biology provide education and training of biologists interested in living systems ranging from cellular to ecosystem levels of organization, investigated by laboratory or fieldwork. Courses and faculty research interests allow a multidisciplinary approach. A number of additional research areas are provided by adjunct faculty from other institutions, including the Los Angeles County Museum of Natural History and Children's Hospital Los Angeles. Students develop the ability to formulate and test hypotheses, integrating information and concepts in the completion of a dissertation (PhD). A qualifying exam committee is formed for each student during the first year to develop a particular program of course work and research, and to evaluate the student's progress. Specific information about the options in biological sciences can be obtained by requesting information brochures or online at dornsife.usc.edu/bisc.

Admission Requirements

Applicants must have a bachelor's degree in a natural science (preferably biology) from an accredited four year college or university, or in mathematics or engineering; required background courses include organic chemistry, general physics and mathematics through integral calculus. Applicants are evaluated by their transcripts and GPA; scores on the GRE General Test; three letters of recommendation; and a statement of interest. A faculty member must serve as initial sponsor and adviser for admission to marine biology and biological oceanography (MBBO) and integrative and evolutionary biology (IEB). Applicants who are accepted but judged to have minor deficiencies are expected to correct them within the first year.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of the catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Molecular and Computational Biology

This program is designed to train the participants intensively in the concepts and experimental methodologies of molecular biology

and biochemistry. The subject matter is organized in an integrated fashion (lectures, seminars and laboratory) to present fundamental information on the biochemistry, biophysics, genetics and development of cells from a variety of different organisms. Primary emphasis is on the relationship between structure and function at different integrative and functional levels. The program offers a PhD in Molecular Biology and a PhD in Computational Biology and Bioinformatics. Molecular and computational biology (MCB) students are required to complete at least two laboratory rotations in their first year. Applications may be accessed online at dornsife.usc.edu/bisc/mcb/.

Admission Requirements

Applicants are expected to have a bachelor's degree or equivalent in a cognate area such as biology, chemistry, physics, engineering, bacteriology, computer science, or bioinformatics. Undergraduate work should include a basic course in biology, basic physics, physical chemistry, organic chemistry, biochemistry and calculus. Students who are deficient in any of these may be required to correct the deficiency during the first two years of graduate study. Courses taken to correct these deficiencies are usually not credited toward the degree. The student must submit letters of recommendation from at least three faculty members who can evaluate the promise of the student for graduate work and independent research. The applicant must take the GRE General Test prior to acceptance.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Biological Sciences (BA)

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Major Core Courses, Lower-Division

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Major Core Courses, Upper-Division

- BISC 320L Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4

Collateral Sciences Core Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Collateral Sciences Core Courses, Upper-Division

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

Upper-division Major Courses

Eight units of upper-division BISC course work available for major credit are required. No more than 4 units of BISC 490x may be used to fulfill the upper-division elective requirement. In addition, no more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.
It is expected that students will take 100-level BISC core courses during the first year, two 300-level BISC core courses during the second year, and the remaining core courses and the 300- or 400-level BISC major elective courses during the third and fourth years.

Total required units: 128

Free elective units: 24

Scholarship in Major Subject

The department requires that students receive a grade no lower than C- in their five core courses. They must maintain a 2.0 GPA in the upper-division biology and chemistry courses required for the major, as well as an overall 2.0 GPA. All major core courses must be taken on a letter grade basis.

Honors Program in Biological Sciences

The department offers an honors program to outstanding students already pursuing studies for the BA or BS degree in Biological Sciences. This program offers students an opportunity to participate in undergraduate research, experience in writing an honors thesis summarizing the completed research, and experience in an honors seminar. Honors students are required to take two semesters of BISC 493x Honors Seminar (1 unit/ - semester) and one semester of BISC 494 x Honors Thesis (2 units) in addition to fulfilling all requirements of the BA or BS degree. Honors students must also choose BISC 490x as one of their upper division electives. This program leads to the designation on the transcript of Bachelor of Arts or Bachelor of Science in Biological Sciences with Honors.

Honors Admission Requirements

Students may apply to the department for admission to the honors program after having completed at least one year of work at USC with a minimum GPA of 3.5 in all science and math courses required for the major.

Honors Scholarship Requirements

For continuation in the honors programs, students must maintain a minimum GPA of 3.5 in the sciences and mathematics courses required for the major.

Biological Sciences (BS)

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Major Core Courses, Lower-Division

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Major Core Courses, Upper-Division

- BISC 320L Molecular Biology Units: 4

- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4

Collateral Sciences Core Courses

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- MATH 125g Calculus I Units: 4

- MATH 208x Elementary Probability and Statistics Units: 4 or
- BISC 305 Introduction to Statistics for Biologists Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Upper-division Major Requirements

Twenty units of upper-division BISC course work available for major credit are required. At least two courses in the upper-division electives must carry a lab ("L") or be 490. No more than 4 units of BISC 490x may be used to fulfill the upper-division elective requirement. In addition, no more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.

Total required units: 128

Free elective units: 12–16

Scholarship in Major Subject

The department requires that students receive a grade no lower than C- in their five core courses. They must maintain a 2.0 GPA in the upper-division biology and chemistry courses required for the major, as well as an overall 2.0 GPA. All major core courses must be taken on a letter grade basis.

Honors Program in Biological Sciences

The department offers an honors program to outstanding students already pursuing studies for the BA or BS degree in Biological Sciences. This program offers students an opportunity to participate in undergraduate research, experience in writing an honors thesis summarizing the completed research, and experience in an honors seminar. Honors students are required to take two semesters of BISC 493x Honors Seminar (1 unit/ - semester) and one semester of BISC 494 x Honors Thesis (2 units) in addition to fulfilling all requirements of the BA or BS degree. Honors students must also choose BISC 490x as one of their upper division electives. This program leads to the designation on the transcript of Bachelor of Arts or Bachelor of Science in Biological Sciences with Honors.

Honors Admission Requirements

Students may apply to the department for admission to the honors program after having completed at least one year of work at USC with a minimum GPA of 3.5 in all science and math courses required for the major.

Honors Scholarship Requirements

For continuation in the honors programs, students must maintain a minimum GPA of 3.5 in the sciences and mathematics courses required for the major.

Human Biology (BA)

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Summary of Requirements

Students must complete the general core consisting of 20 units. In addition, they must select 16 units from one of the three track modules below, as well as 8 additional units from the restricted elective list or any other track in the major. No more than **one** course may be lower division (100- or 200-level) from the major track and electives combined. Total requirements: 44 units including at least 24 upper-division.

General Core (20 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- HBIO 200Lg The Human Animal Units: 4
- HBIO 301L Human Anatomy Units: 4
- MATH 108g Contemporary Precalculus Units: 4
  or
- MATH 125g Calculus I Units: 4
  or
- MATH 126 Calculus II Units: 4

Major Track (16 Units)

Choose 16 units from one of the track modules below.

Human Physiology and Metabolism (16 units)

- HBIO 302L Nutrition and Metabolism Units: 4 *
- HBIO 350 Nutrition and Homeostasis Units: 4 *
- HBIO 360 Nutrition and Disease Units: 4 *
- HBIO 407L Endocrinology and Metabolism Units: 4 *
- HBIO 408L Biomechanics Units: 4 *
- HBIO 420L Applied Human Physiology Units: 4 *

Human Evolutionary Biology (16 units)

- HBIO 300 Evolution, Ecology, and Culture Units: 4 *
- HBIO 306 Primate Social Behavior and Ecology Units: 4 *
- HBIO 308 Origins and Evolution of Human Behavior Units: 4 *
- HBIO 405 Evolutionary Medicine Units: 4 *
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4 *
- BISC 313L Evolution and Population Genetics Units: 4

Human Performance (16 units)

- HBIO 202Lg Nutrition for Life Units: 4 *
- HBIO 250g The Pharmacology of Performance Enhancing Drugs Units: 4
- HBIO 320 Muscle Physiology Units: 4 *
- HBIO 400L Motor Control and Learning Units: 4 *
- HBIO 401 Physiology and Biomechanics of Movement Units: 4 *
- HBIO 441L Prevention of Athletic Injuries Units: 4

Restricted Electives (8 Units)

A minimum of 8 units is required. Courses can be selected from the elective list below or from any other track in the major.

- ANTH 302 Humans and Ancient Environments Units: 4 *
- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 305 Introduction to Statistics for Biologists Units: 4 *
- BISC 307L General Physiology Units: 4 *
- BISC 312x Molecular Biochemistry Units: 4 *
- BISC 320L Molecular Biology Units: 4 *
- BISC 325 Genetics Units: 4 *

- BISC 421 Neurobiology Units: 4 *
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- CHEM 325aL Organic Chemistry Units: 4 *
- CHEM 325bL Organic Chemistry Units: 4 *
- HBIO 409 Metabolic Diseases Units: 4 *
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4 *
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4 (4 Units Required) *
- HBIO 442L Evaluation and Rehabilitation of Athletic Injuries Units: 4 *
- GERO 310 Physiology of Aging Units: 4 *
- GERO 440 Biodemography of Aging Units: 4 *

- MATH 114x Foundations of Statistics Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 or
- PSYC 274Lg Statistics Units: 4 *

- PSYC 339Lg Origins of the Mind Units: 4 *
- PSYC 360 Abnormal Psychology Units: 4 *
- PSYC 425 Functional Imaging of the Human Brain Units: 4 *
- PSYC 438 Behavioral Genetics Units: 4

Note:

**Prerequisite required*

Human Biology (BS)

The General Education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Summary of Requirements

General core: 24 units; major track: one thematic module of 20 units; restricted electives: 16 units; total requirements: 60 units. No more than two courses may be lower division (100- or 200-level) from the major track and electives combined.

General Core (24 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 108g Contemporary Precalculus Units: 4 or
- MATH 125g Calculus I Units: 4 or
- MATH 126 Calculus II Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4

Major Track (20 Units)

Choose one complete track module from below:

Applied Physiology

- HBIO 301L Human Anatomy Units: 4 *
- HBIO 320 Muscle Physiology Units: 4 *
- HBIO 400L Motor Control and Learning Units: 4 *
- HBIO 408L Biomechanics Units: 4 *
- HBIO 420L Applied Human Physiology Units: 4

Biomedical Science

- BISC 307L General Physiology Units: 4 * or
- HBIO 420L Applied Human Physiology Units: 4 *

- BISC 320L Molecular Biology Units: 4 *
- BISC 421 Neurobiology Units: 4
- HBIO 301L Human Anatomy Units: 4 *
- HBIO 407L Endocrinology and Metabolism Units: 4 *

Nutrition and Metabolism

- HBIO 302L Nutrition and Metabolism Units: 4 *
- HBIO 350 Nutrition and Homeostasis Units: 4 *
- HBIO 360 Nutrition and Disease Units: 4 *
- HBIO 407L Endocrinology and Metabolism Units: 4 *
- HBIO 435 Neurobiology of Feeding Behavior and Obesity Units: 4

Human Evolutionary Biology

- BISC 313L Evolution and Population Genetics Units: 4 *
- HBIO 200Lg The Human Animal Units: 4 *
- HBIO 300 Evolution, Ecology, and Culture Units: 4 *
- HBIO 306 Primate Social Behavior and Ecology Units: 4 *
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4

Restricted Electives (16 Units)

A minimum of 16 units is required. Courses can be selected from the elective list below or from any other track in the major.

- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 305 Introduction to Statistics for Biologists Units: 4 *
- BISC 312x Molecular Biochemistry Units: 4 *
- BISC 325 Genetics Units: 4 *
- BISC 330L Biochemistry Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4 *
- BISC 435 Advanced Biochemistry Units: 4 *
- BISC 450L Principles of Immunology Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- CHEM 325aL Organic Chemistry Units: 4 *
- CHEM 325bL Organic Chemistry Units: 4 *
- HBIO 308 Origins and Evolution of Human Behavior Units: 4 *
- HBIO 405 Evolutionary Medicine Units: 4 *
- HBIO 409 Metabolic Diseases Units: 4 *
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4 (4 Units Required) *
- HBIO 442L Evaluation and Rehabilitation of Athletic Injuries Units: 4 *
- GERO 310 Physiology of Aging Units: 4 *
- GERO 440 Biodemography of Aging Units: 4 *

- MATH 114x Foundations of Statistics Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 or
- PSYC 274Lg Statistics Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *

- PSYC 360 Abnormal Psychology Units: 4 *
- PSYC 425 Functional Imaging of the Human Brain Units: 4

Note:

**Prerequisite required*

Quantitative Biology (BS)

The Department of Biological Sciences offers a Quantitative Biology (QBio) program to outstanding students who are either already pursuing studies for the BS degree in Biological Sciences or will be directly admitted into the QBio major. This program allows biology students to achieve a fuller background in the quantitative

sciences such as computer science and statistics that are essential for modern data-driven biological science. The students will take an introductory seminar, participate in undergraduate research and write an honors thesis. This program will have the designation on the transcript of Bachelor of Science in Quantitative Biology.

The general education, writing, language and diversity requirements for a USC Dornsife College of Letters, Arts and Sciences degree are applicable.

Core Courses (26 units)

Students must complete the following courses:

Required Introductory Course

- QBIO 105 Introduction to Quantitative Biology Seminar Units: 2

Required Foundational Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
  or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
  or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Choose five of the following courses: (20 units)

- CHEM 322aL Organic Chemistry Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- MATH 126 Calculus II Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 307 Statistical Inference and Data Analysis I Units: 4
- MATH 308 Statistical Inference and Data Analysis II Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Choose one of the following capstone courses: (4 units)

- BISC 478 Computational Genome Analysis Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4

Choose one of the following courses: (4 units)

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 315L Introduction to Ecology Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 421 Neurobiology Units: 4

Upper Division Electives (minimum 8 units)

Choose 2-3 of the following courses for upper division electives. The first capstone course may not count toward upper division electives.

- BISC 321 Multidisciplinary Seminar: Science, Technology and Society Units: 2
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 407 Cellular and Molecular Neuroscience Units: 4
- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 434 Introduction to Genome Science Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 444 Practical Analysis of Biological Data in R Units: 2
- BISC 450L Principles of Immunology Units: 4
- BISC 473L Biological Oceanography Units: 4
- BISC 478 Computational Genome Analysis Units: 4 *
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4 *
- BME 430 Principles and Applications of Systems Biology Units: 3
- PHYS 444 Physical Biology: From Molecules to Cells Units: 4

  * capstone course

Research Experience (10 units)

Students are required to enroll in a total of 10 units of directed research in a lab approved by the Quantitative Biology Executive Committee or assigned faculty adviser.

- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Minor

Biotechnology Minor

The USC Dornsife College of Letters, Arts and Sciences Departments of Biological Sciences and Chemistry and the Marshall School of Business jointly offer the cross-departmental minor in biotechnology. This minor brings essential knowledge in the basic sciences together with the corporate skills needed in a rapidly growing industry. The minor is especially well suited for the business, biological sciences, chemistry or engineering student seeking a career in business and/or the biomedical/bio-technical sciences.

This minor requires a varying number of units beyond major requirements depending upon the student's major program of study: biological sciences (BA or BS), 16–18 additional units; business (BS), 28 additional units; chemistry (BA or BS), 32–34 additional units.

Students in other majors may be required to complete up to 46 units for the minor depending on whether their major includes any of the minor requirements and their prerequisites.

Please see a biological sciences or business adviser for specific program requirements.

Required Courses

Biological Sciences (16 units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 406L Biotechnology Units: 4

Recommended:

- BISC 300L Introduction to Microbiology Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 450L Principles of Immunology Units: 4

Chemistry (12 units)

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4

Recommended:

- CHEM 322bL Organic Chemistry Units: 4
- CHE 489 Biochemical Engineering Units: 3

Finance, Business, and Accounting (16-18 units)

Students pursuing a business degree must enroll in BUAD 280, BUAD 281 *and* BUAD 306.

- ACCT 410x Foundations of Accounting Units: 4
  or
- BUAD 280 Introduction to Financial Accounting Units: 3 and
- BUAD 281 Introduction to Managerial Accounting Units: 3
  or
- BUAD 305 Abridged Core Concepts of Accounting Information Units: 4

- BUAD 215x Foundations of Business Finance Units: 4
  or
- BUAD 306 Business Finance Units: 4

- BUAD 304 Organizational Behavior and Leadership Units: 4
  or
- BUAD 307 Marketing Fundamentals Units: 4

- FBE 403 Introduction to the Legal Environment of Business Units: 4

Recommended:

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

- MATH 208x Elementary Probability and Statistics Units: 4 or
- MATH 218 Probability for Business Units: 4

Computational Biology and Bioinformatics Minor

The USC Dornsife College of Letters, Arts and Sciences departments of biological sciences and mathematics and the Viterbi School of Engineering departments of computer science and biomedical engineering jointly offer the cross-departmental minor in computational biology and bioinformatics. This minor provides essential training in using quantitative skills to solve fundamental biological problems as well as problems related to public health, neuroscience and environment. The minor includes four tracks according to the background of the students in biology, mathematics, computer science and engineering.

As with all minors, students must include at least four upper-division courses (16 units) and four courses (16 units) dedicated exclusively to this minor (they can overlap). Four courses (16 units) taken outside the major department are required. The courses are designed for students in biology, mathematics, computer science or biomedical engineering. Other students may need more units to receive the minor. The CHEM 105bL or CHEM 115bL prerequisite for BISC 320 may be waived if the students have the necessary background determined by the faculty adviser for the minor. Students who waive these prerequisites cannot retake CHEM 105bL or CHEM 115bL for credit.

Please see the minor adviser for specific program requirements.

Required Courses

Biological Sciences

- BISC 305 Introduction to Statistics for Biologists Units: 4 (Can be substituted by MATH 208 or MATH 408 or BME 423)
- BISC 320L Molecular Biology Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4

Mathematics

- MATH 125g Calculus I Units: 4 *
- MATH 126 Calculus II Units: 4 *

Computer Science

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4

Electives

Biological Sciences:

- BISC 230Lgx The Biology of the Brain: Current Topics in Neuroscience Units: 4
- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 325 Genetics Units: 4 *
- BISC 330L Biochemistry Units: 4 *
- BISC 403 Advanced Molecular Biology Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 410 Applications of Molecular Biology to Medicine Units: 4 *

Mathematics:

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 *
- MATH 226 Calculus III Units: 4 *
- MATH 408 Mathematical Statistics Units: 4 *
- MATH 432 Applied Combinatorics Units: 4 *
- MATH 458 Numerical Methods Units: 4 *
- MATH 465 Nonlinear Dynamics in Science and Engineering Units: 4 *
- MATH 466 Dynamic Modeling Units: 4 *
- MATH 467 Theory and Computational Methods for Optimization Units: 4 *

Computer Science:

- CSCI 170 Discrete Methods in Computer Science Units: 4 *
- CSCI 201L Principles of Software Development Units: 4 *
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4 *
- CSCI 485 File and Database Management Units: 4 *

Note:

**Prerequisite required*

Additional Requirements

Total requirements for students with no prior course work: 30 units. Students need to take 30 units of the courses listed: all requirements, and enough electives to add up to 30 units, while fulfilling the requirement that they must take 16 units unique to the minor (not used for their major or general education) and 16 units not offered by their major.

Students majoring in biological sciences, mathematics, computer science and biomedical engineering can meet many of these requirements with course work that also satisfies their majors.

Students of other majors need to take all the required courses plus at least one elective from mathematics or computer science (e.g., MATH 226, MATH 407, CSCI 201) from the list of elective courses to meet the minor requirements.

Human Movement Sciences Minor

This minor provides students with the scientific and engineering perspectives and the technical skills involved in capture and analysis of information needed to assess and improve human performance during the activities of daily living.

Prerequisite Courses (12 units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
  or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- MATH 108g Contemporary Precalculus Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4

Upper-division Courses (16 units)

- HBIO 301L Human Anatomy Units: 4
- HBIO 302L Nutrition and Metabolism Units: 4
- HBIO 408L Biomechanics Units: 4
- HBIO 439L Human Performance and Bioenergetics Units: 2 or 4

Marine Biology Minor

Studies of the marine environment are relevant to many contemporary environmental issues and problems central to understanding earth-system evolution, dynamics, climate and sustainability. The minor in Marine Biology combines courses related specifically to marine science from several Dornsife College departments or programs. USC's location along the Pacific Ocean and the unique facilities at the USC Wrigley Marine Science Center on Catalina Island provide superb access for students to learn outside of traditional classroom venues. Students will learn about the biology, evolution and ecology of organisms that inhabit marine environments and the ecological and physical processes linking them. This program is an appropriate start for students who are seeking a focus in marine science or who are interested in broadening their base of knowledge about marine biology, earth sciences or environmental science.

The minor consists of 24 units of course work. At least 16 must be upper-division and unique to the minor. Courses required by the student's major or general education (GE) requirements may not be applied toward the minor. Students must earn a letter grade of C- or better in all coursework used for the minor. Prior to declaring the minor, students must have completed the requirement for BISC 120Lg or BISC 121Lg or BISC 103Lgx. Basic chemistry, such as CHEM 103Lgx or CHEM 105aLg and CHEM 105bL, is strongly recommended. Students are encouraged enroll in at least one field-based course. Courses may be substituted with approval of the minor in Marine Biology program director, and this approval must be filed with the Office of Academic Records and Registrar.

Required Course (4 units)

- BISC 469L Marine Biology Units: 4 *

Field Courses and Other Electives (16 units)

Note: No more than one lower-division course may count toward the minor.

- BISC 431L Aquatic Microbiology Units: 4 *

Field-based Courses

- BISC 457L Methods in Marine Biology and Biological Oceanography Units: 4 *
- ENST 298aL Introduction to Scientific Diving Units: 2
- ENST 310 Sustainable Fisheries Management Units: 4 *
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 *

Non-field-based Courses

- BISC 140 Our Blue Planet in a Changing Climate Units: 4
- BISC 313L Evolution and Population Genetics Units: 4 *
- BISC 315L Introduction to Ecology Units: 4 *
- BISC 352 Conservation Biology Units: 4
- BISC 419L Environmental Microbiology Units: 4 *
- BISC 427 The Global Environment Units: 4 *
- BISC 437L Comparative Physiology of Animals Units: 4 *
- BISC 460 Seminar in Marine and Environmental Biology Units: 2
- BISC 473L Biological Oceanography Units: 4
- BISC 474L Ecosystem Function and Earth Systems Units: 4 *
- BISC 483 Geobiology and Astrobiology Units: 4 *
- BISC 485 Advanced Seminar in Bacterial Survival and Evolution Units: 4 *
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- BISC 499 Special Topics Units: 2, 3, 4 **
- CHEM 115aLg Advanced General Chemistry Units: 4 *
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- ENST 499 Special Topics Units: 2, 3, 4 **
- GEOL 107Lg Oceanography Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4 *
- GEOL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 **
- GEOL 499 Special Topics Units: 2, 3, 4 **
- SSCI 265Lg The Water Planet Units: 4

* *Course requires prerequisite/corequisite*

** *Research or special topic must be related to the marine environment. With permission from minor adviser.*

Natural Science Minor

The minor in natural science will first provide students with a foundation in the basic sciences of physics, chemistry and biology. Each student will then build on this by selecting a variety of electives to meet individual scientific interests and academic goals. Eighteen units toward the natural science minor must be completed at USC. This minor is not available to majors in the natural sciences or engineering.

Required Courses (22 Units)

Any five courses from among:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4

And a capstone course:

- BISC 321 Multidisciplinary Seminar: Science, Technology and Society Units: 2

Elective Course Requirement (8 units)

Any two courses chosen from among those offered for major credit by the departments of chemistry, physics, biological sciences and earth sciences.

Master's Degree

Biology (MS)

The MS degree program in biology is a terminal degree for students admitted into the marine biology and biological oceanography (MBBO), neurobiology (BNRO), or integrative and evolutionary biology (IEB) PhD programs who cannot complete the PhD degree program for personal or medical reasons.

The MS degree program is a non-thesis program but a paper, based on the student's original research investigation of a selected program in biology, constitutes one of the requirements. Each student must take 7–8 units of biology graduate core courses (BISC 582, BISC 584 and BISC 585) or neurobiology courses (NSCI 524 and either NSCI 531 or NSCI 532), two seminars and additional graduate courses or research units for a minimum of 24 units. Students also must satisfy the residency and other requirements of the Graduate School. Further details of these requirements are contained within each graduate program's particular requirements and policies.

Each student must take 7–8 units of:

Biology Graduate Core Courses

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 584 Faculty Lecture Series Units: 2
- BISC 585 Scientific Writing and Reviewing Units: 2

or

Neurobiology Courses

- NSCI 524 Advanced Overview of Neurosciences Units: 4

- NSCI 531 Molecular and Cellular Neurobiology Units: 4 or
- NSCI 532 Systems and Behavioral Neurobiology Units: 3

Additional Requirements

Two seminars and additional graduate courses or research units for a minimum of 24 units. Students also must satisfy the residency and other requirements of the Graduate School. Further details of these requirements are contained within each graduate program's particular requirements and policies.

Marine and Environmental Biology (MS)

The Master of Science degree in Marine and Environmental Biology (MEB) is designed to provide admitted students with a rigorous, quantitative and focused introduction to the burgeoning fields and breadth of topics in marine environmental biology/chemistry, geobiology, oceanography, conservation biology and population dynamics (depending upon the concentration selected). MEB provides students with independent research experiences that satisfy their own specific interests. The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide a unique facet to the background of a prospective medical student. The program will also provide fundamental tools and expertise for entry into a master's level position in academic, government or private sector research laboratories. It will prepare students interested in governmental and non-government (NGO) environmental regulatory science and forge career pathways into private sector positions in environmental consulting and business.

Applicants must possess a cumulative and science GPA of 3.0 or higher and have the following courses completed prior to admission: one year of introductory biology, one semester of molecular biology, one semester of biochemistry, one year of general chemistry, and one year of organic chemistry. All of the above must carry labs and be available for major credit in the natural sciences at a four-year college or university.

Applicants interested in using course work completed while an undergraduate may apply for the progressive master's degree as early as their junior year.

Core Courses

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 585 Scientific Writing and Reviewing Units: 2
- BISC 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (4 Units Required)

Completion of two semesters of:

- BISC 529 Seminar in Marine Biology Units: 1

Core Seminar Elective

Completion of one advanced seminar from among:

- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 535 Seminar in Physiology Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2

Graduate Elective Requirement

Eighteen units chosen from the following list, of which 8 units must be within the Department of Biological Sciences (BISC), and no more than 8 units can be at the 400-level.

- BISC 403 Advanced Molecular Biology Units: 4
- BISC 419L Environmental Microbiology Units: 4
- BISC 431L Aquatic Microbiology Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 437L Comparative Physiology of Animals Units: 4
- BISC 445L Fundamentals of Vertebrate Biology Units: 4
- BISC 447L Island Biogeography and Field Ecology Units: 4
- BISC 450L Principles of Immunology Units: 4
- BISC 455L Molecular Approaches to Microbial Diversity — Catalina Semester Units: 4
- BISC 457L Methods in Marine Biology and Biological Oceanography Units: 4
- BISC 460 Seminar in Marine and Environmental Biology Units: 2 , max 4
- BISC 469L Marine Biology Units: 4
- BISC 473L Biological Oceanography Units: 4
- BISC 474L Ecosystem Function and Earth Systems Units: 4
- BISC 483 Geobiology and Astrobiology Units: 4
- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 511 Integrative Biology Units: 4
- BISC 512 Evolutionary Biology Units: 4
- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2
- BISC 584 Faculty Lecture Series Units: 2
- BISC 588L Quantitative Analysis for Biological and Earth Sciences Units: 4
- CE 443 Environmental Chemistry Units: 3
- CE 463L Water Chemistry and Analysis Units: 3
- CE 503 Microbiology for Environmental Engineers Units: 3
- GEOG-587 GPS/GIS Field Techniques Units 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 500 Marine Paleoecology Units: 3, 2 years
- GEOL 501 Paleobiology Units: 3
- GEOL 514 Marine Geology Units: 3
- GEOL 555 Paleoceanography Units: 3
- GEOL 560 Marine Geochemistry Units: 3, 2 years
- GEOL 564 Isotope Geochemistry Units: 3, 2 years
- GEOL 567 Stable Isotope Geochemistry Units: 3
- GEOL 577L Micropaleontology Units: 3, 2 years
- OS 512 Introduction to Chemical and Physical Oceanography Units: 4
- PPD 694 Coastal Policy and Planning Units: 4

Total required units: 32

Molecular and Computational Biology (MS)

The MS degree program in molecular and computational biology (MCB) is a terminal degree for students admitted into the MCB PhD program who cannot complete the PhD degree program for personal or medical reasons. The study of molecular biology places so many demands upon the student that it is difficult to attain any satisfactory level of competence in the time generally taken for a master's degree. Therefore, enrollment of graduate students as master's degree applicants is not encouraged and is reserved for special circumstances. The curriculum of the master's student is patterned after that of the doctorate up to and including the qualifying examination, but not including thesis research. The qualifying examination will serve as the comprehensive master's examination.

Molecular Genetics and Biochemistry (MS)

The Master of Science in Molecular Genetics and Biochemistry is designed to provide outstanding students in life science majors with a rigorous, quantitative experimental experience in molecular genetics, genomics, evolutionary biology, cell and molecular biology, biochemistry (depending upon the research area selected). The program is intended to position and stimulate students for possible advanced study leading to a PhD in one of the areas stated above, and/or provide an important research experience to the background of a prospective medical student. The program will

also provide fundamental tools and expertise for entry into master's level positions in academic, government or private sector research laboratories, including biotech, pharmaceuticals or diagnostics. This is a terminal degree. Students who wish to pursue their doctorate at USC should apply directly to the PhD program.

Applicants must be undergraduate majors in the life sciences, who possess a cumulative and science GPA of 3.0 or higher and have the following courses completed or in progress at the time of admission: one year of introductory biology (BISC 120Lg/BISC 220Lg or BISC 121Lg/BISC 221Lg, or equivalent), one semester of molecular biology (BISC 320L or equivalent), one year of general chemistry (CHEM 105aLg/CHEM 105bL or CHEM 115aLg/CHEM 115bL, or equivalent), and one year of organic chemistry (CHEM 322aL/CHEM 322bL or CHEM 325aL/CHEM 325bL or equivalent). All of the above must carry labs and be available for major credit in the natural sciences at a four-year college or university.

Because this degree is based on research, students must identify a faculty adviser prior to enrollment and submit a research proposal approved by that adviser to the master's degree committee. It is recommended that students have performed the equivalent of independent study or a research internship (equivalent to BISC 490x) in their laboratory of choice prior to admission. Students are expected to perform 6 units of research in both fall and spring semesters; alternatively, with the adviser's approval upon enrollment, they may choose to perform the research component in variable increments in summer, fall and spring semesters to equal 12 units. This may be the preferred schedule if students wish to take additional electives during the academic year.

This program requires 32 units, of which 24 must be at the graduate level.

Core Courses

- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 544 Advanced Reading in Molecular Biology Units: 2 (two semesters)
- BISC 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2–3 semesters) (12 Units Required)

One from the following:

- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 505 Genomics and Molecular Genetics Units: 4

Elective Requirements

Eight units from the following list:

- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 414 Biology of Cancer Units: 4
- BISC 419L Environmental Microbiology Units: 4
- BISC 425 Advanced Genetics through the Primary Scientific Literature Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 435 Advanced Biochemistry Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BISC 480 Developmental Biology Units: 4
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- BISC 485 Advanced Seminar in Bacterial Survival and Evolution Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4 (if core requirement fulfilled with BISC 505)
- BISC 505 Genomics and Molecular Genetics Units: 4 (if core requirement fulfilled with BISC 502b)
- BISC 515 Evolution and Human Biology Units: 4

Additional Requirements

Students will complete a summative research paper that is written in publication format. The student will submit a proposed outline to the faculty mentor and one other molecular biology faculty member by January 15 for initial approval. The final paper is due on April 15. In the rare event that the final paper is not acceptable to the faculty, students may enroll for one more summer semester to perform revisions. If the paper is still not acceptable, the M.S. component of the degree will not be granted.

Doctoral Degree

Computational Biology and Bioinformatics (PhD)

Application deadline: December 15

During the first year, the student's program is under the direction of an initial qualifying exam committee composed of members of the admissions committee. After passing the screening procedure before the end of the first semester, the student must form a qualifying exam committee consisting of an adviser and four other faculty members, including at least one from another department. Thereafter, the student's program of studies and dissertation are under the direction of the permanent qualifying exam committee and the dissertation committee.

Screening Procedure

The screening examination should be taken by the end of the second semester in the program. If the student fails the examination, the department, at its discretion, may permit the student to repeat the examination during the next semester. The screening examination consists of written examinations on topics including molecular biology, mathematical probability and statistics, and algorithms.

Course Requirements

The students must complete, with no grade lower than a B, a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee. The required courses include: BISC 542, CSCI 570, MATH 505a, MATH 541a, and MATH 578a/MATH 578b. Students must take at least one biology course in the area of molecular biology, genetics or biochemistry. An additional 6 units of elective courses will be taken in consultation with the student's adviser. Students must register for a minimum of 4 units of dissertation research (BISC 794a/BISC 794b). Students must be registered in BISC 542 (computational section) their first three years in the program (6 semesters).

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. A maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD A grade of B- (A = 4.0) or lower will not be accepted and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit, after he or she passes the qualifying examination.

Qualifying Examination

The qualifying examination should be taken within two semesters following successful completion of the screening examination.

The written portion of the qualifying examination consists of a dissertation proposal. This document should include: introduction, statement of the problem, literature survey, methodology, summary of preliminary results, proposed research, references, appendix (including one or two fundamental references).

The oral portion of the qualifying examination consists of presentation of the PhD dissertation proposal. The student must demonstrate research potential.

Dissertation

Following passage of the screening examination and approval of a dissertation topic by the qualifying exam committee, the student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement of the PhD is an acceptable dissertation based on a substantial amount of original research conducted by the student.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases a defense oral will suffice if approved by the dissertation committee.

Integrative and Evolutionary Biology (PhD)

Application deadline: December 15

This program of study is designed to provide each student with a broad, fundamental background in integrative and evolutionary biology (IEB) coupled with detailed knowledge and expertise in the chosen area of concentration. The core of the course work in integrative and evolutionary biology consists of four courses — BISC 515 (4), seminar BISC 549 (2-2) and a 4-unit course to be decided upon by the student's adviser — that are taken by all first-year graduate students. Various faculty members also teach a variety of advanced courses and seminars on specialized research topics each semester. In addition, a range of courses in areas relating to IEB are available in various departments on the University Park and Health Sciences Campuses.

Course Requirements

Each student's curriculum is tailored to the particular interests of the individual and the needs and demands of the chosen research field. A minimum total of 60 units is required, consisting of formal courses, seminars and research credit. The 24 units of formal course work must include 12 units of specified course work in integrative and evolutionary biology, BISC 515, adviser-specified course, seminar BISC 549 (minimum 4 units), and 12 units of advanced electives chosen in consultation with the student's adviser.

Screening Examination

After completion of the core integrative biology and evolutionary biology course work (BISC 515 , adviserspecified, BISC 549) during the first year, the student's degree progress is discussed and evaluated by a screening committee composed of members of the IEB faculty as well as the student's principal adviser. The purpose of this written and oral evaluation is to determine competence to continue graduate study and identify areas to be strengthened prior to the qualifying examination.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to assist in the teaching program for two semesters as a teaching assistant.

Qualifying Examination

By the end of the third semester, students should choose a qualifying exam committee consistent with the requirements of the graduate school composed of IEB faculty and one outside member. This committee will conduct the qualifying exam and provide guidance during dissertation research. The chair of the committee will serve as the principal adviser. Students should consult extensively with each committee member regarding subjects to be covered in the exam.

The qualifying exam consists of written and oral parts. Both parts must be finished before the end of the fifth semester. For the written exam, the adviser will consult with each of the members of the qualifying exam committee. The written part will incorporate evaluation and synthesis of existing knowledge related to topic areas, design of experiment to test a relevant hypothesis, and interpretation of anticipated results. The oral exam consists of an oral defense of the written part and will be conducted within a month of the written part of the qualifying exam.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases a defense oral will suffice if approved by the dissertation committee.

Marine Biology and Biological Oceanography (PhD)

Application deadline: January 15

Course Requirements

In marine biology and biological oceanography, each student receives a general background in marine sciences and obtains in-depth specialization in a research area of his or her choosing. Each student's curriculum is fitted to the particular needs and demands of the chosen research field. The 26 units of formal course work must include the following: BISC 529 (4), BISC 582 (4), BISC 583 (4), BISC 584 (2), BISC 585 (2), BISC 586 (2); four advanced graduate seminars (8); and a statistics course approved by the student's adviser.

Core Courses

- BISC 582 Advanced Biological Oceanography Units: 4
- BISC 583 Evolution and Adaptation of Marine Organisms Units: 4
- BISC 584 Faculty Lecture Series Units: 2
- BISC 585 Scientific Writing and Reviewing Units: 2
- BISC 586 Biological Oceanographic Instrumentation Units: 2

Completion of two semesters of:

- BISC 529 Seminar in Marine Biology Units: 1

Core Seminar Elective

Completion of one advanced seminar from among:

- BISC 530 Advanced Seminar in Plankton Biology Units: 2
- BISC 531 Advanced Seminar on the Physiology of Marine Organisms Units: 2
- BISC 532 Advanced Seminar in Molecular and Microbial Ecology Units: 2
- BISC 533 Advanced Seminar in Remote Sensing and Modeling Units: 2
- BISC 534 Advanced Seminar in Population Genetics of Marine Organisms Units: 2
- BISC 535 Seminar in Physiology Units: 2
- BISC 536 Advanced Seminar in Marine Biogeochemistry Units: 2
- BISC 538 Metals and Biology in Oceanic Regimes Units: 2

Additional Requirements

A minimum total of 60 units is required, consisting of formal courses, seminars and research credit. At least 24 of the minimum 60 total units required are to be formal graduate course work (lecture and seminar courses).

Screening Examination

Candidates must also pass a screening examination to determine competence and point out deficiencies, fulfill a research tool requirement (computer skills, biostatistics, quantitative chemistry), and meet the residency and other requirements of the Graduate School. This exam is completed before completion of 24 units in the program.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to serve at least two semesters as a teaching assistant in the Department of Biological Sciences.

Qualifying Examination

Before the end of the fifth semester, each student must pass a written and oral qualifying examination given by the student's qualifying exam committee. The written part involves answering a number of questions at length. The oral part is in the area of the student's intended research, based on a project selected and developed by the student into a written proposition. After passing the qualifying examination, the student completes the research investigation and any other requirements under the guidance of the research adviser who also chairs the dissertation committee.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases, a defense oral will suffice if approved by the dissertation committee.

Molecular Biology (PhD)

Application deadline: December 15

During the first year, the student's program is under the direction of an initial qualifying exam committee composed of members of the committee on admissions to the program. Before the end of the second semester, a permanent qualifying exam committee, chaired by the student's research director, is established. Thereafter, the student's program of studies and dissertation is under the direction of the permanent qualifying exam committee and the dissertation committee.

Screening Procedure

In the third semester, the student's progress is discussed and evaluated by the qualifying exam committee. The purpose of this evaluation is to determine competence to continue graduate study, and to point out deficiencies to be remedied prior to the qualifying examination.

Course Requirements

A minimum of 24 of the 60 units required for the PhD degree must be in course work, exclusive of dissertation research. These units must include the core courses, BISC 502a (4 units) and BISC 502b (4 units), to be completed within the first year with no less than a "B" (3.0) in each class. Students are also required to take BISC 576 or BISC 444 in their second year. Participation in the research seminar series (BISC 542) is required for four semesters and encouraged for the student's entire graduate career. In the fall semester of the second year, students will choose an additional 4- unit, 400- or 500-level course in consultation with their adviser. Other courses may be chosen, in consultation with the program chair, from graduate offerings of this and other departments.

Language Requirement

Students in the graduate program in molecular biology are not required to pass a foreign language examination.

Student Teaching

Since most graduates in biological sciences will spend some part of their careers in academic work, teaching experience is considered an important part of graduate training. Each graduate student in the program is therefore required to serve at least two semesters as a teaching assistant in the Department of Biological Sciences.

Qualifying Examination

The examinations qualifying the student for candidacy for the PhD in molecular biology must be initiated in the second semester of the second year. The first part is written and consists of comprehensive questions covering the student's knowledge of prokaryotic and eukaryotic molecular biology and developmental biology or genomics. The second part is an oral examination. It consists of general questions and the presentation and defense of a proposition outlining a research program. The student can select a topic completely outside of their thesis topic. Alternatively, the student can select a topic using the same model system as their dissertation work, but a different research question, or a topic on the same research question, but using a different model system. While going outside their field is encouraged, students should not stray too far away from genetics, molecular and cell biology or biochemistry approaches. This examination sequence must be completed by the end of the fifth semester of the program.

Doctoral Dissertation

The dissertation is based on original, publishable, and significant research conducted independently by the student under the guidance of the dissertation committee.

Defense of the Dissertation

The defense of the dissertation is either a defense oral or a final oral. In most cases a defense oral will suffice if approved by the dissertation committee.

Chemistry

The Department of Chemistry offers degree programs that provide undergraduate and graduate students with core instruction and excellent research opportunities. Undergraduate programs leading to the BS and BA degrees are offered. The BS degree is intended for students preparing for careers in chemistry and satisfies the guidelines for a chemistry degree recommended by the American Chemical Society. The BA degree is designed for students who wish a concentration of course work in chemistry, but who have career plans in the health sciences, business or law or other specialty areas. In addition, a chemistry minor is available for students who want a broader exposure to the chemical sciences. A minor program in biotechnology is offered by the Departments of Biological Sciences and Chemistry and the Marshall School of Business and a minor program in environmental chemistry and sustainability is also offered jointly with the Environmental Studies program. Graduate programs are offered leading to the Master of Arts, Master of Science and Doctor of Philosophy in Chemistry.

Seeley G. Mudd 418
(213) 740-7036
FAX: (213) 740-2701
Email: chemmail@dornsife.usc.edu
chem.usc.edu

Chair: Stephen E. Bradforth, PhD

Faculty

Distinguished Professor of Chemistry, Biological Sciences and Biochemistry and Dana and David Dornsife Chair in Chemistry: Arieh Warshel, PhD
Lloyd Armstrong, Jr. Chair for Science and Engineering and Professor of Chemistry: Hanna Reisler, PhD
Ray R. Irani, Chairman of Occidental Petroleum Corporation, Chair in Chemistry: Mark E. Thompson, PhD
Paul A. Miller Chair in Letters, Arts and Sciences and Professor of Chemistry and Biochemistry: Curt Wittig, PhD
Harold and Lillian Moulton Chair in Organic/Polymer Chemistry and Professor of Chemistry and Pharmacology: Nicos Petasis, PhD
George A. and Judith A. Olah Nobel Laureate Chair in Hydrocarbon Chemistry and Professor of Chemistry: G.K. Surya Prakash, PhD
Provost Professor of Biological Sciences, Chemistry, Neurology, Physiology & Biophysics, and Chemical Engineering & Materials Science: Raymond C. Stevens, PhD
Provost Professor of Chemical Engineering and Materials Science, of Chemistry, and of Medicine: Mark Davis, PhD
Judge Widney Professor of Chemical Engineering and Chemistry: Ray R. Irani, PhD
Gabilan Assistant Professor of Chemistry: Smaranda Marinescu, PhD
Professors: Stephen E. Bradforth, PhD; Richard L. Brutchey, Jr., PhD; Lin Chen, PhD *(Biological Sciences)*; Xiaojiang Chen, PhD *(Biological Sciences)*; Vadim Cherezov, PhD; Valery Fokin, PhD; Myron F. Goodman, PhD *(Biological Sciences)*; Thieo E. Hogen-Esch, PhD; Anna Krylov, PhD; Daniel A. Lidar, PhD *(Electrical Engineering)*; Chi H. Mak, PhD*; Charles E. McKenna, PhD*; Sri Narayan, PhD; Oleg Prezhdo, PhD; Richard W. Roberts, PhD; Lawrence A. Singer, PhD*; Mark E. Thompson, PhD; Andrey Vilesov, PhD
Associate Professors: Andrea Armani, PhD *(Chemical Engineering)*; Alexander Benderskii, PhD; Stephen B. Cronin, PhD *(Electrical Engineering/Electrophysics)*; Kyung Woon Jung, PhD; Matthew Pratt, PhD; Peter Z. Qin, PhD; Remo Rohs, PhD *(Biological Sciences)*; Susumu Takahashi, PhD; Barry C. Thompson,

PhD; Travis J. Williams, PhD
Assistant Professors: Jahan Dawlaty, PhD; Moh El Naggar, PhD *(Physics)*; Malancha Gupta, PhD *(Chemical Engineering)*; Brent Melot, PhD; Fabien Pinaud, PhD *(Biological Sciences)*; Chao Zhang, PhD
Professors (Research): Karl O. Christe, PhD; Sri Narayan, PhD
Associate Professors (Research): Ralf Haiges, PhD; Golam Rasul, PhD
Assistant Professors (Research): Peter Djurovich, PhD; Terry Takahashi, PhD
Associate Professor (Teaching): Jessica Parr, PhD
Assistant Professors (Teaching): Thomas M. Bertolini, PhD; Rebecca Broyer, PhD
Emeritus Professors: Robert A. Beaudet, PhD; David A. Dows, PhD; Thomas C. Flood, PhD; Otto Schnepp, PhD; Gerald A. Segal, PhD; Howard S. Taylor, PhD; William P. Weber, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Biotechnology Minor

The USC Dornsife College of Letters, Arts and Sciences departments of biological sciences and chemistry and the Marshall School of Business jointly offer the cross-departmental minor in biotechnology. This minor brings essential knowledge in the basic sciences together with the corporate skills needed in a rapidly growing industry. The minor is especially well suited for the business, biology, chemistry or engineering student seeking a career in business and/or the biomedical/biotechnical sciences. See Biological Sciences for course requirements.

Grade Point Average in Major Subject

A grade of C- or higher is required in each chemistry course specifically listed as a degree requirement. The GPA for all chemistry courses required for a department major or a physical sciences major must be C (2.0) or higher. The GPA for all upper-division chemistry courses must also be C (2.0) or higher.

Honors Programs

A degree with honors in chemistry is available for eligible Chemistry BA, Chemistry BS, Chemistry BS — Research Emphasis, Chemistry BS — Chemical Nanoscience Emphasis, and Chemistry BS — Chemical Biology Emphasis students. To meet program requirements students must submit an application to the Department of Chemistry and satisfy the objectives of the program.

Students seeking admission must have at least junior standing (64 units) with an overall USC GPA of 3.5 or better in at least 16 units of chemistry courses. Students must complete 8 units of research (CHEM 490 or CHEM 494, which may also satisfy major requirements*) under the supervision of chemistry faculty with the research results described in an undergraduate thesis reviewed and approved by a faculty committee. To graduate with honors students must earn a GPA of 3.5 in all chemistry courses required for the major and have an overall USC GPA of 3.5.

Upon graduation, transcripts will be noted "Bachelor of Arts with Departmental Honors" for Chemistry BA students, or "Bachelor of Science with Departmental Honors" for students who pursued the various Chemistry BS majors.

**For Chemistry BS, Chemistry BS — Chemical Nanoscience Emphasis, and Chemistry BS — Chemical Biology Emphasis, 4 units CHEM 490 are required for the major; for Chemistry BS — Research Emphasis, 4 units CHEM 490 and 4 units CHEM 494 are required for the major; and for Chemistry BA, 1–8 units of CHEM 490x are required for the major.*

Graduate Degrees

Close contact between students and faculty is a seminal feature of the chemistry graduate programs. The emphasis is on individualized programs aiming at in-depth understanding and development of scientific maturity. Attention is given to career aims, including research and development; secondary, college and university teaching; and the wide variety of industrial testing, operation and management areas.

Admission Requirements

A baccalaureate degree, equivalent to the BA with a major in chemistry at USC, is prerequisite to admission to the graduate program in chemistry. A baccalaureate degree in an appropriate physical science, engineering or mathematics is prerequisite to admission to the doctoral program in chemical physics. Application must be made to the department on a special form, which includes application for fellowship and teaching assistant appointment and is available from the department Website. Materials describing the faculty, research areas and facilities will be sent to each applicant.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Master of Arts and Master of Science in Chemistry

The department does not accept applicants for a Master of Arts or Master of Science degree in chemistry. The MA and MS degrees are intended only as transitional degrees in the process of completing requirements for the PhD in chemistry.

The Master of Arts degree is granted on completion of 24 units of graduate course work (not including 590) approved by the master's committee, and comprehensive final examinations. The Master of Science degree is granted on completion of 24 units of graduate course work, including not more than eight units (normally two registrations) in directed research, approved by the master's committee, an approved thesis on the results of an original investigation, and a final oral defense of the thesis. The final defense is made while the thesis is in final draft form.

A master's committee is appointed for each student. The master's committee is chaired by the research director in the case of the MS option, or by an appropriate member of the faculty in the case of the MA option.

Seminars and Research Symposium

Seminars are held regularly in physical, inorganic and organic chemistry. All students are expected to attend one and are invited to attend all of these. All students are expected to attend the departmental annual research symposium featuring speakers from all branches of chemistry, who may be local, national or international.

Teaching Experience

Teaching experience is required for the advanced degrees in chemistry.

Bachelor's Degree

Biochemistry (BS)

This degree is offered jointly by the Departments of Biological Sciences and Chemistry.

The general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences are applicable.

Students must complete each required course in the Departments of Biological Sciences and Chemistry with a grade of C- or better, and maintain an overall GPA of 2.0 or better in all attempted courses in the two departments in the regular degree program.

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320L Molecular Biology Units: 4

- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 435 Advanced Biochemistry Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4 or
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- BISC 305 Introduction to Statistics for Biologists Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Additional Requirements

Eight units of upper-division, non-core course work available for major credit in biological sciences or chemistry are required. Students enrolled in BISC 490 are limited to 4 units, while students enrolled in CHEM 490 may complete up to 8 units. No more than two seminars (BISC 460 to BISC 462), totaling 4 units, may be applied to the upper-division elective requirement.

Honors Program in Biochemistry

A BS degree with honors in biochemistry is available for eligible students. In meeting program requirements students must submit an application and satisfy the objectives of one of the program options noted below.

Option One: Biochemistry Honors with Chemistry Research

Students seeking admission into option one must have at least junior standing (64 units) with an overall USC GPA of 3.5 or better in at least 32 units at USC, and have a 3.5 or better in at least 16 units in biological sciences and chemistry. Students in this option must complete 8 units of research (CHEM 490) under the supervision of chemistry faculty with the results of research being described in an undergraduate thesis reviewed and approved by a faculty committee. To graduate with honors under this option students must earn a GPA of 3.5 in all biological sciences and chemistry courses required for the major.

Option Two: Biochemistry Honors with Biology Research

Students seeking admission into option two must have at least sophomore standing (32 units) with an overall USC GPA of 3.5 or better both cumulatively and in 16 units in biological sciences and chemistry. Students in this option must complete 4 units of research (BISC 490) under faculty in biological sciences or under faculty in any other department approved by biological sciences. In addition, students must complete two semesters of Honors Seminar (BISC 493), 1 unit each, and one semester of Honors Thesis (BISC 494), 2 units. To graduate with honors under this option students must earn a GPA of 3.5 in all sciences and mathematics courses required for the major.

Upon graduation, transcripts of students following either option will be noted, "Bachelor of Science with Departmental Honors."

Chemistry (BA)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

One course from among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

One additional upper-division science elective

Chemistry (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 332L Physical Chemical Measurements Units: 4

- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
  or
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
  or
- CHEM 465L Chemical Instrumentation Units: 4
  or
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2 (A total of 4 Units)
- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Chemistry (Chemical Biology) (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Required Core Courses, Upper-Division

- BISC 320L Molecular Biology Units: 4
- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4 or
- CHEM 432 Physical Chemistry for the Life Sciences Units: 4

- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Advanced Laboratory Elective, Four Units From Among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 465L Chemical Instrumentation Units: 4

Advanced Chemistry Elective, Two Courses From Among:

- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists Units: 4

Chemistry (Chemical Nanoscience) (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Core Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4
- CHEM 455 Chemical Nanotechnology Units: 4

- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

Chemical Nanoscience Elective, Two Courses From Among (5 OR 6 Units):

- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 3
- CHEM 499 Special Topics Units: 2, 3, 4 (2 Units Required)
- CHEM 488 Introduction to Theory and Practice of X-ray Crystallography Units: 4
  or
- CHEM 588a X-ray Crystallography Units: 2
- CHEM 561 Polymer Synthesis Units: 4

Chemistry (Research) (BS)

In addition to the general education, writing, foreign language and diversity requirements for a degree in the USC Dornsife College of Letters, Arts and Sciences, the following courses are required.

Required Core Courses, Lower-Division

- CHEM 107Lg General Chemistry for Chemistry Majors Units: 4
- CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 226 Calculus III Units: 4

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Core Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4
- CHEM 426 Advanced Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Advanced Laboratory Elective, Four Units From Among:

- CHEM 332L Physical Chemical Measurements Units: 4
- CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry Units: 4
- CHEM 463L Chemical Nanotechnology Laboratory Units: 2
- CHEM 465L Chemical Instrumentation Units: 4
- CHEM 467L Advanced Chemical Biology Laboratory Units: 2

Required Research Courses

- CHEM 292 Supervised Research Units: 2
- CHEM 294 Undergraduate Research Seminar Units: 1
- CHEM 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)
- CHEM 494x Advanced Research Experience Units: 2, 4 (4 Units Required)

Minor

Chemistry Minor

A chemistry minor is available for students who wish to broaden their exposure to the chemical sciences. In addition to a core of five chemistry courses (year-long sequences in general chemistry and organic chemistry and a one semester course in analytical chemistry), students must take one upper-division chemistry elective in either advanced organic or advanced inorganic chemistry. Biology majors must take CHEM 300L, CHEM 426 and CHEM 453.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 426 Advanced Organic Chemistry Units: 4 or
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Environmental Chemistry and Sustainability Minor

The environmental chemistry and sustainability minor is designed for students majoring in business, engineering, law, communications and other professional fields to give them the knowledge of chemistry needed to understand, formulate and manage scientific issues related to natural environmental processes as well as technologies involving the environment.

Required Courses, Lower-Division

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses, Upper-Division

- CHEM 300L Analytical Chemistry Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4

One Elective Course Chosen From:

- CHEM 322aL Organic Chemistry Units: 4
- BISC 315L Introduction to Ecology Units: 4 *
- BISC 419L Environmental Microbiology Units: 4 *
- BISC 427 The Global Environment Units: 4 *
- GEOL 412 Oceans, Climate, and the Environment Units: 4 **

Note:

**Prerequisite required*
***Corequisite required*

Doctoral Degree

Chemistry (Chemical Physics) (PhD)

Course Requirements

Completion (with no course grade lower than B-) of 24 units of courses selected from chemistry, physics, mathematics, and engineering, with an overall grade point average not lower than B. These courses must be selected with the advisement and approval of first, the research adviser, and then the thesis chair. All other requirements and procedures are the same as for the PhD in Chemistry.

Chemistry (PhD)

Qualifying Exam Committee

The qualifying exam committee is composed of the research adviser, three other members of the Chemistry Department, and one member from outside the Chemistry Department. The committee is appointed at least one semester before the qualifying examination, and prior to the screening procedure.

Course Requirements

The student must pass a series of graduate courses totaling at least 24 units. The qualifying exam committee may require more than 24 units of graduate course work. Sixty units of registration, including CHEM 790 and CHEM 794a CHEM 794b CHEM 794c CHEM 794d CHEM 794z, are required for the PhD Registration for CHEM 790 and CHEM 794a CHEM 794b CHEM 794c CHEM 794d CHEM 794z should be done with the approval of the staff graduate adviser.

Screening Procedure

The screening requirements designated by the department for continuation in the doctoral program are: an overall grade point average of B or better in at least 24 units by the end of the fourth semester of course work with no grade lower than B-; and a successful research seminar presented by the student to the qualifying exam committee. Only students who have passed the screening requirements are allowed to take the qualifying examination.

Qualifying Examination

The qualifying examination requires the presentation of two original research proposals, or one original research proposal and one critical review of a scientific article, written answers to questions previously submitted by the qualifying exam committee, and oral defense of all of these. The qualifying examination is administered by the qualifying exam committee, which should not be chaired by the research adviser.

Dissertation

An acceptable dissertation based on completion of an original research project is required. The candidate must defend an approved penultimate draft of the dissertation in an advertised oral thesis defense lecture, which is open to the scientific community. The dissertation committee consists of three members of the qualifying exam committee including the research adviser and the outside member.

Foreign Language Requirement

The department has no foreign language requirement.

Classics

The curriculum of the Classics Department is designed to transmit a knowledge and an appreciation of the civilizations of the Greeks and the Romans — their languages and literatures, myths, philosophies and political thought — as well as to develop an understanding of the ways in which the classical heritage has manifested itself in later ages. Approximately one half of the department's classes are taught in English; these have to do with broad areas of civilization, including classical culture and literature. The remainder are courses in language and literature taught from the original Greek and Latin texts.

The undergraduate classics major gives the student an understanding of the cultures, languages and literatures of ancient Greece, Rome and the Mediterranean world. Students choose one of three tracks in the major.

Classics is a broadly interdisciplinary field. Most courses focus on ancient Greece and Rome, but students in the department also study the impact of classical cultures on later societies and the interactions among various ancient cultures. USC is a member of the Intercollegiate Center for Classical Studies and the College Year in Athens programs, and classics majors are encouraged to spend a semester in Rome or Athens. The classics major is also encouraged to explore courses in allied fields such as ancient philosophy, history, comparative literature, art history and archaeology.

Taper Hall of Humanities 256
(213) 740-3676
FAX: (213) 740-7360
Email: classics@dornsife.usc.edu
dornsife.usc.edu/clas
Chair: William G. Thalmann, PhD

Faculty

Professors: Anthony J. Boyle, MA; Vincent Farenga, PhD; Thomas N. Habinek, PhD*; Susan Lape, PhD; William G. Thalmann, PhD*
Associate Professors: Christelle Fischer-Bovet, PhD *(History)*; Daniel Richter, PhD; Ann Marie Yasin, PhD
Assistant Professor: Stefano Rebaggiani, PhD
Associate Professor Emerita: Jane Cody, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honors Program

Candidates for honors must maintain a 3.5 GPA in major courses, including a grade of A or A minus in the capstone course. In addition, candidates for honors in the Classical Languages and Literatures track must pass a sight translation exam in either Greek or Latin; candidates in the Classical Humanities and Ancient Civilizations track must pass a comprehensive exam set by the department.

Students Anticipating Graduate Study in Classics

Students interested in attending graduate school in classics are advised to take as many courses in Greek and/or Latin as possible.

Graduate Degrees

The graduate program in classics at USC aims to train students to become scholars, teachers and interpreters of ancient Mediterranean civilizations, of the Greek and Latin languages and literatures, and of the traditions that have developed from them. In order to prepare students to work in a variety of intellectual contexts, the department seeks to provide both a traditional substantive training in classical philology and the intellectual flexibility that will enable them to make the accomplishments of the past available to audiences of the present.

The department offers the PhD in Classics (Greek and Latin) and the MA in Greek, Latin and Classics. Collateral offerings are available in related departments, such as comparative literature, history, philosophy, art history, English and anthropology.

The graduate program offers mastery of traditional philological and linguistic skills as a basis for the study of ancient cultures, with emphasis on literature, other discursive practices and material culture. Students are encouraged to explore interdisciplinary approaches to classical studies and the relations between classics and other fields. Courses in related departments are recommended and degree requirements permit students to develop individual interests.

Admission Requirements

An applicant for admission will normally have an undergraduate major in classics, but programs may be arranged for promising students who do not. The student should have an undergraduate record satisfactory to the department. At least three letters of recommendation from the student's undergraduate teachers are required. All applicants are required to take the verbal and quantitative general tests of the Graduate Record Examinations. See the department Website for detailed application instructions.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Program

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies for course requirements.

Bachelor's Degree

Classics (BA)

The major in classics has three tracks, with distinct but overlapping emphases. In the Classical Languages and Literatures track, students acquire advanced reading knowledge of one or both classical languages (Greek and Latin) and study the literature of Greece and Rome in historical and cultural context. In the Classical Humanities track, students study Greek and Roman intellectual, literary and aesthetic achievements and their impact on later traditions, while also acquiring basic reading knowledge of one classical language. The Ancient Civilizations track emphasizes study of society, politics and history of Greece, Rome and other civilizations of the ancient Mediterranean world in comparative perspective.

All three tracks emphasize critical thinking as well as practice in written and oral presentation as hallmarks of a liberal arts education. Requirements for tracks are as follows:

Track I. Classical Languages and Literatures

Recommended Preparation–any of the following:

- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4

Lower-Division Language Courses (20 units)*

Students must take three courses in one language of their choosing and two in the other language.

Greek (Choose 2-3 from the following):

- GR 120 Greek I Units: 4
- GR 150 Greek II Units: 4
- GR 220 Greek III Units: 4

Latin (Choose 2-3 from the following):

- LAT 120 Latin I Units: 4
- LAT 150 Latin II Units: 4
- LAT 222 Latin III Units: 4

Note:

**Or equivalent via placement*

Upper-Division Language and Literature Courses (16 units)

Four semesters of 300- or 400-level language courses in Greek or Latin

Additional upper-division requirements Units: 8

Two additional semesters of upper-division Greek, Latin, or Classics courses.

Capstone Units: 4

Analytical paper, oral presentation, sight reading exam in either Greek or Latin

CLAS 410a Research in Classical Studies Units: 2

CLAS 410b Research in Classical Studies Units: 2

Track II. Classical Humanities

Breadth Requirement–any one of the following

- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4

Additional Requirements

Language Requirement

Completion of at least one Greek or Latin course numbered 200 or above.

Upper-Division Requirements

Minimum seven courses, of which at least four must be from Greek, Latin, or Classics; two from Greek, Latin or Classics or from the approved list of outside electives maintained by the major adviser; one capstone.

Capstone: (enroll in Classics CLAS 410a CLAS 410b)
Analytical or research paper; oral presentation; oral examination.

Track III. Ancient Civilizations

- CLAS 101g The Ancient World Units: 4
- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4

Upper-Division Requirements

Minimum nine courses of which at least five must be upper-division courses in classics, Greek or Latin; three either upper-division courses in classics or from the approved list of outside electives maintained by the major adviser; and one capstone. One of the upper-division courses must include study of a classical civilization other than Greece and Rome.

Capstone: (enroll in Classics CLAS 410a CLAS 410b)
Research paper, oral presentation.

- CLAS 410a Research in Classical Studies Units: 2
- CLAS 410b Research in Classical Studies Units: 2

Minor

Classical Greek Minor

Four courses in Classical Greek, of which one may be GR 220 and at least three must be at the upper-division level.

One additional upper-division course: either Classical Greek or Classics (CLAS).

TOTAL: five courses

Classical Perspectives Minor

The interdisciplinary minor in Classical Perspectives provides immersion in foundational ideas, texts and histories of the Greco-Roman tradition that speak to more contemporary topics and areas of study. How did the Greeks and Romans view love and sexuality, justice and mercy, wisdom and honor, war and peace, glory and shame? What insights might classical perspectives provide into artistic and political choices, professional practices, ethical controversies and social issues in other ages; or, into the study of psychology, sex, gender and sexuality, international relations, race relations, cinema, the sciences, business, theatre or popular culture?

While housed in Classics, the minor is also connected to the USC Harman Academy for Polymathic Study. The minor includes a reading concentration for which students construct a preferred reading list in consultation with a faculty member as part of CORE 200, Liberal Arts Reading Salon, and a capstone experience for which students complete a writing or comparable creative project in consultation with a faculty member as part of CORE 400, Capstone. The capstone will include opportunities for students to explore contemporary representations of the classics, on and off campus, to deepen their appreciation of the classical tradition in contemporary contexts.

The interdisciplinary 16-unit minor is meant to be easily adapted to any student's program of study and allows students to double-count General Education and Thematic Option Honors courses. Students choose 16 units from the list below in consultation with a Classics faculty or staff adviser. No more than 8 units may be taken in any one USC Dornsife department or USC school.

Foundational Courses

Choose at least one course – 4 units

- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- PHIL 115g Ancient Greek Culture and Society Units: 4
  GE seminars on appropriate topics (consult an adviser)

Required Courses

4 units

- CORE 200 Liberal Arts Reading Salon Units: 2
- CORE 400 Capstone Units: 2

Electives

Choose at least one course – 4 units

- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 325 Roman Archaeological Excavation: Methods and Practice Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- CLAS 300 Women in Antiquity Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 325 Ancient Epic Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COMM 330 Rhetoric in Classical Culture Units: 4
- LING 466 Word and Phrase Origins Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- POSC 370 European Political Thought I Units: 4
- REL 325 Religious Experience in the Greco-Roman World Units: 4
- THTR 301 Greek and Roman Theatre Units: 4

Classics Minor

The classics department minor requires one lower-division Classics course or one third-semester Latin or Greek course, and four upper-division Classics, Latin or Greek courses.

One course from either A or B:

Lower-division course

A.

Lower division Classics courses

- CLAS 101g The Ancient World Units: 4
- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 160gp Ancient Lives Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4

B.

Third semester Latin or Greek courses:

- GR 220 Greek III Units: 4
- LAT 222 Latin III Units: 4

Additional Requirements

Four upper-division courses (16 units) drawn from classics course offerings in Classics, Latin or Greek

Total: 5 courses

Latin Minor

Four courses in Latin, of which one may be LAT 222 and at least three must be at the upper-division level.

One additional upper-division course: either Latin (LAT) or Classics (CLAS).

TOTAL: five courses

Master's Degree

Classics (MA)

The department does not accept applicants for a Master of Arts degree in classics. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in classics.

Work toward the MA consists of six 4-unit courses (24 units) and a thesis and oral defense, or the MA comprehensive examination. Two of the core seminars (i.e. CLAS 540, CLAS 550, CLAS 560, CLAS 570) are required and five of the six courses must be taken in the Department of Classics. Under the guidance of a faculty committee, the student elects those courses appropriate to individual areas of special interest and previous academic preparation.

Doctoral Degree

Classics (PhD)

Application deadline: January 1

Course Requirements

All students must complete CLAS 540, CLAS 550, CLAS 560 and CLAS 570, plus at least five from CLAS 510, CLAS 515, CLAS 520, CLAS 525, CLAS 545, CLAS 555, CLAS 565, CLAS 575, as well as three electives to be decided on in consultation with the graduate adviser. This arrangement is designed to assure competency in core areas of classical studies while allowing for the development of individual research interests and, where appropriate, course work in related fields. In addition, all students are required to enroll in the 2-unit teaching practicum (MDA 593) concurrent with their first semester as a department teaching assistant.

Exams

Students are expected to complete written exams in the translation of Greek and Latin literature; in Greek and Roman history; and modern language competency exams. In addition, students take written and oral exams in major and minor fields and an oral exam on the dissertation prospectus. The field exams, prospectus, and exam on the prospectus together constitute the qualifying exam and are evaluated by a five-member committee. Students may not present themselves for the qualifying exam until all required courses and preliminary exams have been completed successfully.

Dissertation

Following the completion of the qualifying exam, the guidance committee will be reduced to three members, including one member from outside the department, who will guide and approve the dissertation.

Juries

All students make formal presentations on their research before a jury drawn from internal and external faculty twice during their graduate careers — once before taking the field exams and once while working on the dissertation.

Timetable

Required course work, written and oral exams are to be completed by the end of the third year of enrollment in the program, with the dissertation to be submitted and defended by the end of the fifth year.

Comparative Literature

The Comparative Literature department offers both a major and minor in comparative studies of literatures, cultures, and media. In addition to cross-linguistic and cross-cultural literary studies, the undergraduate program explores the social, political, and historical contexts of literature and the relation of literature to other arts, philosophy, and media.

With the benefit of studying with emergent and established scholars at the cutting-edge of their various fields and disciplines, students are not only encouraged to adopt comparative study and literary theory as integral elements of interdisciplinary work in the academy, but also as crucial tools of democratic citizenship in a global world. The traditional strengths of the department in critical theory and non-Western literatures enables students to reflect critically on the ways in which globalization affects the creation, dissemination, and consumption of contemporary popular culture and to analyze literature, arts, and media as sites of resistance and rethinking of "globalization" and "international relations." The literatures and cultures represented in the department include: Western (European and American), Middle Eastern, East Asian, and South Asian.

Taper Hall of Humanities 161
(213) 740-0102
FAX: (213) 740-8058
Email: complit@dornsife.usc.edu
dornsife.usc.edu/colt
Chair: John Rowe, PhD

Faculty

Marion Frances Chevalier Professor of French and Professor of French and Italian and Comparative Literature: Peggy Kamuf, PhD*
Florence R. Scott Professor of English and Professor of English and Comparative Literature: Tania Modleski, PhD
USC Associates Chair in Humanities and Professor of English and American Studies & Ethnicity: John Rowe, PhD
Professors: Joseph Boone, PhD *(English)*; Dominic C.N. Cheung, PhD *(East Asian Languages and Cultures)*; Vincent Farenga, PhD* *(Classics)*; Erin Graff Zivin, PhD *(Spanish and Portuguese)*; Jack Halberstam, PhD *(American Studies & Ethnicity)*; David E. James, PhD *(Cinematic Arts)*; Akira Mizuta Lippit, PhD *(Critical Studies)*; Margaret Rosenthal, PhD *(Italian)*; Hilary M. Schor, PhD *(English)*; David St. John, MFA *(English)*; William G. Thalmann, PhD* *(Classics)*; Daniel Tiffany, PhD *(English)*; Alexander Zholkovsky, PhD *(Slavic Languages and Literatures)*
Associate Professors: Julian Albilla, PhD *(Spanish and Portuguese)*; David Bialock, PhD *(East Asian Languages and Cultures)*; Roberto Ignacio Díaz, PhD* *(Spanish and Portuguese)*; Heather James, PhD *(English)*; Janet Johnson, PhD *(Music)*; Natania Meeker, PhD *(French and Italian)*; Panivong Norindr, PhD *(French and Italian)*; Antonia Szabari, PhD *(French and Italian)*
Assistant Professors: Neetu Khanna, PhD; Veli N. Yashin, PhD
Associate Professors (Teaching): Michael du Plessis, PhD; Jason Webb, PhD
Emeritus Professors: Gloria Orenstein, PhD; Albert Sonnenfeld, PhD* *(French and Italian)*
**Recipient of university-wide or college teaching award.*

Graduate Degrees

The MA and PhD in comparative literature are offered through the Comparative Studies in Literature and Culture program, as described here.

Bachelor's Degree

Comparative Literature (BA)

Students may earn the BA in Comparative Literature by satisfying the requirements for either of two tracks.

The Literature/Media/Critical Thought Track allows students to focus their study in one of three concentrations while also taking courses in the other two. Together, these three concentrations represent the broad range of interests in the discipline: (1) literature considered comparatively and transnationally; (2) the media of other arts and modes of communication (photography, film, music, painting and digital media); (3) modes of critical thought that inform and shape theoretical reflection on the arts and society.

This track offers the opportunity to pursue a major that is broadly based in the liberal arts. Students on this track might consider extending their concentration with a double major or minor. For example, the literature concentration could be extended with a second major or minor in a national literature (French, Spanish, Italian, Russian, English, classics or an East Asian literature); the media concentration by another major or minor in cinematic arts, art history or communication; and the critical thought concentration by a second major or minor in philosophy, religion, history, sociology or anthropology.

The Foreign Language Track incorporates the study of at least one literature in a foreign language into the comparative perspective of the comparative literature major.

Students who intend to pursue a graduate degree in either comparative literature or a foreign literature are strongly advised to choose this track, as are students who already possess advanced skills in a language other than English. Majors in comparative literature with foreign language emphasis might consider a double major or a minor in a department of foreign language or in a non-literary field such as international relations or journalism.

The requirements for both tracks of the major accommodate very well semesters of study abroad. Students are helped and encouraged to plan their programs in advance to allow for that experience.

Requirements for the Major

Literature/Media/Critical Thought Track

Students earn a BA in Comparative Literature and are required to complete at least 40 units (10 courses) as follows:

Requirements

(1)

- COLT 302 Introduction to Literary Theory Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

(2)

At least four additional COLT courses in one of the three concentrations.

Literature Concentration:

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 102g On Location: The Place of Literature in Global Cultures Units: 4
- COLT 250g Cultures of Latin America Units: 4
- COLT 251g Modern Literature and Thought of the West Since 1800 Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- COLT 311 Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 324 Women in Medieval and Renaissance Europe Units: 4
- COLT 335 Decadence and Modernity Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 346 Fictions of the First Person Units: 4
- COLT 348 Modernist Fiction Units: 4
- COLT 351 Modern and Contemporary Drama Units: 4
- COLT 374gm Women Writers in Europe and America Units: 4
- COLT 382gw Zen and Taoism in Asian Literature Units: 4
- COLT 420 The Fantastic Units: 4
- COLT 426 Utopias Units: 4
- COLT 435 Poetry and Poetics of the Everyday Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- COLT 448 Multilingual Encounters Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4

- COLT 475 Politics and the Novel Units: 4
- COLT 476 Narrative and the Law Units: 4
- COLT 485 The Shoah (Holocaust) in Literature and the Arts Units: 4
- EALC 454 Bildungsroman in Modern East Asia Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4

Media Concentration:

- COLT 354 Revolutions in Theater Units: 4
- COLT 357 The Avant-Garde Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COLT 373 Literature and Film Units: 4
- COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema Units: 4
- COLT 451 Opera and Cultural Theory Units: 4
- COLT 452 Representation and Cognition in Photography Units: 4
- COLT 462 Soundtracks of Our Lives Units: 4
- COLT 470 Literature and Media in Latin America Units: 4
- COLT 480 Dada and Surrealism Units: 4

Critical Thought Concentration:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- COLT 375 Latin American Cultural and Literary Theory Units: 4
- COLT 377 Literature, Theory, Gender Units: 4
- COLT 381 Psychoanalysis and the Arts Units: 4
- COLT 385 Literature and Justice Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COLT 454 Aesthetic Philosophy and Theory Units: 4
- COLT 471 Literature, Theory, History Units: 4
- COLT 474 Desire, Literature, Technology Units: 4
- COLT 476 Narrative and the Law Units: 4
- COLT 478 Family in Theory and Literature Units: 4
- COLT 486 Deconstructive Thought Units: 4
- COLT 487 Critical Image Units: 4

(3)

At least four additional COLT courses. No more than two of the 10 courses required for the major may be at the 100 or 200 level.

Foreign Language Track

Students earn a BA in Comparative Literature and are required to complete 40 units (10 courses) as follows:

Requirements

(1)

- COLT 302 Introduction to Literary Theory Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4

(2)

At least five additional COLT courses, of which no more than two may be at the 100 or 200 level.

(3)

At least three upper-division courses in the literature or culture of one or more foreign languages (other than English), with all readings in that language.

Honors Program

Students who satisfy the following requirements of the honors program receive the BA in Comparative Literature with Honors. To be admissible to the honors program, an overall GPA of at least 3.0 and at least 3.5 in courses counted for major credit is required. The decision to enter the Honors Program should be made and discussed with the departmental undergraduate adviser at least one year (two semesters) before graduation.

To be awarded honors, majors in comparative literature on the literature/media/ critical thought track must complete 4 units of COLT 490x Directed Research and 4 units of COLT 495 Senior Honors Thesis. These courses replace two of the COLT courses required beyond the four-course concentration. Majors in comparative literature on the foreign language track must complete, in place of two of the five required COLT courses, an additional upper-division course in the literature or culture of a language other than English and COLT 495 Senior Honors Thesis.

The director of the senior honors thesis must be a member of the comparative literature faculty. The second reader may be any regular USC faculty. To qualify for the award of honors, the director and second reader must both approve the thesis.

Minor

Comparative Literature Minor

Students can minor in one of three tracks: the literature/media/ critical thought track, the foreign language track or the global cultures track.

Literature/Media/Critical Thought Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least three additional COLT courses in one of the three concentrations.
3. At least one additional COLT course in any of the three concentrations.

No more than one of the six courses required for the minor may be at the 100 or 200 level.

Foreign Language Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least three additional COLT courses, of which no more than one may be at the 100 or 200 level.
3. At least one upper-division course in the literature or culture of a foreign language (other than English), with all readings in that language.

Global Cultures Track

Students are required to complete at least 24 units (six courses) as follows:

1. COLT 302 and COLT 303
2. At least two additional COLT courses, of which no more than one may be at the 100 or 200 level, to be chosen from the following list: COLT 101, COLT 102, COLT 250, COLT 264, COLT 374, COLT 375, COLT 379, COLT 385, COLT 445, COLT 448, COLT 470, COLT 474
3. At least two other courses in a relevant USC College department to be decided in conjunction with the adviser according to the following guidelines:
   A. Students may choose a region of the world and take two upper-division courses related to that region in relevant departments.
   B. Students may choose a national/ linguistic tradition and take two upper-division courses related to that tradition in relevant departments.

Comparative Studies in Literature and Culture

The Comparative Studies in Literature and Culture Department offers the MA and PhD in three tracks: Comparative Media and Culture; Comparative Literature; and National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies).

Taper Hall of Humanities 161
(213) 740-0102
FAX: (213) 740-8058
Email: cslc@dornsife.usc.edu
Director: Peggy Kamuf, PhD

Graduate Degrees

Comparative Studies in Literature and Culture Doctoral Program

Application deadline: December 1

Through the Comparative Studies in Literature and Culture doctoral program (CSLC), students pursue master's and doctoral degrees in one of three tracks: Comparative Media and Culture; Comparative Literature; National Literatures and Cultures (French and Francophone Studies or Spanish and Latin American Studies). The three tracks share a required core curriculum.

General Admission and Application Requirements

Applications are made to CSLC for the PhD in one of the three tracks.

Successful applicants will have: a BA in a relevant discipline; satisfactory scores in both the verbal and quantitative general test of the Graduate Record Examinations; satisfactory grades on undergraduate or previous MA course work in a related field and, if appropriate, a satisfactory score on the TOEFL or IELTS examination; and advanced competence in relevant languages. Applications must also include a written statement indicating the applicant's interests in the field and proposed areas of study; a sample of scholarly or critical writing on a relevant subject; and three letters of recommendation.

Although candidates are not admitted who wish to pursue solely the MA, the degree may be awarded either as a terminal degree or as a transitional degree in the course of PhD study.

General Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. To be applied toward the degrees, courses must be accepted by the Graduate School.

Students may transfer up to 4 units toward the MA and 30 units toward the PhD.

For specific degree requirements in each track, see below.

Certificate in Foreign Language Teaching

This credential provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs at accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Refer to the Department of Spanish and Portuguese for course work requirements.

Master's Degree

Comparative Studies in Literature and Culture (Comparative Literature) (MA)

Track II: Comparative Literature

The primary goal of graduate study in the comparative literature track is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of literature's formal or generic development extending across linguistic boundaries; an understanding of literature's historical development within a number of specific cultural or ideological contexts; and a knowledge of the principles of literary criticism and theory essential to the analysis, interpretation and evaluation of individual works. The core of the discipline of comparative literature is advanced competence in several languages allowing research in their literary traditions.

Course Requirements

Completion of at least eight courses (29–32 units) distributed as follows: CSLC 501, CSLC 502 and CSLC 503; three courses in a first literary tradition; two courses in a second literary tradition. No more than one of these eight courses may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Track II Field Examination

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (Comparative Media and Culture) (MA)

Track I: Comparative Media and Culture

The primary goal of the track in comparative media and culture is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of the formal specificity and possibilities of different print, visual, sound and digital media; an understanding of the development of different media within their specific cultural and linguistic contexts; and a knowledge of the principles of criticism and theory essential to the analysis, interpretation and evaluation of individual works.

Course Requirements

Completion of at least eight courses (29–32 units) distributed as follows: CSLC 501, CSLC 502and CSLC 503; one course in a non-Anglophone literary or cultural tradition (CLAS, EALC, FREN, SLL or SPAN); four additional courses in fields relating to the student's program, of which at least two are in CSLC. No more than one of these eight courses may be in directed research (CSLC 590).

First-Year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Track I Field Examination

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (French and Francophone Studies) (MA)

Track III: National Literatures and Cultures

French and Francophone Studies

The majority of students pursue the doctorate in Comparative Studies in Literature and Culture (French and Francophone Studies) in preparation for a career of teaching and research at the college or university level in the field of French and Francophone literature and cultural studies. Students preparing for these careers must obtain a broad knowledge of major French and Francophone literary texts and traditions from the Middle Ages to the present, which is achieved through a combination of course work and exams. They should also develop the intellectual depth that allows them to produce an original dissertation in a timely manner.

Course Requirements

Completion of at least 8 courses (29–32 units) distributed as follows: (1) CSLC 501, CSLC 502 and CSLC 503; two core courses, FREN 501 and FREN 503; (3) three additional courses in French or, with permission, in a related field. No more than two of the eight courses may be at the 400 level and no more than one course may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Track III (French) Comparative Field Exercise

The exam consists of the oral defense of a paper developed in consultation with a faculty adviser. It is normally taken at the end of the semester in which MA course work is completed.

Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (MA)

Spanish and Latin American Studies

The Spanish and Latin American Studies track in Comparative Studies in Literature and Culture provides an optimal academic environment for students interested in advanced studies and research in Spanish and Latin American literature and culture studies. Students pursue a course of study designed to develop a broad knowledge of the subject matter within the framework of comparative studies as well as current developments in the field and are encouraged to devise individualized programs of specialization in keeping with the highest standards of scholarship.

Course Requirements

Students are required to complete at least eight courses (32 units), distributed as follows: CSLC 501, CSLC 502 and CSLC 503; SPAN 501; four additional Spanish courses or, with permission, courses in a related field. Students specializing in the medieval and early modern periods are encouraged to take a course in the history of the Spanish language. No more than one of the eight courses may be in directed research (590).

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. Students must receive a satisfactory evaluation to be permitted to continue to doctoral work.

Language Requirement

Reading knowledge of a language other than Spanish and English must be demonstrated either by successfully completing a course at the 400-level or above taught in that language or by passing a reading examination in the language. Students confer with the graduate adviser to decide which option is most appropriate.

Track III Field Examination (Spanish)

A written exam based on a reading list must be successfully passed by all students in the track. It is normally taken at the end of the semester in which MA course work is completed.

Doctoral Degree

Comparative Studies in Literature and Culture (Comparative Literature) (PhD)

Track II: Comparative Literature

The primary goal of graduate study in the comparative literature track is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of literature's formal or generic development extending across linguistic boundaries; an understanding of literature's historical development within a number of specific cultural or ideological contexts; and a knowledge of the principles of literary criticism and theory essential to the analysis, interpretation and evaluation of individual works. The core of the discipline of comparative literature is advanced competence in several languages allowing research in their literary traditions.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required, distributed as follows: COLT 602 and two other courses in CSLC, COLT or comparative fields relating to the student's program; two additional courses in the first literary tradition; one course in a third literary tradition. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Track II Field Examination

See the requirement in the MA section.

Foreign Language Requirements

Students must successfully complete at least three advanced courses (400-level or higher) in the original languages of two literary traditions other than Anglophone (two courses in one language and one in the other). Students will also complete a literary analysis exercise in their strongest non-native language outside their major literary tradition. This exercise is normally done in conjunction with the field examination.

Comparative Field Exercise

A 30–40 page paper with bibliography in a comparative field related but not central to the major literary tradition in which the student plans to write his or her dissertation is required.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Comparative Literature) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (Comparative Media and Culture) (PhD)

Track I: Comparative Media and Culture

The primary goal of the track in comparative media and culture is to prepare students to engage in original research and teaching after acquiring: a broadly based knowledge of the formal specificity and possibilities of different print, visual, sound and digital media; an understanding of the development of different media within their specific cultural and linguistic contexts; and a knowledge of the principles of criticism and theory essential to the analysis, interpretation and evaluation of individual works.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required, distributed as follows: one of the following: COLT 602, CSLC 601 or CSLC 603; two courses in non-Anglophone literary or cultural traditions; three additional courses in CSLC or in fields related to the study of media and culture. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Foreign Language Requirements

Students must successfully complete at least three advanced courses (400-level or higher) in the original language of a tradition other than Anglophone.

Track I Field Examination

See the requirement in the MA section.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Comparative Media and Culture) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (French and Francophone Studies) (PhD)

Track III: National Literatures and Cultures

French and Francophone Studies

The majority of students pursue the doctorate in Comparative Studies in Literature and Culture (French and Francophone Studies) in preparation for a career of teaching and research at the college or university level in the field of French and Francophone literature and cultural studies. Students preparing for these careers must obtain a broad knowledge of major French and Francophone literary texts and traditions from the Middle Ages to the present, which is achieved through a combination of course work and exams. They should also develop the intellectual depth that allows them to produce an original dissertation in a timely manner.

Course Requirements

In addition to the MA course requirements listed above, at least six additional 4-unit courses are required distributed as follows: (1) CSLC 603, and one additional course from the CSLC advanced seminar sequence (CSLC 601 or COLT 602); (2) four additional courses in French or, with permission, in a related field. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Language Requirement

The language requirement may be fulfilled either by successfully completing a course at the 400-level or above taught in a language other than French or English or by passing a reading examination in the relevant language. Students confer with the graduate adviser to decide which option is most appropriate. This requirement must be fulfilled at least 60 days before the qualifying examination.

Track III (French) Field Examination

An oral exam based on a reading list must be successfully passed by all students in the track.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (French and Francophone Studies) is conferred when all of the degree requirements have been completed satisfactorily.

Comparative Studies in Literature and Culture (Spanish and Latin American Studies) (PhD)

Spanish and Latin American Studies

The Spanish and Latin American Studies track in Comparative Studies in Literature and Culture provides an optimal academic environment for students interested in advanced studies and research in Spanish and Latin American literature and culture studies. Students pursue a course of study designed to develop a broad knowledge of the subject matter within the framework of comparative studies as well as current developments in the field and are encouraged to devise individualized programs of specialization in keeping with the highest standards of scholarship.

Course Requirements

In addition to the MA course requirements listed above, six additional 4-unit courses are required distributed as follows: one of the following: COLT 602, CSLC 601 or CSLC 603; five additional courses in Spanish or, with permission, courses in a related field. Students will also complete the professional development sequence, CSLC 600 and CSLC 700, which are 2-unit courses and offered only as credit/no credit. No more than two of the total required courses may be in directed research (590 or 790).

Language Requirement

Reading knowledge of two languages in addition to Spanish and English must be demonstrated either by successfully completing a course at the 400-level or above taught in the languages or by passing a reading examination in the languages. Students confer with the graduate adviser to decide which option is most appropriate. This requirement must be fulfilled at least 60 days before the qualifying examination.

Qualifying Examination

To be admitted to candidacy for the PhD, students must pass this examination after all course work has been completed.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of PhD in Comparative Studies in Literature and Culture (Spanish and Latin American Studies) is conferred when all of the degree requirements have been completed satisfactorily.

Earth Sciences

The Department of Earth Sciences includes a spectrum of disciplines united by curiosity about the Earth and its natural environment, from microbial to planetary scales, and from human to geologic time periods. Teaching and research in the department focus on integrative understanding of Earth's systems and the processes that influence the environmental "state" of the planet, on using this understanding to read the record of Earth's history written in rocks and sediments, and on developing models that can be used to understand mechanisms at work in the past and to predict future changes due to natural phenomena and recent perturbations caused by humans. Earth Sciences involves many issues of societal concern including: seismic risk and other natural hazards; climate change; sustainability of natural resources including petroleum and natural gas as well as water, air, and oil; origins and limits of life and survival/adaptation strategies; and environmental contamination. Subdisciplines housed in the department include geophysics, geochemistry, geobiology, hydrology, structural geology, petrology, marine geology, sedimentology, physical and chemical oceanography, climate science, paleoceanography and paleontology.

The department is committed to emphasizing both educational and research programs and views these efforts as complementary. Instruction is offered on several levels and includes an emphasis on hands-on learning through lab and field experiences. Courses include introductory classes for non-science majors, undergraduate courses that are appropriate for those majoring in Earth Sciences or other science and engineering disciplines, and graduate classes appropriate

for advanced degrees. A close working relationship exists between students and faculty members. Classes beyond the introductory level are usually small, permitting personalized instruction. Field trips are an important part of the instructional program. Two major research centers are led by faculty within the department: the Southern California Earthquake Center and the Center for Dark Energy Biosphere Interactions. The department also hosts one of NASA's Astrobiology Institutes. The graduate program is closely linked to faculty research efforts, and both graduate and undergraduate students participate in research projects and workshops that include oral and poster presentations. Collaboration in both research and teaching has led to close ties with other programs, including the Department of Biological Sciences (Marine Biology), the Environmental Studies program, the graduate program in Ocean Sciences and several other departments in the College and in other schools (Viterbi School of Engineering, Price School of Public Policy, Annenberg School for Communication and Journalism).

For students interested in pursuing careers in the Earth and environmental sciences, the department offers BA, BS, MS and PhD degrees. The undergraduate major offers student-focused, experiential training, with capstone experiences including a unifying course on Earth systems and field training in locations including Catalina Island, Spain, Morocco and South America. Many graduates now hold positions in academia as faculty and researchers, in industry as environmental consultants or geologists, in government and private industry as managers or researchers, and as teachers. The BA degree is recommended for students interested in the Earth Sciences but who intend to pursue careers in other fields, such as business, law, medicine or education.

Three minors are available. The Geohazards minor is recommended for those who wish to broaden their background in natural hazards, global change or environmental problems. It is accessible to both non-science and science majors. The Geobiology minor is recommended for those interested in interdisciplinary work in Earth and biological sciences. The Climate and Sustainability minor is recommended for those interested in international relations, public policy, economics, business, management, and/or politics. In addition, the department works closely with the Dornsife Environmental Studies program, offering science-focused course work for students in this program and facilitating joint degrees (double-major or major/minor combinations) for students seeking further scientific grounding in their study of the natural environment.

The Los Angeles and Southern California region provide diverse and spectacular geological settings, enabling students easy access to varied field sites. The department conducts field trips to study Southern California geology, has access to oceanographic vessels for marine research, and regularly conducts workshops and research at the Wrigley Marine Lab on Catalina Island. Many state-of-the-art laboratory instruments are available for use in research and instruction, and both undergraduate and graduate students are involved significantly in most research groups.

Proof of health insurance is mandatory when participation in field trips is required for credit in any Earth Sciences class.

Zumberge Hall of Science 117
(213) 740-6106
FAX: (213) 740-8801
Email: earthsci@dornsife.usc.edu
dornsife.usc.edu/earth

Chair: William M. Berelson, PhD

Faculty

University Professor and W.M. Keck Foundation Chair in Geological Sciences and Professor of Earth Sciences: Thomas H. Jordan, PhD
Wrigley Chair in Environmental Studies and Professor of Earth Sciences and Biological Sciences: Kenneth H. Nealson, PhD
Wilford and Daris Zinsmeyer Early Career Chair in Marine Studies and Associate Professor of Earth Sciences: A. Joshua West, PhD
Gabilan Assistant Professor of Biological Sciences and Earth Sciences: Naomi Levine, PhD *(Biological Sciences)*
Professors: Jan Amend, PhD; Yehuda Ben-Zion, PhD; William M. Berelson, PhD; David J. Bottjer, PhD*; Frank A. Corsetti, PhD; James F. Dolan, PhD*; Douglas E. Hammond, PhD*; Steven P. Lund, PhD*; James Moffett, PhD *(Biological Sciences)*; Scott R. Paterson, PhD; John P. Platt, PhD*; Charles G. Sammis, PhD*; Sergio Sanudo-Wilhemy, PhD *(Biological Sciences)*; Lowell D. Stott, PhD
Associate Professors: Julien Emile-Geay, PhD; Sarah J. Feakins, PhD; Meghan Miller, PhD
Professor (Research): Donald Paul, PhD *(Engineering)*
Associate Professors (Research): Seth John, PhD; David A. Okaya, PhD; Ellen Platzman, PhD
Assistant Professor (Research): Douglas LaRowe, PhD
Adjunct Professors: Luis Chiappe, PhD; Xiaoming Wang, PhD; Francis Wu, PhD
Adjunct Associate Professor (Research): Nathan Smith, PhD
Adjunct Assistant Professor (Research): Shino Suzuki, PhD
Emeritus Professors: Gregory A. Davis, PhD; Alfred G. Fischer, PhD; Thomas L. Henyey, PhD; Teh-Lung Ku, PhD; Terence G. Langdon, PhD, DSc *(Materials Science)*; Bernard W. Pipkin, PhD*; Ta-liang Teng, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honor Society

The Department of Earth Sciences has one honor society: the Omega Chapter of Sigma Gamma Epsilon, the national honorary earth sciences fraternity. "Sig Gam" is an undergraduate organization that sponsors undergraduate activities within the department.

Undergraduate Honors Program

The department offers an honors program for students pursuing either a BS or a BA in Earth Sciences. Students wishing to participate in this program must complete GEOL 494 x Senior Thesis. Honors will be awarded upon successful completion of the thesis and attainment of an overall GPA of 3.0 and a GPA of 3.5 in courses in the major.

Grade Point Average in Major Subject

A grade of C or higher is required in each course in the earth sciences courses used to complete the department or physical sciences major.

Progressive Degree Program in Geological Sciences

This program permits exceptional students to receive both a BS and MS in geological sciences in not more than 10 semesters. It is intended for students with extraordinary geological sciences preparation and performance who demonstrate a superior level of overall scholarship, including a GPA of 3.5 or better. Students may apply on completion of 64 units of course work but not later than the end of the junior year (or the completion of 96 units). The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and letters of recommendation from two USC faculty members in the Department of Earth Sciences. The requirements for both the BS and MS degrees must be satisfied. Further details about progressive degree programs can be found here.

Graduate Degrees

The department prepares professional Earth Scientists for careers in academia, government and industry. A wide range of specializations is offered in the department including climate science, sedimentary geology, paleobiology, paleoclimatology, paleoecology, micro paleontology, paleoceanography, geochemistry, geobiology, geophysics, geodesy, geomorphology, seismology, engineering geology and properties of Earth materials, igneous and metamorphic petrology, structural geology and tectonics, and interdisciplinary options. Degrees in ocean sciences (through the Graduate Program in Ocean Sciences) are available.

Admission Requirements

Prerequisites

An applicant for admission should have the equivalent of the courses in Earth sciences, chemistry, mathematics, and physics required for the BS degree in geological sciences. Applicants with an undergraduate degree in science or engineering who lack required Earth sciences courses will also be given consideration. Other degrees may be acceptable on a case by case basis.

Criteria

The Department of Earth Sciences requires the following evidence for admission to its doctoral program: strong undergraduate background and a superior academic record as documented by GPAs in undergraduate and any completed graduate work, Graduate Record Examinations scores no more than five years old in the verbal and quantitative General Test, and at least three letters of recommendation from undergraduate and, if applicable, graduate advisers and professors. The number of students accepted in any one year depends on available space in the department and acceptance for advisement by one or more professors.
Funding is offered for MS degrees only when completed en route to the pursuit of a PhD degree.

Procedure

The online USC graduate admissions application will refer applicants to a required supplemental departmental application. The department admits students for both the fall and spring semesters; however, applicants for assistantships and fellowships are encouraged to apply for the fall semester.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Programs

Interdisciplinary programs can be arranged for students also interested in astronomy, bioscience, chemistry, engineering, oceanography and physics. The Department of Earth Sciences maintains laboratories for micro-paleontologic, paleobiologic, mineralogic, petrologic, geophysical, geochemical and oceanographic research, and collections are available for comparative work in invertebrate paleontology. Students interested in systematic studies will find a wealth of material, available for comparative purposes, in the adjacent Los Angeles County Museum. Facilities for research in sedimentation, oceanography, and marine geology are provided in the department and by the university's research fleet.

Bachelor's Degree

Earth Sciences (BA)

Required Courses

Introduction:

Any GEOL 100- or 200-level course (4 units):

Required:

- GEOL 315L Minerals and Earth Systems Units: 4

Electives:

28 additional units must be selected from MATH 225, MATH 226, or any upper-division course listed or cross-listed as GEOL (28 units):

Required courses in other departments (8 units):

- CHEM 105aLg General Chemistry Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose any one of the following (4 units):

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- CHEM 105bL General Chemistry Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4

Total units: 48

Geological Sciences (BS)

Required Courses

Introduction:

(4 units):
Any GEOL 100- or 200-level course (4 units):

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Required courses from other departments (24 units)

- CHEM 105aLg General Chemistry Units: 4 and
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 and
- CHEM 115bL Advanced General Chemistry Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 and
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Required upper-division courses (12 units):

- GEOL 315L Minerals and Earth Systems Units: 4
- GEOL 387ag Undergraduate Team Research Units: 2

- GEOL 465L Field Geology Units: 4 or
- GEOL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)

- GEOL 494x Senior Thesis Units: 2

Electives (28 units):

28 additional units must be selected from MATH 225, MATH 226 or any upper-division course listed or cross-listed as GEOL.*

Note:

**Up to two upper-division courses from other science departments may be substituted for any two in this group, on approval of the departmental undergraduate adviser.*

Total units: 68

Physical Sciences (BS)

Required Courses

Lower division:

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- GEOL 105Lg Planet Earth Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Upper division:

- Astronomy elective Units: 4 *
- Chemistry elective Units: 4 *
- Earth Sciences elective Units: 4 *
- Physics elective Units: 4 *
- Three additional electives from these fields Units: 12 *

Other courses:

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4

Total units: 64

**Upper-division courses must be applicable to majors in their respective departments.*

Minor

Earth Sciences Minor: Climate Change, Stewardship and Resiliency

This minor is intended to provide background for students who plan careers in business with companies who recognize the necessity to respond to environmental change as scientists understand it. Students who complete the minor will gain insight that will facilitate discussions with both scientists in the field and professionals in the public, private and non-profit sectors.

COURSE REQUIREMENTS

Prerequisites (8 units)

- MATH 125g Calculus I Units: 4 and
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
  or
- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4

Lower-division Requirement

Choose one course from the following three (4 units):

- GEOL 150Lg Climate Change Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- GEOL 241Lg Energy Systems Units: 4

Upper-division Requirements

Core Course (4 units)

- GEOL 351L Climate Systems Units: 4 *

Science Electives

Choose two courses among the following (8 units):

- GEOL 412 Oceans, Climate, and the Environment Units: 4 **
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 427 The Global Environment Units: 4 ***
- GEOL 450L Geosystems Units: 4 ****
- GEOL 470L Environmental Hydrogeology Units: 4

Applications of Climate Change

Choose one course among the following (4 units):

- ECON 487 Resource and Environmental Economics Units: 4 *****
- IR 305w Managing New Global Problems Units: 4
- IR 323 Politics of Global Environment Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 436 Environmental Politics Units: 4
- COMM 475 Environmental Communication Units: 4

Note:

Minor requires 28 units, including 16 upper division units that are unique to the minor.

** Prequisite: MATH 125*
*** Co-requisites: MATH 126 and CHEM 105b*
**** Prerequisites: BISC 120Lg or BISC 121Lg and CHEM 105b or CHEM 115bL*
**** Prerequisite: MATH 125*
****** Prerequisite: ECON 303*

Geobiology Minor

The minor in geobiology is designed to allow students majoring in biology to incorporate interdisciplinary courses in earth sciences into their program or to allow students majoring in geology to incorporate interdisciplinary courses in biology into their program. This field represents the intersection of what have been traditional disciplines and is valuable for understanding evolution, environmental contaminant behavior and ocean sciences. Students with majors offered by biological or earth or geological sciences will be able to complete this minor with 16 to 24 units of course work beyond their major requirements. Other students may need to complete up to 48 units of course work beyond their major requirements. For example, students majoring in biological sciences might take an introductory GEOL course; GEOL 315L; GEOL 433L or BISC 483; and two additional upper-division elective courses from the list below. Students majoring in earth or geological sciences must take BISC 120Lg and BISC 220Lg; GEOL 433L or BISC 483; and three additional elective courses. Courses selected must include at least 16 units unique to the minor and at least 16 units in a department outside the major.

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4

Elective Courses

- BISC 483 Geobiology and Astrobiology Units: 4 * or
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4

- Three upper-division BISC courses ** Units: 12

One introductory GEOL course:

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Two courses from the following (8 units):

- BISC 474L Ecosystem Function and Earth Systems Units: 4 *
- BISC 483 Geobiology and Astrobiology Units: 4 *
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

Note:

**Indicates BISC course that is also cross-listed under GEOL*
***Must carry credit for a biology major*

Geohazards Minor

The geohazards minor allows students who are not geology majors to pursue a course of study that will lead to greater understanding of geohazards such as climate change, earthquakes, volcanic eruptions, floods, environmental contamination and

availability of natural resources. These issues are examined in a number of upper-division geology courses, and each student can select from the list below depending on the particular area of interest and whether previous course work has been completed to meet prerequisites for some of the choices. The minor requires an introductory class, an upper-division course in either formation of minerals or geosystem behavior and three elective courses from the list below. The minimum number of units to complete the minor is 24, including the introductory course CHEM 105aLg (a corequisite for GEOL 315L) or MATH 125 (prerequisite for GEOL 450L) and three of the group: BISC 427, GEOL 305L, GEOL 315L, GEOL 316L, GEOL 320L, GEOL 321L, GEOL 433L and GEOL 450L. The remaining courses listed have additional prerequisites.

Required Courses (8 Units)

- CHEM 105aLg General Chemistry Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4 or

- MATH 125g Calculus I Units: 4
- GEOL 450L Geosystems Units: 4

Elective Courses

One introductory GEOL course:

- GEOL 105Lg Planet Earth Units: 4
- GEOL 107Lg Oceanography Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 125Lg Earth History: A Planet and Its Evolution Units: 4
- GEOL 130Lg The Nature of Scientific Inquiry Units: 4
- GEOL 150Lg Climate Change Units: 4
- GEOL 240Lg Earthquakes Units: 4

Three of the following (12 units):

- BISC 427 The Global Environment Units: 4
- GEOL 305L Introduction to Engineering Geology Units: 4
- GEOL 315L Minerals and Earth Systems Units: 4
- GEOL 316L Petrologic Systems Units: 4
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 321L Structural Geology and Tectonics Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 433L Paleontology and Evolution in Deep Time Units: 4
- GEOL 440L Geophysics and Geoengineering Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 460L Geochemistry Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4

Master's Degree

Geological Sciences (MS)

Foreign Language/Research Tool Requirements

There is no language or research tool requirement for the master's degree.

Course Requirements

The MS degree in geological sciences requires 24 units of course work plus at least four thesis units. These restrictions apply: at least 16 units must be 500 level or higher; no more than eight units can be 590 Directed Research; and a maximum of four units, with superior grades, can be transferred from an accredited graduate school. Students are required to have an overall GPA of at least 3.0 (A = 4.0) in all graduate work. Students are also required to attend a series of departmental seminars.

Thesis

Students should arrange for the appointment of a thesis adviser and committee after the first semester, or, at the latest, after the first year of graduate work. The thesis committee should consist of the adviser plus two other faculty members, all of whom are generally selected from the department faculty. Once the committee is arranged, the student may make formal application to the Graduate School for the MS degree.

Doctoral Degree

Geological Sciences (PhD)

Application deadline: January 1

Course Requirements

For students who have earned a master's degree, the minimum number of course credits required for the PhD is 40 units. No more than four of these units may be earned in 794 Doctoral Dissertation. For students who have not earned a master's degree, the minimum number of course credits required is 60 units, including a maximum of eight units of 794 Doctoral Dissertation. The qualifying exam committee may require additional course work to insure a sufficient background in the student's area of specialization. At least two-thirds of the number of units presented for the degree must be 500 level or higher. Although the official minimum GPA for all graduate work attempted at USC is 3.0, the department does not consider a doctoral candidate in good standing unless the graduate GPA is considerably higher than the minimum (approximately 3.25 or above in graduate courses taken within the department).

Screening Procedure

Students in the PhD program must pass the screening procedure before their 25th unit of graduate credit. Screening consists of a review of the student's progress and is usually done by the chair following a written recommendation by the student's adviser(s).

Qualifying Exam Committee

The doctoral qualifying exam committee is formed after the student has passed the screening procedure. The committee is appointed by the department with the advice of the student's research adviser. The five-member committee consists of the adviser, a minimum of three other members from the Department of Earth Sciences, and one from outside the department. The committee consults with the student, recommends an appropriate program of study and administers the written and oral qualifying examinations.

Qualifying Examination

This examination consists of two parts, one written and the other oral. The written exam, which precedes the oral, includes questions submitted by committee members on current geological problems and theory. The oral portion of the exam consists of the defense of two propositions written by the candidate prior to the oral exam. In addition, general questions are posed to test the student's breadth of scientific and earth science background. The student's performance is evaluated by the qualifying exam committee, with a pass based on not more than one negative vote or abstention. Those who intend to take the exam must meet all the conditions specified in the section on general requirements for the PhD.

Defense of the Dissertation

When the candidate has passed the qualifying examination, a dissertation committee replaces the qualifying exam committee. The latter is appointed by the adviser and qualifying exam committee in conjunction with the student. The dissertation committee administers the final defense of the dissertation.

The defense takes place after the dissertation is substantially complete, and upon unanimous approval by the dissertation committee. It is conducted in the form of an open departmental seminar, but is evaluated by the dissertation committee alone.

East Asian Area Studies

The East Asian Studies Center provides interdisciplinary studies of China, Japan and Korea. It offers an undergraduate major in East Asian Area Studies, minors in East Asian Area Studies and Korean Studies, the Master of Arts in East Asian Area Studies and the Master of Arts/Master of Business Administration. Its faculty are professors from departments throughout the college and several professional

schools who teach and engage in research on East Asia. The center's interdisciplinary approach allows students to acquire broad exposure to many ways of learning about the region.

The East Asian Studies Center promotes and coordinates teaching, research and development of academic programs concerning East Asia, regardless of discipline or school, on a university-wide basis. Visiting scholars may also be named from among persons outside the university who wish to do research at USC and contribute to the goals of the center.

The center also promotes and coordinates academic exchange with other institutions with which USC maintains cooperative relations in the United States and abroad. The center serves, for example, as the consortium partner with UCLA's Asia Pacific Center to form the UCLA-USC Joint East Asian Studies Center, a Title VI National Resource Center. Graduate students with special interests in East Asia may take courses at UCLA through USC and may also work, where appropriate, with certain UCLA faculty. UCLA graduate students may similarly take courses at USC and work with USC faculty, for credit at UCLA in East Asian studies. The center facilitates cooperation and provides graduate fellowships to students at both institutions.

College Administrative Services Building (CAS) 100
(213) 740-2991
FAX: (213) 740-8409
Email: easc@dornsife.usc.edu
dornsife.usc.edu/easc
Director: Brett Sheehan, PhD

Associated Faculty

Professors: Jonathan Aronson *(Communication and International Relations)*; Dominic Cheung *(East Asian Languages and Cultures, Comparative Literature)*; Iris Chi *(Social Work, Gerontology)*; Eugene Cooper *(Anthropology)*; Robert Dekle *(Economics)*; JoAnn Marie Farver *(Psychology)*; Eric Heikkila *(Public Policy)*; Velina Hasu Houston *(Dramatic Arts)*; David James *(Cinematic Arts)*; Douglas Joines *(Finance and Business Economics)*; David Kang *(International Relations, Business)*; Namkil Kim *(East Asian Languages and Cultures)*; Dorinne Kondo *(Anthropology, American Studies and Ethnicity)*; Audrey Li *(East Asian Languages and Cultures, Linguistics)*; Thomas W. Lin *(Accounting)*; Akira Mizuta Lippit *(Cinematic Arts, East Asian Languages and Cultures, Comparative Literature)*; Roger Moon *(Economics)*; Jeffrey B. Nugent *(Economics, Business)*; C.W. Park *(Business)*; Rhacel Parreñas *(Sociology, Gender Studies)*; Joan Piggott *(History)*; Nandini Rajagopalan *(Management and Organization)*; Harry Richardson *(Public Policy)*; Stanley Rosen *(Political Science)*; Ellen Seiter *(Cinematic Arts)*; Brett Sheehan *(History)*; Jean Shih *(Cell and Neurobiology, Molecular Pharmacology and Toxicology)*; Andrew Simpson *(Linguistics, East Asian Languages and Cultures)*; James Steele *(Architecture)*; John Strauss *(Economics)*; Guofu Tan *(Economics)*; Shui Yan Tang *(Public Policy)*

Associate Professors: David Bialock *(East Asian Languages and Cultures)*; Bettine Birge *(East Asian Languages and Cultures, History)*; Harrison Cheng *(Economics)*; Meiling Cheng *(Dramatic Arts, Critical Studies, English)*; Joshua Goldstein *(History)*; Yasushi Hamao *(Finance and Business Economics)*; George A. Hayden *(East Asian Languages and Cultures)*; Hajime Hoji *(Linguistics, East Asian Languages and Cultures)*; Mingyi Hung *(Accounting)*; Kyung Moon Hwang *(History)*; Jacques Hymans *(International Relations)*; Saori Katada *(International Relations)*; Annette Kim *(Public Policy)*; Lon Kurashige *(History, American Studies and Ethnicity)*; Kwanmin Lee *(Communication)*; Sonya Lee *(Art History, East Asian Languages and Cultures)*; Daniel Lynch *(International Relations)*; Lori Meeks *(East Asian Languages and Cultures, Religion)*; Sunyoung Park *(East Asian Languages and Cultures)*; Lawrence Pryor *(Public Relations)*; Gary Seaman *(Anthropology)*; Jay Wang *(Communication)*; Shiing-Wu Wang *(Accounting)*; Duncan Williams *(Religion)*; Carol Wise *(International Relations)*

Assistant Professors: Brian Bernards *(East Asian Languages and Cultures)*; Youngmin Choe *(East Asian Languages and Cultures)*; Robeson Taj Frazier *(Communication)*; Clinton Godart *(History, Religion, East Asian Languages and Cultures)*; Yu Hong *(Communication)*; Lian Jian *(Communication)*; Rongdao Lai *(Religion)*; Satoko Shimazaki *(East Asian Languages and Cultures)*; Yanhui Wu *(Finance and Business Economics)*; Aimei Yang *(Journalism)*

Adjunct, Clinical, Research, Teaching and Visiting Faculty: John Chang *(East Asian Languages and Cultures)*; Baizhu Chen *(Finance and Business Economics)*; Helen Chung *(East Asian Languages and Cultures)*; Ruth Gim Chung *(Education)*; Xianxian Fang *(East Asian Languages and Cultures)*; Nansong Huang *(East Asian Languages and Cultures)*; Mayumi Ikeda *(East Asian Languages and Cultures)*; Maki Irie *(East Asian Languages and Cultures)*; Hee Ju *(East Asian Languages and Cultures)*; Yuka Kumagai *(East Asian Languages and Cultures)*; Jehoon Lee *(Social Work)*; Seung-Ah Lee *(East Asian Languages and Cultures)*; Steven Lee *(East Asian Languages and Cultures)*; Hsiao-Yun Liao *(East Asian Languages and Cultures)*; Yi-Hsien Liu *(East Asian Languages and Culture)*; Christopher Magriney *(East Asian Languages and Cultures)*; Yumi Matsumoto *(East Asian Languages and Cultures)*; Miya Mizuta Lippit *(East Asian Languages and Cultures)*; Takako Tajima *(Architecture)*; Masako Tamanaha *(East Asian Languages and Cultures)*; Tin-yu Tseng *(East Asian Languages and Cultures)*; Juliana Wang *(Environmental Studies)*; Jason Webb *(Comparative Literature)*; Geoffrey Wiseman *(International Relations and Public Diplomacy)*; Yan Xiao *(Engineering)*; Ping Yang *(East Asian Languages and Cultures)*

Librarians: Joy Kim *(Korean Heritage Library)*; Kenneth Klein *(East Asian Library)*; Sun-Yoon Lee *(Korean Studies)*; Lillian Yang *(Chinese)*

Emeritus Professors: Gordon Berger *(History)*; Peter A. Berton *(International Relations)*; Philip B.H. Birnbaum-More *(Business Management and Organization)*; Roger Dingman *(History)*; Murray Fromson *(Journalism)*; Charlotte Furth *(History)*; William Rideout *(Education)*; Otto Schnepp *(Chemistry)*; John E. Wills Jr. *(History)*

Bachelor's Degree

East Asian Area Studies (BA)

Requirements for the lower division are: EALC 110 and EASC 150 or the equivalent; a minimum of four courses in one East Asian language (or the proficiency equivalent); and seven upper-division courses approved for the major in addition to the language courses used to meet the requirements. One lower-division course other than EALC 110 and EASC 150 may be substituted for one of the seven upper-division courses. Upper-division courses must include those from at least three departments, one of which must be History. At least one course must be taken on two of the following: China, Japan or Korea.

Minor

East Asian Area Studies Minor

The minor in East Asian Area Studies gives students the opportunity to supplement more narrowly defined departmental majors with a multidisciplinary focus on an area of increasingly great importance to our nation in general and our region in particular. There is no language requirement.

Twenty-four units are required from among the more than 120 courses offered on East Asia at the university. Students are required to take EALC 110 and EASC 150; and at least four upper-division four-unit courses (16 units). At least one of these courses must be from the History Department and one from the humanities area. At least one course must be taken on two of the following: China, Japan or Korea.

Korean Studies Minor

The minor in Korean studies offers an interdisciplinary approach to studying a dynamic and crucial region. Drawing on courses from departments across the social sciences, humanities and professional schools, the minor challenges and stimulates students who wish to learn about the political, economic, social and cultural changes of the area.

Twenty units (five courses) are required. All students must take EASC 150gp East Asian Societies or HIST 105g The Korean Past as a gateway course, as well as four upper-division four-unit courses from the list below. There is no language requirement for the minor.

Required Courses

- EASC 150gp East Asian Societies Units: 4 or
- HIST 105g The Korean Past Units: 4

Four 4-unit courses from the following:

- CTCS 403 Studies in National and Regional Media Units: 4 max 8 **
- CTCS 494 Advanced Cinema and Media Studies Seminar Units: 4 max 8 **
- EALC 315 Advanced Korean I Units: 4 *
- EALC 317 Advanced Korean II Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 415 Advanced Korean III Units: 4
- EALC 417 Advanced Korean IV Units: 4
- EALC 418 Korean Writing in Mixed Script Units: 4 *
- EALC 419 Newspaper and Documentary Korean Units: 4 *
- EALC 429 Gender in Korean Film and Literature Units: 4
- EALC 499 Special Topics Units: 2, 3, 4 max 8 **
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 404 Seminar in Korean History Units: 4
- HIST 498 Seminar on Selected Historical Topics Units: 4 max 8 **
- IR 499 Special Topics Units: 2, 3, 4 max 8 **

Note:

**Prerequisite:* EALC 217
***For these repeatable courses, only classes with Korean-based foci will count.*

Master's Degree

East Asian Area Studies (MA)

The East Asian Studies Center offers an interdisciplinary master's degree in East Asian Area Studies. The program provides a wide range of language, cultural, social, historical, political and economic courses and faculty expertise; individual courses of study may be designed to meet both continuing academic and professional objectives. Students may concentrate primarily on one country (China, Japan, Korea) or develop region-wide expertise through a combination of course work and the thesis project.

Admission Requirements

Prerequisites

While an applicant for admission will normally have significant experience in East Asian language(s) and area studies as demonstrated through course work completed for the undergraduate degree, programs may be arranged for promising students without prior experience in East Asian studies. *There is no formal language requirement for admission.*

Criteria

Please refer to the EASC website for a detailed explanation of application requirements: dornsife.usc.edu/eascenter/masters.

Degree Requirements

This degree is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses acceptable to the Graduate School.

Foreign Language Requirement

Students must be able to demonstrate oral and written proficiency in Chinese, Korean or Japanese through the third year level (equivalent to six semesters) before the MA program is completed.

Course and Thesis Requirements

Six courses (24 units), four of which must be at the 500 level or above, plus the thesis (4 units) are required. All students must complete: (1) EASC 592; (2) EALC 531, EALC 532 or EALC 533; and (3) one other course from a Dornsife College of Letters, Arts and Sciences department. The three additional courses (12 units) may be taken from college departments or professional schools. All courses must be approved by the center director or adviser. A maximum of two courses at the 400 level may be counted toward the degree. All students must register for EASC 594a Master's Thesis EASC 594b Master's Thesis for the thesis project.

University Certificate

East Asian Area Studies Graduate Certificate

Requirements

Graduate students interested in East Asian Area Studies must be enrolled in an advanced degree program in the Graduate School or in a professional school at the university. While preparing for an MA, PhD or other graduate degree, they may earn a certificate in East Asian Studies, which certifies special area competence beyond discipline requirements. The certificate requirements provide the student with two options. The first requires that the student write a thesis and take four graduate-credit courses in East Asian studies in any department. An oral examination is given on the thesis. The second option does not require a thesis. The student instead takes six graduate-credit courses in the East Asian area and takes an oral examination on three research papers and on relevant graduate work. As a part of both options some basic East Asian history and at least two years of study or the equivalent of an East Asian language are required. The student makes the basic decisions on the program to be followed in consultation with a three-member interdisciplinary committee approved by the Director of the East Asian Studies Center.

For further information, interested students may write to: Director, East Asian Studies Center, College House 101, University of Southern California, Los Angeles, CA 90089-0127.

Dual Degree

Master of Arts, East Asian Area Studies/ Master of Business Administration (MA/ MBA)

The Marshall School of Business in conjunction with the East Asian Studies Center offers a joint MA/MBA degree that combines graduate business education with training in the cultures and societies of East Asia. Students enrolled in the joint degree program are required to complete a minimum of 72 units. All students must complete 48 units in the Marshall School of Business. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. In East Asian Area Studies, students have the option of taking five courses and writing a thesis (for a total of 24 units) or taking six courses and passing a comprehensive examination (for a total of 24 units).

Applicants for the joint MA/MBA are required to follow the admission procedures for the full-time MBA program. GRE scores are not required for admission into the joint program.

Required Courses

Required MBA courses: all required courses in an MBA program.

Required EASC Courses

- EASC 592 Proseminar on Issues and Trends in Contemporary East Asia Units: 4, 2 years

and one course from the following list:

Cultural/Historical Foundations of East Asia

- AHIS 518 Seminar in Chinese Art Units: 4 max 16
- AHIS 519 Seminar in Japanese Art Units: 4 max 16
- EALC 501 History of Chinese Literature Units: 4

- EALC 506 Selections from Classical Chinese Literature Units: 4
- EALC 515 Classical Japanese Poetics Units: 4
- EALC 531 Proseminar in Chinese Cultural History Units: 4
- EALC 532 Proseminar in Korean Cultural History Units: 4
- EALC 533 Proseminar in Japanese Cultural History Units: 4
- EALC 541 Seminar: Japan Units: 4
- EALC 543 Seminar: Japanese Literature Units: 4
- EALC 551 Seminar: China Units: 4
- EALC 553 Seminar: Chinese Literature Units: 4
- EALC 610 Seminar: Buddhism and the Literary Arts in Japan Units: 4
- HIST 535 Studies in Japanese History Units: 4
- HIST 536 Studies in Chinese History Units: 2 or 4
- HIST 540 Studies in Modern East Asian History Units: 4 max 8
- HIST 630 Seminar in Japanese History Units: 2 or 4
- HIST 635 Seminar in Chinese History Units: 2 or 4

Additional Requirements

Elective Courses (Thesis Option)

During the second and third years of the program students must complete enough graduate units to bring the total number of units completed in the Marshall School of Business to 48, complete 12 units of East Asian Area Studies elective courses (three courses), and complete a four-unit thesis under the guidance of a faculty committee of three members. The subject will concern East Asia and may focus on business/finance.

Elective Courses (Comprehensive Examination Option)

During the second and third years of the program students must complete enough graduate units to bring the total number of units completed in the Marshall School of Business to 48, complete 16 units of East Asian Area Studies elective courses (four courses) and must pass a comprehensive examination in East Asian Area Studies.

Foreign Language Requirement

Students must be able to demonstrate oral and written proficiency in Chinese, Japanese or Korean language through the third year level (equivalent to six semesters) before the joint MA/MBA program is completed. Language course work taken to meet this requirement will not count toward the minimum unit or course requirements for completion of the degree program. Therefore, students without sufficient under graduate language course work, native speaker capability or other prior training, are advised that additional units and course work beyond the minimum 72 units may be required in order to satisfy the foreign language requirement. USC offers beginning, intermediate and advanced Chinese, Japanese and Korean language courses during the academic year (fall/spring).

East Asian Languages and Cultures

East Asian Languages and Cultures offers undergraduate, master's and doctoral programs in Chinese, Japanese and Korean studies, and a progressive degree in East Asian Languages and Cultures. The department fosters original approaches in East Asian studies. With an emphasis on interdisciplinary and innovative research, the program provides students with systematic training in East Asian languages, literatures and cultures. The faculty is committed to intra-regional and interdisciplinary studies of East Asia, which includes critical interaction among the cultures of China, Japan and Korea across historical times and through diverse media. The department engages the arts, languages, linguistics, literatures, histories, media, religions, visual and material cultures of East Asia.

Taper Hall of Humanities 356
(213) 740-3707
Fax: (213) 740-9295
Email: ealc@dornsife.usc.edu
dornsife.usc.edu/ealc
Chair: Audrey Li, PhD

Faculty

Gordon L. MacDonald Chair in History and Professor of History and East Asian Languages and Cultures: Joan Piggott, PhD
Professors: Namkil Kim, PhD; Audrey Li, PhD; Akira Mizuta Lippit, PhD *(Critical Studies)*; Andrew Simpson, PhD *(Linguistics)*
Associate Professors: David T. Bialock, PhD; Bettine Birge, PhD; Youngmin Choe, PhD; Joshua Goldstein, PhD *(History)*; Hajime Hoji, PhD *(Linguistics)*; Sonya Lee, PhD *(Art History)*; Lori Meeks, PhD *(Religion)*; Sunyoung Park, PhD; Satoko Shimazaki, PhD
Assistant Professors: Brian Bernards, PhD; Gerard Godart, PhD *(History),* Kerim Yasar, PhD
Associate Professor (Teaching): Nansong Huang, PhD
Assistant Professors (Teaching): Mengjun Li, PhD; Yi-Hsien Liu, PhD; Masako Tamanaha, PhD; Tin-Yu Tseng, PhD
Master Lecturers: Wen-Kuang (John) Chang, MA; Yuka Kumagai, MA
Senior Lecturers: Maki Irie, MA; Hsiao-Yun Liao, MA; Yumi Matsumoto, MA
Lecturers: Hyunjung Ahn, PhD; Helen Chung, EdD; Xianxian Fang, MA; Geraldine Fiss, PhD; Mayumi Ikeda, MA; Xian Jian, MA; Hee Ju, PhD; Christopher Magriney, MA; Yi Walker, PhD
Adjunct Associate Professor (Teaching): Miya Mizuta Lippit, PhD
Emeritus Professor: Henry H.Y. Tiee, PhD

Undergraduate Degree

The core requirements for the EALC major allow students flexibility in designing their own courses of study. Majors typically select one language and cultural area (Chinese, Japanese, or Korean) in which they do most of their course work. Majors are encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media, and other aspects of East Asian cultures.

All EALC majors and minors are required to take at least one course in each of the following two categories. Cross-Cultural Survey Courses, to be taken within the first two years, offer students a broad, interregional introduction to East Asian philosophy, literature, film, and culture. Cultural Studies Courses, also to be completed before advancing to more theme-specific courses, provide students with an in-depth introduction to a cultural tradition within its regional context. For specific courses in these categories as well as upper-division electives (four for majors and two for minors), please refer to the course list on the department's Website and the Schedule of Classes.

Study Abroad Programs

East Asian Languages and Cultures majors and minors are encouraged to take advantage of the numerous semester and year-long study abroad opportunities sponsored by the Office of Overseas Studies. Currently, the office offers programs in China (Beijing and Nanjing), Taiwan (Taipei), Korea (Seoul), and Japan (Tokyo, Nagoya). Each of the programs is affiliated with a world class institution, such as Waseda University in Tokyo, National Chengchi University in Taipei or Yonsei University in Seoul. Contact the Office of Overseas Studies at (213) 740-3636 for further details or visit them online at dornsife.usc.edu/overseas.

The majority of course work offered by these programs may be counted toward the EALC major or minor requirements. Students who receive major credit from any of these programs must still take at least eight units of non-language courses within EALC at the upper- division level while at USC (specifically an EALC civilization and an EALC literature course). Students interested in attending one of these programs must meet with an EALC academic adviser to ensure that the courses enrolled in overseas will meet EALC major or minor requirements.

Chinese Summer Programs in Beijing and Taipei

The Department of East Asian Languages and Cultures offers its

Chinese language summer courses in Beijing and Taipei. Participants can transition seamlessly to the next level courses upon returning to campus. Cultural visits and excursions are included in the tuition fee. All courses count toward a major and minor in East Asian Languages and Cultures.

Bachelor of Arts with a Combined Major in Linguistics/East Asian Languages and Cultures

See Department of Linguistics.

Progressive Degree Program in East Asian Languages and Cultures

The progressive degree program permits exceptional undergraduate students to receive both a Bachelor of Arts and a Master of Arts in East Asian Languages and Cultures within five years. It is intended for students with extraordinary EALC preparation and performance who demonstrate a superior level of overall scholarship.

Admission

Applicants may apply after the completion of 64 units of course work applicable to their undergraduate degree since graduating from high school. (AP units, IB units and course work taken prior to high school graduation are excluded). Applicants must submit their applications before completing 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. The application for admission to a progressive degree program must be accompanied by a departmentally approved course plan proposal and two letters of recommendation from USC faculty members in the Department of East Asian Languages and Cultures.

Awarding of Degrees

Progressive degree program students must fulfill all of the requirements for both the bachelor's degree and the master's degree, including a master's thesis. The unit requirement for the master's degree can be reduced by as much as one-third. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree.

Time Limits

The time limit for completing a progressive degree program is 12 semesters.

Further details about progressive degrees can be found here.

Graduate Degrees

EALC offers graduate students advanced training in the languages, literatures, and cultures of China, Japan and Korea. Our students have combined approaches from cultural studies, literature, linguistics, film and media studies, and other disciplines to broaden more traditional paradigms and provide a different perspective on the reading of the texts in their fields. By allowing a greater degree of flexibility, our interdisciplinary approach enhances students' research skills and enables them to become well-rounded scholars. Appropriate cross-registration with other departments allows students to enhance their theoretical and methodological training.

Certificate in Foreign Language Teaching

The certificate in Foreign Language Teaching provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs at accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Refer to the Department of Spanish and Portuguese for course work requirements.

Bachelor's Degree

East Asian Languages and Cultures (BA)

The core requirements for the EALC major allow students flexibility in designing their own course of study. Majors typically select one language and cultural area (Chinese, Japanese, or Korean) in which they do most of their course work. For this reason, one frequently hears students on campus speaking about "majoring" in Japanese, Chinese, or Korean, though strictly speaking all these students are actually majoring in EALC. Majors are encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media, and other aspects of East Asian cultures.

Core requirements for EALC majors consist of a cross-cultural survey course, a cultural studies course, and a language requirement that may be waived by placement test. Students then also take four upper-division elective courses (16 units), one of which can be replaced by a fourth-year language course. In addition, one upper-division course on East Asia from another department may be used to count toward the 16 units, if approved by the adviser.

Cross-Cultural Survey Course (Choose One)

Cross-Cultural Survey courses offer students a broad, interregional introduction to East Asian philosophy, literature, film, and culture. All EALC majors are required to take at least one of these courses within the first two years of their study.

- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4

Cultural Studies Course (Choose One)

Cultural Studies courses provide students with an in-depth introduction to a cultural tradition within its regional context. Students are required to take one of these gateway courses preferably before advancing to more specialized, theme-specific courses.

- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4

Language Requirement

This requirement may be waived by placement test.

- EALC 306 Advanced Modern Chinese II Units: 4
  or
- EALC 317 Advanced Korean II Units: 4
  or
- EALC 322 Advanced Japanese II Units: 4

Upper-Division Electives (Choose Four)

Our faculty teach new courses every year. Please check the department's Schedule of Classes to see the full range of courses. One fourth-year language or professionalization course can be used to count for one elective. In addition, one upper-division course on East Asia from another department may likewise be used to count toward the 16 units with advisor's approval.

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EALC 387 Early Japanese Art Units: 4

- EALC 426 Classical Japanese Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 430 Gender and Sexuality in Korean Literature and Culture Units: 4
- EALC 450 Contemporary Japanese Literature and Global Modernity Units: 4
- EALC 455 Japanese Fiction Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- EALC 465 Topics in Korean Visual and Cultural Studies Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4
- EALC 499 Special Topics Units: 2, 3, 4

Language Courses

Fourth-year courses and a professionalization course can be used to count towards the upper-division elective requirement.

- EALC 366 Chinese Professional Internship: Communication and Culture Units: 2
- EALC 404 Advanced Modern Chinese III Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4
- EALC 413 Business Japanese Units: 4
- EALC 418 Korean Writing in Mixed Script Units: 4
- EALC 419 Newspaper and Documentary Korean Units: 4
- EALC 422 Advanced Japanese III Units: 4
- EALC 424 Advanced Japanese IV Units: 4

Minor

Chinese for the Professions

The Department of East Asian Languages and Cultures offers a minor for undergraduate students who wish to pursue a future career in the greater China region or communities requiring advanced Chinese linguistic and cultural competence. The minor provides opportunities for students to gain real world experiences in work environments and explore career opportunities from various perspectives. The language prerequisite for admission to the program is the completion of EALC 206 at USC or its equivalent.
Four EALC upper-division courses (16 units) and 4 units of EALC 366 are required to complete the minor. The four upper-division courses must include at least two from EALC 404 , EALC 406 , EALC 407 , EALC 412a , EALC 412b , or the equivalent. Course selections must be approved by the faculty advisor for the minor.

Required Courses (12 Units)

Internship (4 units)

- EALC 366 Chinese Professional Internship: Communication and Culture Units: 2

Choose two of the following (8 units)

- EALC 404 Advanced Modern Chinese III Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4

Electives (8 units)

Choose two of the following:

- EALC 304 Advanced Modern Chinese I Units: 4
- EALC 306 Advanced Modern Chinese II Units: 4
- EALC 334 Chinese Language Through Films and Television Units: 4
- EALC 336 Chinese Language through Films and Television II Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4

Cultures and Politics of the Pacific Rim Minor

This interdisciplinary minor introduces students to the cultural heritage and political contexts of the United States' most important trading partners on the Pacific Rim. Students study East Asia and Latin America, and the cultural, economic and political dimensions of international trade. It is intended for students who are interested in or considering diplomatic or commercial careers that require knowledge about the people and cultures of the Pacific Rim.
As with all minors, students must choose at least four classes dedicated to this minor and four classes outside their major department, which may be the same four courses.

Requirements (Five Courses, 20 Units)

International Trade

(choose one course from the list below)

- ECON 450 International Trade Units: 4 (prerequisite: ECON 303 or BUAD 351)
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 470 Comparative Regionalism Units: 4 (prerequisite: IR 210)
- POSC 345 International Law Units: 4
- POSC 451 Politics of Resources and Development Units: 4

Area Studies

(choose two courses, each from a different list below)

Latin America:

- AHIS 319 Mesoamerican Art and Culture Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 328m Culture Change and the Mexican People Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 473 Colonial Latin America Seminar Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- POSC 350 Politics of Latin America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4 (in Spanish)
- SPAN 321 Sounds, Images, Objects Units: 4 (in Spanish)
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4 (in Spanish)
- SPAN 380g Literature of Mexico Units: 4 (in Spanish)

East Asia:

- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ECON 343 Economic Development of East Asia Units: 4 (prerequisite: ECON 203 or ECON 205)
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 384 Asian Security Issues Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4
- REL 331 Religions of East Asia Units: 4

Country Study

(choose two courses from the lists below)

China:

- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- ANTH 324 Regional Ethnology: China Units: 4, 2 years
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 355 Studies in Chinese Thought Units: 4

- EALC 375 Women and Gender in China: Past and Present Units: 4
- HIST 338 China to 960 A.D. Units: 4
- HIST 339 China, 960–1800 A.D. Units: 4
- HIST 340 History of China since 1800 Units: 4
- IR 333 China in International Affairs Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4

Japan:

- AHIS 386 Early Japanese Art Units: 4
- AHIS 387 Later Japanese Art Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 365 Studies in Japanese Thought Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- HIST 335 History of Japan to 1550 Units: 4
- HIST 336 History of Japan, 1550–1945 Units: 4
- HIST 337 Japan since 1945 Units: 4
- HIST 438 Seminar in Pre-Modern Japanese History Units: 4
- HIST 464 Culture, Money, and Power: Japanese-American Relations since 1853 Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- POSC 354 Japanese Politics Units: 4

Korea:

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 345 Korean Civilization Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4

East Asian Languages and Cultures Minor

The core requirements for the EALC minor allow students flexibility in designing their own course of study. Students typically select one language and cultural area (Chinese, Japanese, or Korean) in which they do most of their course work. For this reason, one frequently hears students on campus speaking about “minoring” in Japanese, Chinese, or Korean, though strictly speaking all these students are actually “minoring” in EALC. Minors are encouraged to explore beyond their individual language focus by enrolling in the full range of EALC courses available in literature, film, history, media, and other aspects of East Asian cultures.

Core requirements for EALC minors consist of a cross-cultural survey course, a cultural studies course, and a language requirement that may be waived by placement test. Students then also take two upper-division elective courses (8 units). One upper-division course on East Asia from another department may be used to count toward the 8 units, if approved by the adviser.

Cross-Cultural Survey Course (Choose One)

Cross-Cultural Survey courses offer students a broad, interregional introduction to East Asian philosophy, literature, film, and culture. All EALC minors are required to take at least one of these courses within the first two years of their study.

- EALC 110gp East Asian Humanities: The Great Tradition Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 130gp Introduction to East Asian Ethical Thought Units: 4

Cultural Studies Course (Choose One)

Cultural Studies courses provide students with an in-depth introduction to a cultural tradition within its regional context. Students are required to take one of these gateway courses preferably before advancing to more specialized, theme-specific courses.

- EALC 150gw Global Chinese Cinema and Cultural Studies Units: 4
- EALC 333g Introduction to Korean Film Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 344gp Korean Culture from Ancient to Modern Times Units: 4
- EALC 350gp Chinese Civilization Units: 4

Language Requirement

This requirement may be waived by placement test.

1. EALC 306 Advanced Modern Chinese II
2. or
3. EALC 317 Advanced Korean II
4. or
5. EALC 322 Advanced Japanese II

Upper Division Electives (Choose Two)

Our faculty teach new courses every year. Please check the department's Schedule of Classes to see the full range of courses. One upper-division course on East Asia from another department may likewise be used to count toward the 8 units with advisor's approval.

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 346g Hallyu, the Korean Wave Units: 4
- EALC 358g Transnational Chinese Literature and Culture Units: 4
- EALC 360g Performing Japan: Bodies, Media, and Textuality Units: 4
- EALC 374 Language and Society in East Asia Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EALC 387 Early Japanese Art Units: 4
- EALC 426 Classical Japanese Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 430 Gender and Sexuality in Korean Literature and Culture Units: 4
- EALC 450 Contemporary Japanese Literature and Global Modernity Units: 4
- EALC 455 Japanese Fiction Units: 4
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4
- EALC 465 Topics in Korean Visual and Cultural Studies Units: 4
- EALC 470 Introduction to East Asian Linguistics Units: 4
- EALC 499 Special Topics Units: 2, 3, 4

Master's Degree

East Asian Languages and Cultures (MA)

The Department of East Asian Languages and Cultures offers instruction in the languages, literatures and cultures of East Asia. The graduate program offers the master's degree with specialties in Chinese, Japanese and Korean. Programs of study may emphasize foreign language teaching, applied linguistics, literature, thought, religions or area studies.

Admission Requirements — Prerequisites

An applicant for admission will normally have the equivalent of an undergraduate major in East Asian languages and cultures at USC, but programs may be arranged for promising students who do not have the prerequisites. Such students may be required to make up the deficiencies.

Criteria

All applicants are required to take the Graduate Record Examinations verbal and quantitative General Test and submit their complete undergraduate record: at least three letters of recommendation and a statement of purpose should be sent to the chair of the department. Applicants are urged to submit written materials as supporting evidence.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Foreign Language Requirement

Competence is required in Chinese, Japanese or Korean.

Course Requirements

Six courses, four of which must be at the 500-level or above, are required. Those students whose concentration is in language and literature should take a fourth year of language.

Final Research Paper

The research paper must demonstrate the student's ability to use source materials in the East Asian language of his or her area.

Doctoral Degree

East Asian Languages and Cultures (PhD)

Course Requirements

A student's total graduate course work must be at least 60 units including 4 units of doctoral dissertation (794ab) and the following courses:

Core Courses

- COLT-603 Professional Development II: Publication Units: 2
- EALC 505 Introduction to East Asian Languages and Cultures Units: 4

Additional Requirements

A theory and methodology course in EALC or an equivalent course in a related program.

Four courses on East Asian languages and literatures.

Four courses on East Asian cultures and civilizations.

Three additional courses in a target discipline or field.

No more than four courses at the 400-level may be applied to the total requirement of 60 units. The fulfillment of the course requirements is determined by the Graduate Studies Committee in EALC.

Screening Procedure

A screening procedure will be conducted before the student completes 24 units of course work, which typically means by the end of the first year. The Graduate Studies Committee will review the student's performance comprehensively and meet the student after a statement describing his/her research ideas is submitted.

Qualifying Exam Committee

Upon successful completion of the screening procedure, the student is encouraged to begin forming a five-member qualifying exam committee, whose purpose is to help the student prepare for the qualifying examination. The committee must be approved by the Graduate School at the time the student applies to schedule a qualifying examination.

Qualifying Procedure

A student takes examinations in three different fields approved by the qualifying exam committee. An oral - examination based on the written exams will follow. After successful completion of the examinations, the student will submit a dissertation prospectus, which must be approved by the qualifying exam committee and the Graduate Studies Committee in EALC.

Foreign Language Requirement

A student must have at least four years of course work or its equivalent in the language of his/her specialization. In addition, the student should acquire or demonstrate competence in a second East Asian language. This requirement may be met by two years' worth of course work. Whether the second East Asian language should be classical or modern will be determined by the Graduate Studies Committee in consultation with a student's academic adviser.

Dissertation

Defense and presentation of the dissertation will follow regulations defined by the Graduate School.

Economics

The economics curriculum is oriented toward a general, liberal education. The study of economics requires adequate preparation in mathematics and statistics. The department offers a BA degree in Economics, a BA degree in Political Economy, a BA degree in Social Sciences with an emphasis in Economics, a BS in Economics/Mathematics and a minor in Economics. The BA degrees require a total of 32 upper-division units for the major. The department offers a Master of Arts in Economics, a Master of Arts in Economic Developmental Programming, a Master of Science in Mathematical Finance and a Master of Science in Quantitative Economics, dual degrees with the USC Gould School of Law and the USC Price School of Public Policy, a Doctor of Philosophy in Economics, and a Doctor of Philosophy in Pharmaceutical Economics and Policy with the USC School of Pharmacy.

Kaprielian Hall 300
(213) 740-8335
FAX: (213) 740-8543
Email: econ@dornsife.usc.edu
Chair: Matthew Kahn, PhD

Faculty

John E. Elliott Distinguished Chair in Economics: M. Hashem Pesaran, PhD
Presidential Professor of Health Economics: Daniel McFadden, PhD
University Professor: Richard A. Easterlin, PhD*
Robert R. and Katheryn A. Dockson Chair in Economics and International Relations and Professor of International Relations and Economics: Joshua Aizenman, PhD
Leonard D. Schaeffer Director's Chair of the USC Leonard D. Schaeffer Center for Health Policy and Economics and Professor of Public Policy, Pharmacy, and Economics: Dana Goldman, PhD
Professors: Dominic James Brewer, PhD *(Education)*; Isabelle Brocas, PhD; Juan Carrillo, PhD; Robert Dekle, PhD; Gillian Hadfield, PhD, JD *(Law)*; Cheng Hsiao, PhD; Ayse Imrohoroglu, PhD *(Business)*; Selahattin Imrohoroglu, PhD *(Business)*; Matthew Kahn, PhD; Arie Kapteyn, PhD; Michael J. P. Magill, PhD; Edward J. McCaffery, JD *(Law)*; Hyungsik Roger Moon, PhD; Jeffrey B. Nugent, PhD*; Vincenzo Quadrini, PhD *(Business)*; Romain Rancière; Geert Ridder, PhD; John Strauss, PhD; Guofu Tan, PhD; Simon J. Wilkie, PhD; Donald E. Yett, PhD; Fernando Zapatero, PhD *(Business)*
Professor (Research): Jinkook Lee, PhD
Associate Professors: Caroline Betts, PhD; Giorgio Corcicelli, PhD; Harrison Hsueh-Cheng Cheng, PhD; Michael E. DePrano, PhD
Associate Professors (Research): Daniel Benjamin, PhD; Anya Samek, PhD
Assistant Professors: Vittorio Bassi, PhD; Fanny Camara, PhD; Joel David, PhD; Yu-Wei Hsieh, PhD; Michael Leung, PhD; David Zeke, PhD
Assistant Professors (Research): Leandro Carvalho, PhD; Daniel Bennett, PhD
Professor of the Practice of International Relations and Economics: Lord John Eatwell, PhD
Professor (Teaching): Mark Moore, PhD
Adjunct Professor of the Practice: Jeffrey Dubin, PhD
Lecturers: Juliana Araujo, PhD; Ergin Bayrak, PhD; Baiyu Dong, PhD; Ladan Masoudie, PhD; Ratika Narag, PhD; Lodovico Pizzati, PhD; Michael Sproul, PhD
Emeritus Professors: Richard H. Day, PhD; Peter Gordon, PhD *(Public Policy)*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

Upon declaring a major or minor in Economics, students should consult with the department's undergraduate adviser. Students can check their academic progress on the USCweb under OASIS.

Progressive Degree Program in Economics

The Economics department offers students who have demonstrated exceptional academic success the opportunity to earn both bachelor's and master's degrees in a progressive degree program. This program allows students to earn both the Bachelor of Arts and the Master of Arts degrees in five years. Students may also pursue the Bachelor of Science in Economics/Mathematics and the Master of Science in Mathematical Finance. Further details about progressive degree programs can be found here.

Admission

Admission is available after the completion of 64 units of course work toward the undergraduate degree. Students must apply for admission to the progressive degree program after completing 64 units of applicable course work to their undergraduate program, but prior to the completion of 96 units of course work. The application for admission to the progressive degree program must be accompanied by a course proposal plan and two letters of recommendation from USC Economics faculty.

Awarding of Degrees

The bachelor's and master's degrees may be awarded separately upon completion of all degree requirements, but the master's degree will not be awarded before the bachelor's degree. Students who elect not to complete the master's must complete 128 units to earn the bachelor's degree.

Undergraduate Honors Program

The department offers an honors program. First and second semester seniors can enroll in ECON 495 Honors Thesis. Honors will be awarded upon completion of the thesis, an overall GPA of 3.0 or higher and a major GPA of 3.5.

Department Policy Regarding Transfer Credits

Students who have taken courses equivalent to ECON 303, ECON 305 or ECON 317 from an economics department at another four-year college or from a program deemed comparable by the director of undergraduate studies, can earn transfer credits provided they received a B (3.0) or better in the courses.

Graduate Degrees

The graduate program in Economics is designed to prepare students for careers in teaching, research, industry and government. The department emphasizes economic theory and econometrics; applied economic analysis, including microeconomics, macroeconomics, international and development economics, urban and regional economics; and political economy.

Admission Requirements

Prerequisites

The typical applicant for admission will normally have completed an undergraduate major in economics. Minimal prerequisites for admission to a master's degree program include courses in intermediate microeconomic and macroeconomic theory, a year of calculus, and a semester of statistics. Applicants for the PhD program are normally expected to have completed more than the minimum, particularly in the areas of mathematics and statistics.

Procedure

Application deadlines for master's degrees are April 1 for the fall semester and October 15 for the spring. Completed doctoral applications are due by December 1.

Placement Examinations

Students whose native language is other than English may be required to take an English placement examination. Course work in English may be required.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Foreign Language/Research Tool Requirements

There is no foreign language requirement. However, competence in the use of one computer programming language is required for all graduate degrees offered through the Department of Economics.

Doctor of Philosophy in Pharmaceutical Economics and Policy

Application deadline: December 1

The Department of Economics and the Department of Pharmaceutical Economics and Policy (USC School of Pharmacy) jointly offer a program of study leading to the PhD degree and to the MA degree in the process of work toward the PhD degree.

Required courses include both core requirements and area requirements. Core requirements include courses in economic theory, econometrics, and research methods. Area requirements include courses in health economics, pharmaceutical economics, welfare theory and applied econometrics.

For a detailed description of this program, see the USC School of Pharmacy section of this catalogue.

Bachelor's Degree

Economics (BA)

Students are required to take ECON 203, ECON 205, ECON 303, ECON 305, ECON 317, ECON 318 and four economics elective courses. Of the four elective courses (300 level or above) a minimum of two must be economics courses at the 400 level or higher. The remaining two economics courses must be approved by the department's director of undergraduate studies. A grade of C (2.0) or better is required for each of the core courses ECON 303, ECON 305, ECON 317 and ECON 318. MATH 118gx or MATH 125 is required for the major; students are advised to meet the requirement by their sophomore year. Majors are also required to take at least one two-unit course on computing chosen from ITP 101 or CSCI 101L.

Economics/Mathematics (BS)

Students are required to take seven courses in economics, seven courses in mathematics and one course in computer programming languages. Pre-major requirement: MATH 125 or equivalent.

In Economics: ECON 203, ECON 205, ECON 303, ECON 305, ECON 318 and at least two other ECON courses at the 400 level or above

In Mathematics: MATH 126 or MATH 127; MATH 225 or MATH 245; MATH 226 or MATH 227; MATH 407, MATH 408 and at least two other MATH courses at the 400 level or above

In Computing: At least one course chosen from ITP 165, CSCI 101L

Electives must be approved by the program advisers.

Political Economy (BA)

The Bachelor of Arts in Political Economy explores the intersection of economics with politics in domestic and international contexts. It prepares students for engagement with global and regional questions that require analysis of economic and political causes and consequences and provides a useful background for a wide variety of entry positions in the public and private sectors.

Lower-Division Courses (16 Units)

Complete two ECON and one MATH course (12 units):

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Choose one (4 units):

- IR 210gw International Relations: Introductory Analysis Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Upper-Division Requirements (32 Units)

- ECON 303 Intermediate Microeconomic Theory Units: 4

Choose three, at least two from ECON (12 units):

- BUAD 350 Macroeconomic Analysis for Business Decisions Units: 4

- ECON 305 Intermediate Macroeconomic Theory Units: 4 or
- ECON 330 The Political Economy of Institutions Units: 4

- ECON 332 Contracts, Organizations and Institutions Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 360 Public Finance Units: 4
- ECON 366 Urban Economics Units: 4
- ECON 395 Economic Policy Issues Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4

Choose one (4 units):

- FBE 402 Government and Business Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 308w Economic Globalization Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 333 China in International Affairs Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 321 Urban Political Problems Units: 4
- POSC 325 State Politics Units: 4
- POSC 334 Interest Groups and Elite Behavior Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 380 Political Theories and Social Reform Units: 2 or 4
- PPD 357 Government and Business Units: 4

Choose two, at least one from ECON (8 units):

- ECON 450 International Trade Units: 4
- ECON 487 Resource and Environmental Economics Units: 4
- IR 430 The Politics of International Trade Units: 4
- POSC 425 Legislative Process Units: 4
- POSC 437 Mass Media and Politics Units: 4

Choose one (4 units):

- IR 430 The Politics of International Trade Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 454 The International Political Economy of Development Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 453 Political Change in Asia Units: 4
- POSC 456 Women in International Development Units: 4
- POSC 463 European Politics Units: 4

Total: 48 units required for the major

Social Sciences, with an Emphasis in Economics (BA)

Students are required to take ECON 203, ECON 205, ECON 303, ECON 305 and three economics elective courses numbered 300 or 400. A grade of C (2.0) or better is required for each of the core courses ECON 303 and ECON 305. MATH 118gx or MATH 125 is required and an additional 12 units of upper-division courses from departments in the social sciences (anthropology, geography, international relations, history, political science, psychology, sociology).

Minor

Behavioral Economics Minor

This minor offers a series of classes that offer a broad perspective of recent research on economic decision-making. Theoretical classes will review traditional theories of decision-making based on the economic rational paradigm as well as new behavioral theories designed to better capture actual decision-making. Experimental classes will cover standard and novel experimental methods used to study economic decision-making and game theoretical paradigms.

Required Lower-Division Courses (12 units)

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

Required Upper-Division Course (4 units)

- ECON 303 Intermediate Microeconomic Theory Units: 4

Required Upper-Division Electives (16 units)

Choose any four of the following courses:

- ECON 404 Games and Economics Units: 4
- ECON 405 Neuroeconomics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 420 Experimental Economics Units: 4
- ECON 432 Economics of Happiness Units: 4

Economics Minor

Students from all disciplines will benefit from an economics minor. The economics minor is offered in three tracks. Each track is designed to help the student explore a coherent area of economic thought and methodology. Students minoring in economics must maintain at least a 2.0 GPA (cumulative) in courses taken for the minor.

The minor includes the core courses ECON 203, ECON 205, ECON 303 or ECON 305, MATH 118gx or MATH 125 plus three courses chosen from one of the following tracks:

Law and Political Economy

This track introduces students to the economic theory that underlies the economic choices made by individuals and the ways in which law and policy combine to regulate such behavior. Economic models of individual choice, contracts, and law are analyzed in courses in this track. Choose three courses from: ECON 317, ECON 330, ECON 332, ECON 434.

Finance and Money

This track guides students through the economic thought and theory that underlie the importance of money. Courses cover topics that shed light on the ways in which institutions, individual preferences and financial markets affect the allocation and investment of money. Choose three courses from: ECON 317, ECON 350, ECON 357, ECON 360, ECON 450, ECON 452, ECON 457.

International Economics

This track concentrates on the foundations, complexities and importance of the global economy as well as the role of economics and political economy in societies outside of the United States. Choose three courses from: ECON 317, ECON 330, ECON 340, ECON 342, ECON 343, ECON 346, ECON 350.

Master's Degree

Economic Developmental Programming (MA)

This degree program is designed to provide advanced training in the basic tools of development programming and their application to practical problems of developing countries. The program is structured to enable well-prepared students entering in May to finish the following summer. Requirements include the following courses in economics:

Required Courses

- ECON 401 Mathematical Methods in Economics Units: 4

- ECON 500 Microeconomic Analysis and Policy Units: 4 or
- ECON 601 Microeconomic Theory I Units: 4

- ECON 501 Macroeconomic Analysis and Policy Units: 4 or
- ECON 602 Macroeconomic Theory I Units: 4

- ECON 502 Mathematical Methods in Dynamic Economics Units: 4 or
- ECON 607 Topics in Dynamic Optimization Units: 4 or
- ECON 615 Applied Econometrics Units: 4

- ECON 609 Econometric Methods Units: 4
- ECON 513 Practice of Econometrics Units: 4

- ECON 523 Economic History and Development Units: 4 or
- ECON 537 Contracts, Organizations, and Institutions Units: 4 or
- ECON 541 Economic Development Units: 4 or
- ECON 634 Political Economy of Institutions Units: 4 or
- ECON 644 Economic Development Programming and Policy Planning Units: 4

- ECON 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2–8 Units Required) or
- ECON 692 Seminar in Economic Development Units: 2

- ECON 650 International Trade Theory Units: 4 or
- ECON 651 International Monetary Theory Units: 4

Additional Requirements

In addition, a total of three courses in one of several designated options in economics, international relations, law, urban planning and development, demography, or business administration is required. In certain cases units can be granted for internship work. The total unit requirements are 32–48, including a comprehensive examination or a thesis.

For a detailed description of the program and its requirements see *Master of Arts in Economic Developmental Programming*, available from the Department of Economics faculty adviser.

Economics (MA)

This program is designed to provide advanced training in the basic tools of economics and their application to practical problems.

Required Courses

Students are required to take ECON 500, ECON 501 and ECON 513 in addition to 20 elective units. No more than 4 units of ECON 590 can be applied toward the MA degree in Economics. Students must receive no lower than a B in ECON 500 and ECON 501. Students are allowed to take up to 8 units outside the department and 8 units at the 400 level.

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4

Quantitative Economics (MS)

The Master of Science in Quantitative Economics is a 32 unit program designed for students who wish to advance their knowledge in the practical applications of econometrics, statistics and probability. Students can find detailed information on admission requirements at dornsife.usc.edu/econ/.

Course List

Please select six courses below. The remaining units can be electives at 400 or 500 level.

- ECON 513 Practice of Econometrics Units: 4
- ECON 609 Econometric Methods Units: 4
- ECON 610 Quantitative Analysis in Macroeconomics Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4
- ECON 612 Econometric Theory Units: 4
- ECON 613 Economic and Financial Time Series I Units: 4
- ECON 614 Economic and Financial Time Series II Units: 4
- ECON 615 Applied Econometrics Units: 4
- ECON 691 Seminar in Econometrics Units: 2

Dual Degree

Master of Arts, Economics/Juris Doctor (MA/JD)

Students are required to complete 92 units of law and economics course work, four units of which must constitute a thesis acceptable to the faculties of the USC Gould School of Law and the Department of Economics. Before enrolling in economics courses, students must have completed an undergraduate course in probability and statistical inference (e.g., BUAD 310). Students with undergraduate degrees in such disciplines as business, economics, mathematics and psychology will usually have taken such a course as part of their undergraduate program.

First Year:

Required law school courses.

Second and Third Years:

- ECON 500 Microeconomic Analysis and Policy Units: 4

- ECON 602 Macroeconomic Theory I Units: 4 or
- ECON 513 Practice of Econometrics Units: 4

Two Additional Graduate-level Courses in Economics (Eight Units):

ECON 680 Industrial Organization and ECON 681 Economics of Regulated Industries are recommended, but the student is free to choose any graduate level courses other than ECON 590 or ECON 790 in consultation with the program adviser. ECON 401 Mathematical Methods in Economics may be substituted for one of these courses, or ECON 419 Introduction to Econometrics may be substituted for the other. (These three courses are applicable toward graduate credit.)

Four Units of Thesis:

The thesis must be acceptable to both the faculty of the law school and the faculty of the Department of Economics.

Thirty-nine Units of Law Courses:

Including one course in a subject matter related to economics (including but not necessarily limited to Taxation, International Business Transactions, Antitrust Law I, Regulated Industries, Labor Law, Administrative Law and Regulatory Policy, Corporate Taxation or Land Use. In addition to the LSAT, students interested in this dual degree program are required to take the aptitude and advanced economic portions of the Graduate Record Examinations (GRE).

Master of Arts, Economics/Master of Planning (MA/MPl)

The USC Price School of Public Policy and the Department of Economics jointly offer a two-year program leading to the MPl and MA degrees. Applicants must apply to the Price School of Public Policy and the Graduate School and meet the admission requirements of both.

Requirements

Requirements for completion of the dual degree program are 58 units, including 24 units in economics and 34 units in planning. For a complete listing, see Public Policy.

Doctoral Degree

Economics (PhD)

Application deadline: December 1

The PhD in Economics requires 60 units of graduate level courses numbered 500 or higher (excluding ECON 500, ECON 501, ECON 590, ECON 690, ECON 691, ECON 692, ECON 693, ECON 694, ECON 790 and ECON 794a, ECON 794b, ECON 794c, ECON

794d, ECON 794z).

Required Courses

The following courses must be taken within the first 36 units of graduate level courses:

- ECON 601 Microeconomic Theory I Units: 4
- ECON 602 Macroeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 605 Macroeconomic Theory II Units: 4
- ECON 609 Econometric Methods Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4

Additional Required Units

A minimum of 6 units selected from the following:

- ECON 690 Seminar in Economic Theory Units: 2
- ECON 691 Seminar in Econometrics Units: 2
- ECON 692 Seminar in Economic Development Units: 2
- ECON 693 Seminar in Applied Economics and Public Policy Units: 2
- ECON 694 Seminar in Dynamic Economics Units: 2

A minimum of 4 units of:

- ECON 794a Doctoral Dissertation Units: 2
- ECON 794b Doctoral Dissertation Units: 2
- ECON 794c Doctoral Dissertation Units: 2
- ECON 794d Doctoral Dissertation Units: 2
- ECON 794z Doctoral Dissertation Units: 0

Additional Requirements

Students must take a core theory examination immediately after the completion of ECON 601, ECON 602, ECON 603 and ECON 605 in order to continue in the PhD program. There is also a breadth requirement, which may be satisfied by taking either ECON 523 Economic History and Development or ECON 527 Theory of Value: Classical Origins and Neoclassical Critique or ECON 538 Values and Social Analysis.

After passing the core theory examination, the student should consult the director of graduate studies on the appointment of a PhD qualifying exam committee. The student should complete two advanced fields of study with the approval of the qualifying exam committee and the director of graduate studies. The requirements for completing each advanced field of study consist of (1) at least two courses numbered 600 or higher in that field with a minimum grade of A- in each, (2) satisfactory completion of one of the seminars related to the field and (3) presentation of a research paper in a class or seminar. In addition, the student should complete a minor field, which consists of a course numbered 600 or higher with a minimum grade of B. The signing of the student's Permission to Take the Qualifying Examination form will signify the satisfactory completion of the field requirements.

The remainder of the courses to total 60 units must be preapproved by the qualifying exam committee. However, not more than four units of ECON 590 and/or ECON 790 can be taken in each semester. Courses taken outside the department or USC cannot count toward the completion of a field and are not allowed before at least one advanced field is completed. Waivers to the course requirements based on equivalent work at another university may be made upon petition to the director of graduate studies up to a maximum of 12 units. Waivers for any other reason require the approval of the department graduate committee.

Grade Point Average Requirements

In addition to the Graduate School requirements, a minimum GPA of 3.0 on all course work taken toward the 60 units requirement must be achieved. ECON 615 or a higher level course in econometrics must be completed with a grade of B or better.

Screening Procedure

Students desiring the PhD must undergo a screening procedure before completing more than 24 units of graduate level courses. The process involves a review of the student's course grades, performance on the core theory examination, and demonstrated research ability. Students who pass the screening procedure are permitted to continue studies toward the PhD degree.

Core Theory Examination

Before beginning the third semester of graduate study, the student must pass a written examination in general economic theory including applications. A maximum of two attempts is allowed. Not taking the examination at a given due time is considered as failing the examination once. The core theory examination is offered twice every year during the summer session. Any exceptions are subject to approval of the director of graduate studies.

Empirical Research Paper

During the summer after the fourth semester of study, the student must submit an empirical paper using quantitative methods to the examination committee. The paper may use field, experimental or simulated data. In this paper, the student should demonstrate competence in using a computer programming language and software.

Research Paper

During the summer after the sixth semester of study, the student must submit a research paper to a committee of faculty. The paper must be of publishable quality.

Seminar Requirements

Every student is required to take and satisfactorily complete three, two-unit research seminars chosen from ECON 690, ECON 691, ECON 692, ECON 693 and ECON 694. The same seminar may be taken more than once. Before completing the dissertation, the student must present at least one original research paper in a seminar of the student's choice.

Dissertation Proposal Preparation

The student is required to write a research proposal on a topic suitable for a dissertation. Normally, the chair of the student's qualifying exam committee directs this work. The written proposal is presented and critiqued during the qualifying examination.

Qualifying Examination

Upon successful completion of course and grade requirements, the paper requirement, and the core theory examination, the student takes an examination, which focuses on the presentation and defense of the written dissertation proposal. After passing this examination, the student is admitted to candidacy for the PhD degree. This examination must be taken not later than the end of the seventh semester of study.

Doctoral Dissertation

After admission to candidacy, the student forms a dissertation committee composed of three faculty members, one of whom must be from an outside department. The chair of this committee is the dissertation supervisor. The student must register in sequence for ECON 794a, ECON 794b, ECON 794c, ECON 794d, ECON 794z Doctoral Dissertation each semester, excluding summer sessions, until the dissertation and all other degree requirements are completed.

The dissertation is defended in an oral examination administered by the dissertation committee when the committee agrees that the student has completed the research and a satisfactory draft of the dissertation has been written. If the committee agrees to pass the student, all suggested extensions, modifications, and corrections are incorporated into a final draft, which must be approved by all members of the committee.

It is the student's responsibility to see that the proper paperwork is submitted to the Graduate School upon completion of each requirement for the PhD degree.

PhD Students who wish to receive the MA degree

ECON 601, ECON 602, ECON 609 and ECON 611 can be substituted for ECON 500, ECON 501 and ECON 513 requirements for the Master of Arts degree in Economics. The remaining elective units can be fulfilled with ECON courses at the 500 level or above.

English

The Department of English offers a broad range of courses in English, American and Anglophone literature of all periods and genres, and in related areas such as creative and expository writing, literature and visual arts, ethnic literature and cultural studies, history of the English language and of literary criticism, and literary and cultural theory. Instructors assign extensive reading and writing in order to help students become perceptive readers, critical thinkers and strong writers. Class sizes are kept at 19 to enable full discussion in literature classes and at 12 in creative writing workshops.

Taper Hall of Humanities 404
(213) 740-2808
Email: english@dornsife.usc.edu
dornsife.usc.edu/engl
Chair: David St. John, MFA

Faculty

University Professor and Leo S. Bing Chair in English and American Literature and Professor of English, Art History and History: Leo Braudy, PhD
Distinguished Professor: Percival Everett, AM
USC Associates Chair in Humanities and Professor of English and American Studies & Ethnicity: John Carlos Rowe, PhD
Aerol Arnold Chair of English and Professor of English and American Studies and Ethnicity: Viet Nguyen, PhD*
Florence R. Scott Professor of English and Professor of English and Comparative Literature: Tania Modleski, PhD
Judge Widney Professor of Poetry and Public Culture: Dana Gioia, MBA
Provost Professor of English and Art History: Kate Flint, PhD
Writer in Residence: Geoffrey Dyer
Professors: Aimee Bender, MFA; Joseph A. Boone, PhD; Joseph A. Dane, PhD; Lawrence D. Green, PhD; J. Jack Halberstam, PhD *(American Studies & Ethnicity)*; Susan McCabe, PhD; Edwin McCann, PhD *(Philosophy)*; Carol Muske-Dukes, MFA*; Maggie Nelson, PhD; David Rollo, PhD*; David Román, PhD*; Margaret E. Russett, PhD; Hilary M. Schor, PhD; David St. John, MFA; Daniel Tiffany, PhD; David Treuer, PhD; Marianne Wiggins
Associate Professors: Emily Anderson, PhD*; Danzy Senna, MFA; Alice Gambrell, PhD*; Thomas Gustafson, PhD*; William R. Handley, PhD; Mark Irwin, PhD; Heather James, PhD*; Dana Johnson, MFA; Anthony Kemp, PhD; Rebecca Lemon, PhD; Karen L. Tongson, PhD
Assistant Professors: Devin Griffiths, PhD; Anna Journey, PhD; Melissa Rauterkus, PhD; Elda Maria Román, PhD
Assistant Professor (Teaching): Beatrice Sanford Russell, PhD
Assistant Professors of the Practice: Mary G. Lord, MFA; David Ulin, BA
Professor (Teaching): Christopher Freeman, PhD
Professor of the Practice of English: Brighde Mullins, MFA
Adjunct Professors of the Practice: Richard Fliegel, PhD; Laura Skandera Trombley, PhD
Associate Professors (Teaching): Mary (Molly) A. Bendall, MA; Richard Berg, PhD; Michael Du Plessis, PhD *(Comparative Literature)*; Susan Segal, MFA; Thea Tomaini, PhD
Lecturer: Kerry Ingram, MFA
Adjunct Lecturer: Susan Green, MA
Professor Emeritus of English and Aerol Arnold Professor Emeritus of English: James R. Kincaid, PhD
Leo S. Bing Professor Emeritus: Jay Martin, PhD
Leo S. Bing Professor Emeritus of English and American Literature: Paul K. Alkon, PhD
Florence R. Scott Professor of English Emerita: Marjorie Perloff, PhD
Distinguished Emerita Professor: Virginia J. Tufte, PhD*
Distinguished Professor Emeritus of English and Writer in Residence Emeritus: T. Coraghessan Boyle, PhD
Emeritus Professors: Charles B. Berryman, PhD; Donald C. Freeman, PhD; Max F. Schulz, PhD
Emeritus Associate Professors: William H. Brown, PhD; David Eggenschwiler, PhD; Stephen C. Moore, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

All students meet with a faculty adviser before registering for courses each semester. Faculty advisers help students shape their majors according to their evolving interests and the requirements of the majors. Students should consult the director of undergraduate studies and the undergraduate staff adviser about departmental clearances and course substitutions.

Double Majors

The department strongly encourages majoring in both English and in another department in the USC Dornsife College of Letters, Arts and Sciences or in another school of the university.

English Honors Program

Candidates for the B.A. in English can receive a designation on their transcripts of departmental honors by successfully completing a senior honors thesis while enrolled in ENGL 496, and having a 3.5 final GPA. ENGL 491 Senior Seminar in Literary Studies is a prerequisite for ENGL 496. Students with a minimum GPA of 3.0 overall and 3.5 in English courses can apply for ENGL 496; application is due at the start of fall semester of senior year. For additional information, contact a departmental adviser or the director of undergraduate studies.

Teaching Credential Requirements

Credential requirements in California and elsewhere are complex and changeable. Students interested in preparing for public school teaching should contact the Credentials Office, Rossier School of Education (or refer to this catalogue page), and the undergraduate adviser in the English department for up-to-date information. The English department usually offers courses that satisfy most, if not all, of these requirements.

Graduate Degrees

Admission Requirements

Requirements for admission to study in the department of English include: GRE scores that are satisfactory to the department on both the verbal portion of the General Test and the literature Subject Test of the Graduate Record Examinations; evidence of competence in writing English and interpreting English literature, as demonstrated by two samples of written work by the applicant on literary subjects; a satisfactory written statement by the applicant of aims and interests in graduate work; letters of recommendation from at least three college instructors (English instructors preferred); and grades satisfactory to the department earned by the applicant at other institutions.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Common Requirements

Transfer of Credit

A Transfer Credit Statement is prepared by the Degree Progress Department for students admitted to full graduate standing.
The application of any available transfer credit is contingent on successful completion of the screening procedure and is determined by the director of graduate studies no later than the end of the second year according to the following guidelines: credit will only be allowed for courses (1) from accredited graduate schools; (2) of grade B (3.0 on a four-point scale) or better; (3) constituting a fair and reasonable equivalent to current USC course work at the graduate level and fitting into the program for the degree; and (4)

approved by the Graduate School. Graduate transfer credit will not be granted for life experience, credit by examination, non-credit extension courses, correspondence courses or thesis course supervision.

The maximum number of transfer credits which may be applied toward the Master of Arts degree is four units. The maximum number of transfer credits that may be applied toward the PhD degree is 12 units. The Graduate School stipulates that transfer units must have been completed within 10 years of admission for the doctoral program to be applied toward the degree.

Experience in Teaching

This requirement may be fulfilled by one or more years' service as an assistant lecturer in the Writing Program or equivalent experience as determined by the director of the Graduate Studies Program.

Graduate Activity and Support

The English Department is committed to the development of its graduate students as professionals. To this end, the department provides a number of opportunities for professional activity. In addition, the Association of English Graduate Students (AEGS) hosts a variety of lectures, discussions and forums throughout the year. To support the student's professional activities outside of USC, the department also provides some funding for travel to conferences and professional meetings, along with a full range of placement, advising and support activities. Graduate creative writing students will host lectures, discussions and forums in poetry and fiction studies.

Bachelor's Degree

English (BA)

Undergraduate majors in English are required to take 40 units (usually 10 courses) for a BA in English with an emphasis in either literature or creative writing.

All majors must take three introductory courses:

- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4

Additional Requirements

Students should take at least two introductory courses before enrolling in upper-division literature courses or creative writing workshops.

Majors emphasizing English literature must take seven upper-division courses, including two courses in literature written before 1800, one course in 19th-century literature, one course in American literature, and two electives.

Majors emphasizing creative writing must take seven upper-division courses, including two introductory creative writing workshops in poetry and prose, and a third workshop at the 400-level. The remaining upperdivision courses must include one course in literature written before 1900, one course in literature written after 1900 and one elective.

All major students must complete ENGL 491 Senior Seminar in Literary Studies.

Narrative Studies (BA)

Narrative studies prepares students for the development and evaluation of original content for novels, films, theatre and other narrative platforms, but recognizes that the range of professional opportunities in literature and the performing arts is much wider than the roles of author, screenwriter or playwright. To recognize a good story, to critique, help shape, realize and transform it, requires a background in the history of narrative, crosscultural and contemporary models, and an understanding of the broader context of popular culture.

Narrative Studies assumes that an effective narrative will be adapted from the medium in which it first appears as new media become available. To prepare students for a future in which the platform is likely to change, the Bachelor of Arts in Narrative Studies allows students to study across the current platforms while concentrating on the techniques of effective construction common to them all.

In so doing, it draws upon course work from several schools of art but finds its home in the humanities. To help develop the flexibility necessary to understand how stories change across platforms, students are expected to complete at least three courses in literary and three courses in performance-based media. The remaining three courses may be chosen to reflect the student's personal preference and initial career aspirations.

MDA 490x Directed Research or MDA 494 Directed Creative Project are capstone experiences: Students work under the guidance of a faculty member in a relevant discipline or professional field, which may include fulltime faculty from the college or the participating schools of the arts. Projects intended for the stage should be done under the direction of School of Dramatic Arts faculty.

Requirements

Nine or 10 courses totaling 36 units; no more than two at the 100- or 200-level, selected from the following lists.

Introduction to Narrative Media (choose one course):

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 191 Introduction to Television and Video Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- PHIL 446 Aesthetics and the Film Units: 4
- THTR 125 Text Studies for Production Units: 4
- THTR 403 The Performing Arts Units: 4

  Or other appropriate course work as determined by the department.

Writing and Narrative Forms (choose one or two courses, totaling 4 units):

- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 415a Advanced Writing Units: 2
- ENGL 105x Creative Writing for Non-Majors Units: 4 , max 8
- ENGL 302 Writing Narrative Units: 4
- ENGL 402 Narrative Composition Units: 4 , max 8 *
- THTR 365 Playwriting I Units: 4
- THTR 366 Playwriting II Units: 4 *

  Or other appropriate course work as determined by the department.

Popular Culture and Ethnicity (choose one course):

- AMST 200gm Introduction to American Studies and Ethnicity Units: 4
- AMST 274gmw Exploring Ethnicity through Film Units: 4
- AMST 285gm African American Popular Culture Units: 4
- AMST 333 Religion in the Borderlands Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- CTCS 192gm Race, Class, and Gender in American Film Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- ENGL 392 Visual and Popular Culture Units: 4
- HIST 380 American Popular Culture Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- THTR 395m Drama as Human Relations Units: 4

- THTR 405m Performing Identities Units: 4
  Or other appropriate course work as determined by the department.

Narrative in Cross-cultural Perspective (choose one course):

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- ITAL 360 Italian Cinema Units: 4
- THTR 210 Theory and Practice of World Theatre I Units: 4 ***
- THTR 211g Theory and Practice of World Theatre II Units: 4 ***
  Or other appropriate course work as determined by the department.

Western Narrative in Historical Perspective (choose one course):

- CLAS 325 Ancient Epic Units: 4
- CLAS 337gp Ancient Drama Units: 4
- CLAS 380 Approaches to Myth Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- ENGL 423 English Literature of the 18th Century (1660–1780) Units: 4 *
- ENGL 424 English Literature of the Romantic Age (1780–1832) Units: 4 *
- ENGL 425 English Literature of the Victorian Age (1832–1890) Units: 4 *
- ENGL 426 Modern English Literature (1890–1945) Units: 4 *
- ENGL 430 Shakespeare Units: 4
- ENGL 440 American Literature to 1865 Units: 4 **
- ENGL 441 American Literature, 1865 to 1920 Units: 4 **
- GERM 340 German Prose Fiction from Goethe to Thomas Mann Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 346 Russian Drama and the Western Tradition Units: 4
- SPAN 304 The Art of Fiction Units: 4 (taught in Spanish)
- THTR 301 Greek and Roman Theatre Units: 4 ***
- THTR 302 Shakespeare in His World Units: 4 ***
  Or other appropriate course work as determined by the department.

Contemporary Fiction and Drama (choose one course):

- AMST 448m Chicano and Latino Literature Units: 4
- AMST 449m Asian American Literature Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 348 Modernist Fiction Units: 4
- COLT 351 Modern and Contemporary Drama Units: 4
- COLT 420 The Fantastic Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- COLT 475 Politics and the Novel Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 442 American Literature, 1920 to the Present Units: 4 **
- ENGL 447m African-American Narrative Units: 4
- FREN 347 Race, Gender and Power in Francophone Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- THTR 300 Introduction to Modern Drama Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4 ***
  Or other appropriate course work as determined by the department.

Two additional courses

(three if CTWR 412/CTWR 414 are chosen) (8 units) at the upper-division 300 or 400 level, from different departments, chosen from the lists above.

Capstone Enrollment:

- ENGL 492 Narrative Studies Capstone Seminar Units: 4
  or
- MDA 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required)
  or
- MDA 494 Directed Creative Project Units: 2, 3, 4 (4 Units Required)
  Or other appropriate course work as determined by the department.

Total: 36 units

Nine or 10 courses, including at least seven at the upper-division level, for a total of 36 units.
**Prerequisite required*
***Corequisite required*
****Recommend preparation suggested*

Minor

Cultural Studies Minor

Cultural studies is an interdisciplinary field of study that examines a broad array of issues of culture, including popular culture, identity, subcultures, nationalism, global culture and ethnography. This minor is designed for students majoring in the humanities or in the professional schools who wish to complement their majors with courses that investigate the politics of culture and cultural negotiation. Students are required to have a minimum 3.0 GPA and the completion of 32 units for admission to the minor.

Required Courses

- COMM 384 Interpreting Popular Culture Units: 4

- CTCS 407 African American Cinema Units: 4 or
- CTCS 411 Film, Television and Cultural Studies Units: 4

- ENGL 392 Visual and Popular Culture Units: 4 or

Elective Courses

Choose three courses from the following. Students must take two electives outside the department of their major. Students may not take any more than two electives from any one department or school.

- AHIS 363m Contemporary Art and the Culture Wars Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ANTH 263g Exploring Culture through Film Units: 4
- COLT 365 Literature and Popular Culture Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4
- COMM 360 The Rhetoric of Los Angeles Units: 4
- COMM 370 The Rhetoric of Ideas: Ideology and Propaganda Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 478 Culture, Technology and Communications Units: 4

- FREN 320g The French New Wave and its Legacy Units: 4
- HIST 225g Film, Power, and American History Units: 4
- HIST 255g The Evolution Debates Units: 4
- SOCI 342m Race Relations Units: 4

Total Units: 24

For more information or to apply to this minor, contact the Department of English, USC Dornsife College of Letters, Arts and Sciences.

Early Modern Studies Interdisciplinary Minor

This minor brings together the resources of the departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. It draws upon courses from the departments of French and Italian, Spanish and Portuguese, Philosophy, American Studies and Ethnicity, the USC Thornton School of Music, and the USC School of Dramatic Arts.

The minor focuses on the interplay of literary and historical methodologies while promoting an area study in a wide context. Majors in any participating department can complement the strengths in their home department with courses in other participating departments; students with majors in most other areas should have room for the 20 units necessary to complete the minor.

The minor includes a capstone course, a senior seminar based on the resources of the Early Modern Studies Institute (a consortium between USC and the Huntington Library), which enables students to learn about current issues in this cross-disciplinary field and about research techniques employed to deal with those emergent issues.

Through its Early Modern Studies Institute, USC has recognized that the study of the literatures and cultures of Europe and the Americas prior to 1800 reaches beyond disciplinary boundaries. English studies are also historical, continental, multinational and multilingual. Historical studies are also literary and sociological. Both studies are enmeshed in art history and music. This cross-disciplinary understanding of early modern studies provides a model for research in many areas of the humanities and social sciences. Students who complete this minor will be able to use both literary and historical analyses to investigate other questions in which they are interested.

The minor requires 20 units. As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (not used for credit toward a major, another minor or general education requirements). Students must select four courses outside their major department.

Requirements, Lower-Division

Choose one, 4 units:

- AHIS 230 Art and Culture in Early Modern Europe Units: 4
- ENGL 261g English Literature to 1800 Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4

Requirements, Upper-Division

Choose at least one course from each of the following four categories:

Literary Studies (4 units):

- ENGL 420 English Literature of the Middle Ages (1100–1500) Units: 4
- ENGL 421 English Literature of the 16th Century Units: 4
- ENGL 422 English Literature of the 17th Century Units: 4
- ENGL 423 English Literature of the 18th Century (1660–1780) Units: 4
- FREN 401 Studies in Early Modernity Units: 4
- ITAL 350g Italian Renaissance Literature in Translation Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4
- SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined Units: 4

Historical Analysis (4 units):

- AHIS 304m Gender and Difference in the Early Modern Period Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 344 Baroque Art Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- HIST 309 Britain and Ireland, 1100–1500 C.E. Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 316 The Renaissance Units: 4
- HIST 325 Early Modern Britain Units: 4
- HIST 331 The British Empire: 1588–1834 Units: 4
- HIST 410 The Age of Humanism and Reformation Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4

Case Studies in Early Modern Discourse and History (4 units):

- AHIS 430 Studies in Renaissance Art Units: 4
- AHIS 433 Studies in Medieval Art Units: 4
- AHIS 453 Studies in Baroque Art Units: 4
- AMST 373m History of the Mexican American Units: 4
- ENGL 430 Shakespeare Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 461 English Drama to 1800 Units: 4
- ENGL 465 The English Novel to 1800 Units: 4
- HIST 307 Women in Medieval Europe, c. 1000–1500 Units: 4
- HIST 318 Early American Indian History Units: 4
- HIST 349 Colonial North America 1600–1760 Units: 4
- HIST 351 The American Revolution Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- HIST 473 Colonial Latin America Seminar Units: 4
- HIST 474 Sex, Gender, and Colonialism in Latin America, 1492 to 1820 Units: 4, 2 years
- MPEM 450 Collegium Workshop Units: 1
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- SPAN 455 Picaresque Itineraries: Empire and Its Discontents Units: 4
- SPAN 460 Don Quijote: Text and Film Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 354 Acting Shakespeare Units: 2

Senior Seminar in Early Modern Studies (capstone):

- ENGL 497 Senior Seminar in Early Modern Studies Units: 4

English Minor

The minor in English requires 20 units, or five courses, including at least two introductory courses (from among ENGL 261, ENGL 262 and ENGL 263) and at least three upper-division courses including one in literature written before 1800 and one in American literature. An English minor may enroll in no more than one creative writing workshop.

Interdisciplinary Minors

For Business

Narrative Structure Interdisciplinary Minor

This interdisciplinary minor is intended for students with an interest in story-telling who are majoring in programs and disciplines other than narrative studies. The minor, based in the humanities, provides opportunities for undergraduates to study story structure from the perspective of several disciplines. As with all minors, students must choose at least four courses (16 units) outside their major department and four courses (16 units) that are not being used to satisfy any other subject requirement.

Course Requirements: five courses (20 units)

Lower-Division Requirement

Choose one course (4 units) from the following list.

- COLT 101gp Masterpieces and Masterminds: Literature and Thought Units: 4
- COLT 264gp Asian Aesthetic and Literary Traditions Units: 4
- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- EALC 125g Introduction to Contemporary East Asian Cinema and Culture Units: 4
- ENGL 105x Creative Writing for Non-Majors Units: 4
- ENGL 262g English Literature since 1800 Units: 4
- ENGL 263g American Literature Units: 4

Upper-Division Requirements

Choose four courses (16 units) from the lists below, one from each list.

Core Course

- ENGL 302 Writing Narrative Units: 4

European and American Literary Narratives

- CLAS 325 Ancient Epic Units: 4
- COLT 312 Heroes, Myths and Legends in Literature and the Arts Units: 4
- COLT 345 Realist Fiction Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- ENGL 361g Contemporary Prose Units: 4
- ENGL 375 Science Fiction Units: 4
- ENGL 425 English Literature of the Victorian Age (1832–1890) Units: 4 *
- ENGL 426 Modern English Literature (1890–1945) Units: 4 *
- ENGL 440 American Literature to 1865 Units: 4 **
- ENGL 441 American Literature, 1865 to 1920 Units: 4 **
- ENGL 442 American Literature, 1920 to the Present Units: 4
- ENGL 447m African-American Narrative Units: 4
- FREN 383 French Women Writers Units: 4 (taught in French) **
- FREN 404 Studies in an Author Units: 4 (taught in French)
- GERM 340 German Prose Fiction from Goethe to Thomas Mann Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4
- SPAN 304 The Art of Fiction Units: 4 (taught in Spanish)

Note:

**Prerequisite required*
***Corequisite required*

Global Narrative Traditions

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 428 Nature and the Ecological Imagination in Japanese Literature Units: 4
- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4
- ENGL 444m Native American Literature Units: 4
- ENGL 445m The Literatures of America: Cross-Cultural Perspectives Units: 4

Narratives in Visual Media

- CLAS 337gp Ancient Drama Units: 4
- CTCS 367 Global Media Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 407 African American Cinema Units: 4
- ENGL 363g Contemporary Drama Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- ENGL 381 Narrative Forms in Literature and Film Units: 4
- ENGL 430 Shakespeare Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- ITAL 360 Italian Cinema Units: 4
- SLL 346 Russian Drama and the Western Tradition Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4 (taught in Spanish)
- SPAN 306 Performance from Street to Stage Units: 4 (taught in Spanish)

Master's Degree

English (MA)

The department does not accept applicants for a Master of Arts degree. All graduate work in English at USC is taken as part of a PhD program, and the MA in English is intended only as a transitional degree in the process of completing requirements for the PhD

A student admitted to the graduate program may choose later to earn a terminal MA degree, or may be invited by the department to attempt a terminal degree. The terminal MA in English may be earned by completing 30 units (normally eight courses) of graduate study in English or in other departments at USC (as approved by the graduate director) with an accumulated GPA of at least 3.0, and by passing the screening procedure. A maximum of four units of 590 Directed Research and four transfer units may count toward the 30 units minimum required for the MA degree.

Literary Editing and Publishing (MA)

The master's degree in Literary Editing and Publishing is intended for students with strong backgrounds in English literature, creative writing and narrative studies to explore the roles of the professional editor and publisher, with an emphasis in literary nonfiction. Exceptional USC undergraduate students accepted to this degree program may combine their baccalaureate and masters studies during their senior (fourth) year, in accordance with USC policy on Progressive Degree Programs. Applicants without appropriate preparatory course work in literature and creative writing may be required to complete more course work. The master's degree in Literary Editing and Publishing requires a year of supervised external professional internship in lieu of a thesis.

Advisement

Students interested in applying to the Progressive Degree Program in Literary Editing and Publishing will propose a plan of study in consultation with an academic adviser. Advisers will work with students throughout the final years of undergraduate study and the master's program to help students select courses based on remaining undergraduate degree requirements, recommended preparation for the master's degree, and the core requirements for the master's degree in Literary Editing and Publishing. Students in the English department are required to meet with an adviser before registering for courses each semester.

Degree Requirements

The master's degree in Literary Editing and Publishing is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Required Courses

A minimum of 28 units of graduate-level course work is required. All courses are 4 units unless otherwise noted.

- ENGL 601 Introduction to Literary Editing and Publishing Units: 4
- ENGL 602 Writers in the World: Text and Context Units: 4
- ENGL 603 The Editorial Experience: The Craft of Publication Units: 4
- ENGL 604 The Nonfiction Experience: A Literary-Editorial Focus Units: 4
- ENGL 607 Digital Publishing and Literary Writing for New Media Units: 4
- ENGL 608 Publishing on Both Sides of the Transom Units: 4
- ENGL 609a Internship in Editing and Publishing: Eloquence and Ethics Units: 2
- ENGL 609b Internship in Editing and Publishing: Eloquence and Ethics Units: 2

Recommended Course

- ENGL 600 Publication in Humanities Journals Units: 4

Doctoral Degree

English and American Literature (PhD)

Students may earn the PhD in English by successfully completing requirements in the English and American literature track.

Application deadline: December 1

This program prepares students for research and teaching in all areas of English and American literary studies. The program offers the study of texts in their historical and cultural contexts as well as theoretical, interdisciplinary and cross-cultural approaches to literature.

Graduate Curriculum and Unit Requirements

The graduate curriculum is divided into 500-level foundation courses and 600-level advanced courses. The 500-level courses offer fundamental work in theory and in the history of British and American literatures and cultures. The 600-level courses feature advanced studies in theory, core requirements in film and literature, interdisciplinary studies, transhistorical studies in genres and sub-genres, individual writers, gender studies, multi-cultural literatures and societies, and special topics. Although students will normally take 500-level courses leading up to the screening procedure (see Screening Procedure) and 600-level courses thereafter, students, after consultation with their advisers, may be permitted to take 600-level courses in the first semesters of their graduate training.

Occasionally students who lack adequate undergraduate training in any given area may be required by the graduate director to enroll in appropriate 400-level courses.

The student's course work must total at least 64 units. No more than 8 units of 794 Doctoral Dissertation and no more than four units of 790 Research may count toward the 64 units. A maximum of 12 transfer units, approved by the graduate director, is allowed toward the 64 units minimum required by the PhD (See Transfer of Credit.)

Advisement

The student will be assigned a faculty mentor in his or her first semester in the graduate program and will be encouraged in subsequent semesters to begin putting together an informal qualifying exam committee. The makeup of the qualifying exam committee may change as the interests of the student change. The faculty mentor and informal qualifying exam committee will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Screening Procedure

In the semester immediately following the completion of 20 units of courses, the students will be screened. Passing this procedure is prerequisite to continuation in the doctoral program. The faculty mentor will write a report summarizing the student's course work, grades and instructor comments. The graduate studies committee will consider the student's record and determine if he or she is qualified to go on to the PhD. On successful completion of screening, the student may apply for the transfer of graduate credit from other institutions, up to a maximum of 12 units.

Qualifying Exam Committee

Immediately following successful completion of the screening procedure, the student will nominate formally a five-member qualifying exam committee, including a chair and three other members from the English Department who are in the student's areas of interest and an outside member from another PhD-granting department. The committee must be in place and approved by the Graduate School at the time the student chooses a dissertation topic, writes the dissertation prospectus and schedules a qualifying examination.

Field Examinations

In the semester following the completion of courses, and before submission of the dissertation prospectus, the student must take the field examinations. These are take-home essays in three broad fields preparatory to the dissertation. The fields are chosen and the questions developed by the student in consultation with a committee of three examiners chosen by the student. The field examinations may be repeated once in the semester immediately following an unsuccessful attempt. The committee may ask the student to retake one, two or all three fields.

Qualifying Examination

Following completion of course work and the field examinations, the student must sit for a qualifying examination, at a time mutually agreed upon by the student and the qualifying exam committee. This is an examination given in the subject of the student's proposed dissertation research. No less than one month before the qualifying examination, the student will submit to the qualifying exam committee a dissertation prospectus. The prospectus, it is understood, will not be a polished dissertation proposal, but at a minimum it should display a strong knowledge of the subject, much of the relevant secondary material and other contexts crucial to the writing of the dissertation, and should present a workable plan of attack as well as a reasonably sophisticated understanding of the theoretical assumptions involved in the subject.

The qualifying examination will consist of both written and oral portions. It will focus on the dissertation area and its contexts with the specific format and content of the examination being negotiated among the student and all members of the examination committee. Upon successful completion of the qualifying examination, the student proceeds to the writing of the doctoral dissertation.

Dissertation

The final stage of the program is the submission of a dissertation that makes an original and substantial contribution to its field of study. Dissertations being written in the department are now richly varied, and this diversity is encouraged.

Foreign Language

PhD students are required to demonstrate proficiency in at least one foreign language. This may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better), or by passing a foreign language exam that tests proficiency in reading comprehension and translation. PhD students may also be required to demonstrate proficiency in additional languages, as determined by the qualifying exam committee in view of the student's proposed field of research.

Literature and Creative Writing (PhD)

Application deadline: December 1

The program provides dual emphasis in literature and creative writing, culminating in the dissertation, which combines critical analysis with creative originality. Roughly half of the dissertation is based on original research, that is to say, research contributing to knowledge which enriches or changes the field. Doctoral candidates not only read and write texts as finished products of scholarship in researching their creative work's literary and historical milieu, but also consider the text as writers create it, then compose texts as writers, a process that goes to the source of the study of literature and of literature itself. This integration of literature and creative writing is reflected in the structure of the dissertation, which introduces the

creative work within a context of critical inquiry, bringing together the examination and embodiment of the literary act, a new model of scholarship and creative innovation.

PhD candidates in literature and creative writing must pass the same departmental screening examination taken by PhD candidates in Literature who are not working in the area of creative writing. The exam tests students in various areas of emphasis (British literature, American literature, poetry, prose, etc.) and literature and historical periods as a measure of their preparedness to undertake independent research.

The literature and creative writing student takes 64 units in all, 32 in literature, 24 in creative writing workshops and seminars and 8 units of dissertation studies credits.

Admission Requirements

Requirements for admission to study in the department of English include: scores satisfactory to the department in both the verbal and quantitative General Test and the literature Subject Test of the Graduate Record Examinations; evidence of experience and ability in creative writing, as demonstrated by a creative writing sample; evidence of competence in writing English and interpreting English literature, as demonstrated by a sample of written work by the applicant on literary subjects; a satisfactory written statement by the applicant of aims and interests in graduate work; letters of recommendation from at least three college instructors; and grades satisfactory to the department earned by the applicant at other institutions. This program will accept applicants with BA degrees or transfer students with an MA or MFA in creative writing.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Graduate Curriculum and Unit Requirements

The graduate curriculum is divided into 500-level foundation courses and 600-level advanced courses. The 500-level courses offer fundamental work in theory and in the history of British and American literatures and cultures. The 600-level courses feature advanced studies in theory, creative writing seminars and workshops and special topics. Although students will normally take 500-level courses leading up to the screening procedure (see Screening Procedure) and 600-level courses thereafter, students after consultation with their advisers may be permitted to take 600-level courses in the first semester of their graduate training.

The student's course work must total at least 64 units. No more than eight units of 794 Doctoral Dissertation and no more than four units of 790 Research may count toward the 64 units. A maximum of 12 transfer units, approved by the graduate director, is allowed toward the 64 units minimum required by the PhD (See Transfer of Course Work.)

Advisement

The student will be assigned a faculty mentor in his or her first semester in the graduate program and will be encouraged in subsequent semesters to begin putting together an informal qualifying exam committee. The makeup of the qualifying exam committee may change as the interests of the student change. The faculty mentor and informal qualifying exam committee will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Screening Procedure

At the end of the student's fourth semester (second semester for students who enter with an MA or MFA degree or near equivalent), the student will sit for a departmental examination, which is part of a comprehensive screening procedure. Rarely, and only with the approval of the graduate director and the graduate committee, will a student be allowed to postpone the departmental examination and the screening procedure, and then only for one year. Prior to the screening procedure, the student will be allowed to take a maximum of four units of independent study (ENGL 590), and that independent study will normally be used to prepare for the departmental examination; all other units must be in the 500- or 600-level seminar.

Qualifying Exam Committee

Immediately following successful completion of the screening procedure, the student will nominate formally a five-member qualifying exam committee, including a chair and three other members from the English Department who are in the student's areas of interest and an outside member from another PhD-granting department. The committee must be in place and approved by the Graduate School at the time the student chooses a dissertation topic, writes the dissertation prospectus and schedules a qualifying examination.

Qualifying Examination

Following completion of course work, the student must sit for a qualifying examination, at a time mutually agreed upon by the student and the qualifying exam committee.

This is a field examination given in the subject of the student's proposed dissertation research. No less than one month before the qualifying examination, the student will submit to the qualifying exam committee a dissertation prospectus. The prospectus, it is understood, will not be a polished dissertation proposal, but at a minimum it should display a strong knowledge of the subject, much of the relevant secondary material and other contexts crucial to the writing of the dissertation, and should present a workable plan of attack as well as a reasonably sophisticated understanding of the theoretical assumptions involved in the subject.

The qualifying examination will consist of both written and oral portions with special emphasis areas in creative writing. It will focus on the dissertation area and its contexts with the specific format and content of the examination being negotiated among the student and all members of the examination committee. Upon successful completion of the qualifying examination the student proceeds to the writing of the doctoral dissertation.

Dissertation

The final stage of the program is the submission of a creative dissertation that makes an original, substantial and publishable contribution to creative literature: a book of poems, a novel, a collection of short stories.

Foreign Language

PhD students are required to demonstrate proficiency in at least one foreign language. This may be demonstrated by completing a course in the literature of that language at the 400 or 500 level (with a grade of B [3.0] or better) or by passing a foreign language exam that tests proficiency in reading comprehension and translation. PhD students may also be required to demonstrate proficiency in additional languages, as determined by the qualifying exam committee in view of the student's proposed field of research.

Environmental Studies

The Environmental Studies Program offers two undergraduate majors, environmental studies (ENVS) and environmental science and health (ENSH). Each of these majors leads to either a BA or BS degree. The environmental studies degrees are built on specialized natural science and social science courses and a set of interdisciplinary courses focusing on sustainability. The social science core courses focus on environmental problems from political, legal, economic and international perspectives. Specially designed one-semester surveys of biology, earth science and chemistry provide the natural science competency for subsequent policy or science advanced course work in environmental studies. Four concentrations are available in the environmental studies degrees: sustainability,

energy and society; oceans, life and people; climate, earth and environment; and environmental public policy. Each concentration culminates in the capstone experience of a senior seminar focusing on environmental problem-solving by interdisciplinary teams. A single 24-unit environmental studies minor is derived from the core major curriculum.

The environmental science and health degrees combine the interdisciplinary courses on sustainability described above and some of the environmental social science content with traditional biology and chemistry content to provide options for students preparing for one of the health professions with an undergraduate emphasis on environmental sustainability. The BS in environmental science and health incorporates recommended preparation for medical schools. The BA in environmental science and health may be appropriate for students preparing for other graduate or professional training as well as students pursuing double majors. The environmental studies courses common to both majors emphasize the interdisciplinary nature of environmental problems. Some of the major courses are team-taught by faculty with complementary backgrounds in science and policy. A number of opportunities are provided for field studies from the urban Los Angeles environment to marine protected areas on the coasts of the California Channel Islands. More intensive field study opportunities include "Problems Without Passports" courses with international components. Note that some of the field studies opportunities require travel to remote, rural locations and study under sometimes physically and mentally demanding conditions. These trips require a willingness to conform to the announced guidelines for conduct and safety.

Social Sciences Building B15
(213) 740-7770
FAX: 740-8566
Email: environ@dornsife.usc.edu
dornsife.usc.edu/environmental-studies
Director: Karla Heidelberg, PhD

Faculty

Ray R. Irani Chairman of Occidental Petroleum Chair in Chemistry and Professor of Chemistry and Environmental Studies: James Haw, PhD
Professor: David Bottjer, PhD *(Earth Sciences)*
Assistant Professor: Roderick McKenzie, PhD
Associate Professor of the Practice: Yael Wolinsky-Nahmias, PhD
Associate Professors (Teaching): David Ginsburg, PhD*; Karla Heidelberg, PhD *(Biological Sciences)*
Assistant Professor (Teaching): Jill Sohm, PhD
Lecturers: Monalisa Chatterjee, PhD; Victoria Petryshyn, PhD; Ekaterina Svyatets, PhD
Emeritus Professor: Thomas Flood, PhD *(Chemistry)*

Undergraduate Programs

Catalina Sustainability Semester

The Environmental Studies Program in collaboration with the Department of Biological Sciences and the Wrigley Marine Science Center offers a Catalina sustainability semester focusing on California marine, coastal and island sustainability. This semester-long program is offered during the Spring. The 16 units of course work in this program is taught in a block format (sequential) and are designed to take advantage of the unique facilities and settings of Catalina Island. Enrolled students are provided with food and lodging at the Wrigley Marine Science Center at rates comparable to the services offered to students on the University Park Campus.

Suggested preparation for the Catalina sustainability semester includes completion of either ENST 100, BISC 120Lg or comparable experience. Prospective applicants are urged to contact the Environmental Studies Office in SOS B15 early in the fall semester prior to enrollment and no later than October 15 for consideration.

Graduate Programs

The Master of Arts degree program in environmental studies is interdisciplinary and focuses on environmental science, plannning and public policy. Those who graduate with an MA in environmental studies are well prepared to pursue careers in policy, planning or management in the public, private or nonprofit sector in either this country or abroad. In addition, the curriculum provides students with a foundation for acquiring a PhD in environmental studies or a related field, or a professional degree such as a JD. Upon completion of the graduate program, students will possess extensive knowledge of environmental science, environmental statistics and economics, law and regulation, policy and planning, development and economic growth, and global issues and problems.

The Master of Science degree in environmental risk analysis focuses on providing advanced professional training for students with a BS degree in natural sciences or engineering. Students will pursue a core program encompassing science, engineering and finance supplemented with important skills courses in risk assessment, statistics and computer modeling and simulations. Those who graduate with the MS degree will be well prepared to pursue professional careers in business and industry, which build on their degrees in the natural sciences. This degree will produce individuals with the analytical and problem-solving skills of natural scientists combined with the necessary training in finance and management needed in the business world.

Progressive Degree Program in Environmental Studies

This progressive degree program allows advanced USC undergraduates completing a bachelor's degree in a related natural science or environmental policy area to also complete a master's degree in environmental studies in as little as five years. An overall GPA of 3.2 or higher in all courses taken at USC is preferred. A 3.2 GPA does not guarantee acceptance. For more information about progressive degrees, see this page.

Bachelor's Degree

Environmental Science and Health (BA)

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or

- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- HP 340L Health Behavior Statistical Methods Units: 4
- HP 408 Environmental Health in the Community Units: 4 or
- ENST 335 Science, Health and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 125g Calculus I Units: 4 *

- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Total units: 52

**Prerequisite or recommended preparation*

Environmental Science and Health (BS)

Required Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or

- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4 *
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- HP 340L Health Behavior Statistical Methods Units: 4
- HP 408 Environmental Health in the Community Units: 4
  or
- ENST 335 Science, Health and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 125g Calculus I Units: 4 *

- PHYS 135ag Physics for the Life Sciences Units: 4
- PHYS 135bL Physics for the Life Sciences Units: 4 or

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 *

Total units: 72

**Prerequisite or recommended preparation*

Environmental Studies, Climate, Earth and Environment Concentration (BA)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
  or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Climate, Earth and Environment (56 Units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 335 Science, Health and the Environment Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4
- ENST 445 Earth Climate: Past, Present, and Future Units: 4
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- GEOL 470L Environmental Hydrogeology Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4

Note:

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.
**ENST 298aL *is a corequisite for* ENST 480.

Environmental Studies, Climate, Earth and Environment Concentration (BS)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Climate, Earth and Environment (72 units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 335 Science, Health and the Environment Units: 4 ***
- ENST 344 Environmental Ethics Units: 4 ***
- ENST 442 Global Climate Change: Policy and Society Units: 4 ***
- ENST 445 Earth Climate: Past, Present, and Future Units: 4
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 ***
- GEOL 470L Environmental Hydrogeology Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 ***

Required Courses

- MATH 126 Calculus II Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Two of the Following Elective Courses (8 units minimum)

- BISC 427 The Global Environment Units: 4
- ENST 335 Science, Health and the Environment Units: 4 ***
- ENST 344 Environmental Ethics Units: 4 ***
- ENST 442 Global Climate Change: Policy and Society Units: 4 ***
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 ***
- GEOL 315L Minerals and Earth Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 425L Data Analysis in the Earth and Environmental Sciences Units: 4
- GEOL 450L Geosystems Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 ***

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.
**ENST 298aL *is a corequisite for* ENST 480. ENST 480 *cannot be double counted for BS ENVS degree credit.*
***SSCI 301L, ENST 335, ENST 344, ENST 442, *and* ENST 492 *cannot be double-counted for BS ENVS degree credit.*

Environmental Studies, Environmental Public Policy Concentration (BA)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Environmental Public Policy (56 Units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 344 Environmental Ethics Units: 4
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- POSC 436 Environmental Politics Units: 4
- PPD 420 Environmental Impact Assessment Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.

Environmental Studies, Environmental Public Policy Concentration (BS)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Environmental Public Policy (72 Units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 344 Environmental Ethics Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 **
- POSC 436 Environmental Politics Units: 4 **
- PPD 420 Environmental Impact Assessment Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 **

Four of the Following Elective Courses (16 units minimum)

- ENST 344 Environmental Ethics Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 **
- POSC 436 Environmental Politics Units: 4 **
- PPD 314 Public Policy and Law Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- PPD 382 International Development Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4 **
- PPD 478 Social Innovation Units: 4

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.
**SSCI 301L, POSC 436, ENST 433 *and* ENST 492 *cannot be double counted for BS ENVS degree credit.*

Environmental Studies, Oceans, Life and People Concentration (BA)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4 or

- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Oceans, Life and People (56 units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- BISC 352 Conservation Biology Units: 4
- BISC 427 The Global Environment Units: 4
- ENST 310 Sustainable Fisheries Management Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- SSCI 301L Maps and Spatial Reasoning Units: 4

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.
**ENST 298aL *is a corequisite for* ENST 480.

Environmental Studies, Oceans, Life and People Concentration (BS)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
  or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Oceans, Life and People (72 units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- BISC 352 Conservation Biology Units: 4 ***
- BISC 427 The Global Environment Units: 4
- ENST 310 Sustainable Fisheries Management Units: 4 ***
- ENST 344 Environmental Ethics Units: 4 ***
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 ***
- SSCI 301L Maps and Spatial Reasoning Units: 4 ***

Four of the Following Elective Courses (16 units minimum)

- BISC 315L Introduction to Ecology Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 352 Conservation Biology Units: 4 ***
- BISC 447L Island Biogeography and Field Ecology Units: 4
- BISC 469L Marine Biology Units: 4
- ENST 310 Sustainable Fisheries Management Units: 4 ***
- ENST 344 Environmental Ethics Units: 4 ***
- ENST 480 Integrated Ecosystem Management in Micronesia Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 ***
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 ***

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.

**ENST 298aL, ENST 298bL *are corequisite for* ENST 480. ENST 480 *cannot be double-counted for BS ENVS degree credit.*

***BISC 352, SSCI 301L, ENST 310, ENST 344 *and* ENST 492 *cannot be double-counted for BS ENVS degree credit.*

Environmental Studies, Sustainability, Energy and Society Concentration (BA)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
  or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Sustainability, Energy and Society (56 units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 335 Science, Health and the Environment Units: 4
- ENST 344 Environmental Ethics Units: 4
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4
- MOR 466 Business and Environmental Sustainability Units: 4
- POSC 436 Environmental Politics Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4

Note:

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.

Environmental Studies, Sustainability, Energy and Society Concentration (BS)

Required Core Courses (48 Units)

- BISC 103Lgx General Biology for the Environment and Life Units: 4

- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- ENST 495 Senior Seminar in Environmental Studies Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4
- IR 323 Politics of Global Environment Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
  or
- MATH 125g Calculus I Units: 4 *
- POSC 270 Introduction to Environmental Law and Politics Units: 4
- PSYC 274Lg Statistics Units: 4

Concentration in Sustainability, Energy and Society (72 units)

In addition to the 48-unit core:

Two of the Following Courses (8 units minimum)

- ENST 335 Science, Health and the Environment Units: 4 **
- ENST 344 Environmental Ethics Units: 4 **
- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 442 Global Climate Change: Policy and Society Units: 4 **
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 **
- MOR 466 Business and Environmental Sustainability Units: 4
- POSC 436 Environmental Politics Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 **

Four of the Following Elective Courses (16 units minimum)

- BISC 427 The Global Environment Units: 4
- ENST 335 Science, Health and the Environment Units: 4 **
- ENST 344 Environmental Ethics Units: 4 **
- ENST 442 Global Climate Change: Policy and Society Units: 4 **
- ENST 445 Earth Climate: Past, Present, and Future Units: 4
- ENST 492 Directed Environmental Policy and Science Internship Units: 2, 4 **
- GEOG 360 Environmental Disasters Units: 4
- GEOL 450L Geosystems Units: 4
- GEOL 470L Environmental Hydrogeology Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- POSC 436 Environmental Politics Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4 **

Note

*MATH 125g *has a prerequisite of either the math placement exam or* MATH 108g.
**SSCI 301L, ENST 335, ENST 344, ENST 442 *and* ENST 492 *cannot be double-counted for BS ENVS degree credit.*

Minor

Environmental Studies Minor

Required Core Courses

- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4

Two Elective Social Sciences Courses Chosen From:

- ENST 370 Marine and Coastal Environmental Policy Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- IR 323 Politics of Global Environment Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4

One Elective Course Chosen From:

- BISC 103Lgx General Biology for the Environment and Life Units: 4
- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4
- GEOL 160Lg Introduction to Geosystems Units: 4 *

Total units: 24

*ENST 100 *is a corequisite for* GEOL 160Lg.

Master's Degree

Environmental Risk Analysis (MS)

The focus of the MS, Environmental Risk Analysis degree is on advanced training for students with an existing science background. Students will enter the MS program with a BS degree in a core natural science field or in engineering, environmental science and certain fields of geography. Students take a core curriculum in science, engineering and finance, which is supplemented by important tools courses in risk assessment, statistics and computer modeling. Students learn about the basics of environmental science in a two-semester combination of courses and seminars (ENST 501, ENST 502, ENST 503, ENST 504). An advanced environmental science seminar (ENST 505a, ENST 505b) is offered in a two-semester sequence and ties together science, technology and finance with risk assessment and policy. The first semester of the course is devoted to analyzing case studies taken from business, industry and government. During the second semester students work on a project that employs the tools they have acquired in linking science, policy, technology and finance.

A master's thesis is not required for the MS degree. The MS degree in environmental risk analysis will give students the quantitative skills needed to understand and assess environmental risks and to use that information in business, industry, government and society.

Required Courses

A minimum of 48 units is required.

Environmental Risk Analysis

- ENST 530 Environmental Risk Analysis Units: 4

Environmental Science

- ENST 501 Environmental Science I Units: 2 *
- ENST 502 Environmental Science Seminar I Units: 1
- ENST 503 Environmental Science II Units: 2
- ENST 504 Environmental Science Seminar II Units: 1
- ENST 505a Advanced Environmental Science Seminar Units: 2
- ENST 505b Advanced Environmental Science Seminar Units: 2

Note:

*ENST 502 *and* ENST 504 *are corequisites for* ENST 501 *and* ENST 503*, respectively, and* ENST 501 *is a prerequisite for* ENST 503.

Natural Science

One graduate-level science course from outside undergraduate major and two graduate-level science courses

Finance

- GSBA 510 Accounting Concepts and Financial Reporting Units: 1.5, 2, 3

- GSBA 543 Managerial Perspectives Units: 3 or
- MOR 569 Negotiation and Deal-Making Units: 3

- GSBA 548 Corporate Finance Units: 2, 3

Technical Skills

- ENST 510 Statistics for Environmental Analysis Units: 4
- One modeling course

- Two technology/engineering courses

Additional Requirements

Admission Requirements

Students who wish to enter the Master of Science program in environmental risk analysis are expected to have a GPA of at least 3.0 (A = 4.0). Students with a baccalaureate degree in the natural sciences, mathematics, environmental science, geography and engineering will be admitted into the program. It is recommended that students have completed an introductory human environment, social ecology or environmental studies course in the social sciences as well as a course in economics and/or environmental policy. The director of the Environmental Studies Program will consider relevant course work and work experience as a possible substitute for the required and recommended course work.

Selection Criteria

Selection for graduate study is based on letters of reference, the student's previous academic record, the Graduate Record Examinations and a statement of purpose of graduate study.

Application Procedure

Applicants should contact the Environmental Studies Program office for an admission package. All applicants should return their applications by March 1 for full consideration. The following components of the application are required: (1) a completed USC Application for Admission to Graduate Studies; (2) official transcripts of all undergraduate and graduate course work taken to date; (3) the results of the General Test of the GRE or notification of when it will be taken and that a request has been made to send the results to USC; and (4) at least three letters of recommendation from persons directly familiar with the student's academic work and potential for successful graduate study.

Advisement

Advisement for the graduate program in environmental studies is viewed as an ongoing process. Before entering graduate school and during the first months of graduate school, each student should work with the director of the Environmental Studies Program on devising a plan for completing his or her course work.

Degree Requirements

The master's degree in environmental risk analysis is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Environmental Studies (MA)

The master's degree program in environmental studies focuses on issues and problems concerning environmental policy. A main goal of the graduate program is to educate students who already have a good grounding in the natural sciences about central theories, concepts and principles in environmental policy. A minimum of 41 units is required to receive an MA in environmental studies. A master's thesis is not required for the MA degree.

Required Courses and Concentrations

A minimum of 41 units is required. All courses are 4 units unless otherwise noted.

Core Courses (28 Units):

Core introductory course (4 units):

- ENST 500 Introduction to Environmental Studies Units: 4

Environmental Science Courses (12 units)

- ENST 520 Environmental Law and Policy Units: 4
- ENST 530 Environmental Risk Analysis Units: 4
- ENST 540 California Coastal Zone Science and Policy Units: 4

Environmental Regulation and Policy Course (4 units):

- POSC 546 Seminar in Environmental Policy Units: 4

Skills Courses (8 Units):

Natural resource conservation and planning course. Select one from the following:

- PPD 621 Environmental Impacts Units: 4
- PPDE 632 Sustainable Cities Units: 4

Statistics course. Students select one of the following:

- ENST 510 Statistics for Environmental Analysis Units: 4
- IR 514 Multivariate Analysis Units: 4
- SOCI 521 Quantitative Methods and Statistics Units: 4

Additional Requirements

Admission Requirements

Students who wish to enter the Master of Arts program in environmental studies are expected to have a GPA of at least 3.2 (A = 4.0). Students with a baccalaureate degree in any major are eligible the program. It is recommended that students have a semester of biology, a semester of chemistry, a course in earth sciences and a course in each of the following areas: a course in either earth, life, or physical sciences or engineering; a course in statistics (or calculus); and an introductory human environment, social ecology or environmental studies course in the social sciences at the undergraduate level prior to applying for admission. The director of the Environmental Studies Graduate Program will consider relevant course work and work experience as a possible substitute for the required and recommended course work.

Selection Criteria

Selection for graduate study is based on letters of reference and the student's previous academic record.

Application Procedure

Applicants should contact the Environmental Studies Program office for an admission package. Applications are accepted on a rolling basis. The following components of the application are required: (1) a completed USC Progressive Degree Application, (2) STARS report of all undergraduate and graduate course work taken to date, (3) at least two letters of recommendation from persons directly familiar with the student's academic work and potential for successful graduate study.

Advisement

Advisement for the graduate program in environmental studies is viewed as an ongoing process. Before entering graduate school and during the first months of graduate school, each student should work with the director of the Environmental Studies Graduate Program on devising a plan for completing his or her course work.

Degree Requirements

The master's degree in environmental studies is under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

French and Italian

The Department of French and Italian offers majors and minors in French and Francophone Studies and in Italian. The study of French or Italian involves the mastery of the languages and their literary and cultural expressions in fiction and non-fiction, dramatic, cinematic and poetic texts, as well as the study of social and political institutions in their relationship to cultural production.

The department offers a variety of classes in French and Italian, as well as some courses with readings and discussion in English to satisfy diverse needs. Topics range broadly from the study of a single author or literary genre to current events, cinema and new media, gender and postcolonial studies, and literary criticism.

Courses are kept small to allow for maximum interaction between

students and professors. Students in both French and Italian work closely with their advisers to develop an appropriate course of study. This often involves study abroad. The department runs summer programs in Dijon, France and Rome, Italy; students also attend semester- or year-long programs in Paris, Milan, Florence or Rome.

Taper Hall of Humanities 155
(213) 740-3700
FAX: (213) 746-7297
Email: french@dornsife.usc.edu
dornsife.usc.edu/fren-ital
Chair: Margaret Rosenthal, PhD

Faculty

Professors: Margaret F. Rosenthal, PhD*; Vanessa Schwartz, PhD *(History)*
Associate Professors: Gian-Maria Annovi, PhD; Olivia Harrison, PhD *(Middle East Studies)*; Edwin Hill, PhD; Natania Meeker, PhD, Chevalier de l'Ordre des Palmes Academiques; Panivong Norindr, PhD; Antonia Szabari, PhD
Assistant Professor: Gian-Maria Annovi, PhD
Professor (Teaching) of Italian: Francesca Italiano, PhD
Professor (Teaching) of French: Béatrice Mousli Bennett, PhD, Chevalier de l'Ordre des Palmes Academiques
Associate Professors (Teaching) of French: Colin Keaveney, PhD; Julie Van Dam, PhD
Associate Professors (Teaching) of Italian: Alessio A. Filippi, PhD; Antonio Idini, PhD; Francesca Leardini, PhD
Assistant Professor (Teaching) of French: Guilan Siassi, PhD
Assistant Professor (Teaching) of Italian: James Fortney, PhD
Master Lecturers of French: Nathalie C. Burle, EdD; Julia Chamberlin, MPhil; Atiyeh Doreen Showrai, MA
Lecturers of French: Jennifer Misran, PhD; Hannah Vaughan, PhD
Emeritus Professors: Marie-Florine Bruneau, PhD; Albert Sonnenfeld, PhD, Chevalier de l'Ordre des Palmes Academiques; Peggy Kamuf, PhD, Chevalier de l'Ordre des Palmes Academiques
Emeritus Associate Professor: Arthur E. Babcock, PhD
Emerita Associate Professor (Teaching) of French: Carol A. Hofmann, PhD

Associated Faculty

Professors: Elinor Accampo, PhD *(History)*; Joseph Dane, PhD *(English)*; Eunice Howe, PhD *(Art History)*; David Rollo, PhD *(English)*
**Recipient of university-wide or school teaching award.*

Undergraduate Degrees

Advisement

All French and Italian department majors should consult with the department student adviser and with our faculty adviser for French and Italian. Students should seek an appointment early in each semester so that an advisement file may be established for each student.

Sequence

A placement test is required of all students with prior knowledge of French or Italian.

Honors Program - French

The BA in French with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in French in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

French Honors Society: Pi Delta Phi

Qualifications

Undergraduate students must have completed one semester of upper-division French with a minimum GPA of 3.0 in French and overall. Graduate students must be candidates for advanced degrees in French.

Honors Program - Italian

The BA in Italian with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in Italian in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Italian Honors Society: Gamma Kappa Alpha

Qualifications

Undergraduate students must have completed one semester of upper division Italian with a minimum GPA of 3.0 in Italian and overall.

Graduate Programs

The MA and PhD degrees in Comparative Studies in Literature and Culture (French and Francophone Studies) are offered through the Comparative Studies in Literature and Culture program.

Bachelor's Degree

French (BA)

For the lower division, FREN 250 French IV is required. The upper-division requirements include two core courses plus an additional five courses to be selected in consultation with the department adviser (no more than two of which may be in English). Of the additional five courses, at least two must be at the 400 level.

Lower Division

- FREN 250 French IV Units: 4

Upper Division (7 Courses)

Required core courses:

- FREN 300 French Grammar and Composition Units: 4
- FREN 330 Critical Writing in French Units: 4

Five upper-division French courses to be chosen from the following and to include at least two 400-level courses:

- FREN 310 Media French Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- FREN 347 Race, Gender and Power in Francophone Literature Units: 4
- FREN 351 Introduction to Research in French and Francophone Cultures Units: 4
- FREN 360 Business and Technical French Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- FREN 382 Paris Avant-Gardes Units: 4 (Paris semester only)
- FREN 383 French Women Writers Units: 4
- FREN 392 Seminar in Literary and Cultural Studies Units: 4 , max 8
- FREN 393 Seminar in French Thought and Theory Units: 4
- FREN 401 Studies in Early Modernity Units: 4 , max 8
- FREN 402 Studies in Modernity Units: 4 , max 8
- FREN 403 Studies in Colonialism and Postcolonialism Units: 4 , max 8
- FREN 404 Studies in an Author Units: 4
- FREN 410 Actualités Françaises Units: 4 (Paris semester only)
- FREN 432 French Theatre Units: 4 (Paris semester only)
- FREN 445 Studies in Gender, Feminism and Sexuality Units: 4
- FREN 446 Contemporary French Thought Units: 4 , max 8
- FREN 448m France and Islam Units: 4
- FREN 449 Studies in French Civilization Units: 4 (Paris semester only)
- FREN 464 Colloquium: French Civilization Units: 4 , max 8
- FREN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12
- FREN 499 Special Topics Units: 2, 3, 4, 5, 6, 7, 8 , max 8

Honors Program

The BA in French with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted

for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in French in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Italian (BA)

The upper-division requirements include one core course plus an additional five courses to be selected in consultation with the department adviser (no more than two of which may be in English). Of the additional five courses, at least two must be at the 400 level. A maximum of three courses may be completed outside the department.

Required Courses — Lower Division

Some or all of these courses may be waived by examination.

- ITAL 120 Italian I Units: 4
- ITAL 150 Italian II Units: 4
- ITAL 220 Italian III Units: 4
- ITAL 224 Italian Composition and Conversation Units: 4

Upper Division (6 Courses)

Core course:

- ITAL 320 Critical Writing in Italian Units: 4

Five upper-division Italian courses to be chosen from the following:

- ITAL 345 Contemporary Italy Units: 4 (in English)
- ITAL 350g Italian Renaissance Literature in Translation Units: 4 (in English)
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- ITAL 360 Italian Cinema Units: 4
- ITAL 380 Italian Women Writers Units: 4
- ITAL 381 Storytelling in the Italian Tradition Units: 4
- ITAL 382g Dante Units: 4
- ITAL 392 Seminar in Literary and Cultural Studies Units: 4
- ITAL 393 Seminar in Italian Thought Units: 4
- ITAL 401 Studies in Early Modernity Units: 4
- ITAL 402 Studies in Modernity Units: 4
- ITAL 403 Studies in Colonialism and Postcolonialism Units: 4
- ITAL 440 Futurism and Fascism in Italy Units: 4
- ITAL 461 Italian Theatre Units: 4
- ITAL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ITAL 499 Special Topics Units: 2, 3, 4 , max 8

Honors Program

The BA in Italian with Honors is available to students who have an overall GPA of 3.0 and a GPA of at least 3.5 in courses counted for major credit. To complete the honors program the student must complete three 400-level courses and write an honors thesis of 25–30 pages in Italian in one of the 400-level courses. The topic of the thesis must be agreed upon with the instructor.

Minor

French Minor

For the lower division, FREN 250 French IV is required. The upper-division requirements include two core courses plus an additional three courses to be selected in consultation with the department adviser (no more than one of which may be in English). One of the three required upper-division courses must be at the 400 level. FREN 310 and FREN 360 may not both be taken for credit toward the minor in French.

Lower Division

- FREN 250 French IV Units: 4

Upper Division (5 Courses)

Required core courses:

- FREN 300 French Grammar and Composition Units: 4
- FREN 330 Critical Writing in French Units: 4

Remaining three upper-division courses to be chosen from the following:

- FREN 310 Media French Units: 4
- FREN 320g The French New Wave and its Legacy Units: 4
- FREN 347 Race, Gender and Power in Francophone Literature Units: 4
- FREN 351 Introduction to Research in French and Francophone Cultures Units: 4
- FREN 360 Business and Technical French Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- FREN 375gmw Global Narratives of Illness and Disability Units: 4
- FREN 382 Paris Avant-Gardes Units: 4 (Paris semester only)
- FREN 383 French Women Writers Units: 4
- FREN 392 Seminar in Literary and Cultural Studies Units: 4 , max 8
- FREN 393 Seminar in French Thought and Theory Units: 4
- FREN 401 Studies in Early Modernity Units: 4 , max 8
- FREN 402 Studies in Modernity Units: 4 , max 8
- FREN 403 Studies in Colonialism and Postcolonialism Units: 4 , max 8
- FREN 404 Studies in an Author Units: 4
- FREN 410 Actualités Françaises Units: 4 (Paris semester only)
- FREN 432 French Theatre Units: 4 (Paris semester only)
- FREN 445 Studies in Gender, Feminism and Sexuality Units: 4
- FREN 446 Contemporary French Thought Units: 4
- FREN 448m France and Islam Units: 4
- FREN 449 Studies in French Civilization Units: 4 (Paris semester only)
- FREN 464 Colloquium: French Civilization Units: 4 , max 8
- FREN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12
- FREN 499 Special Topics Units: 2, 3, 4, 5, 6, 7, 8 , max 8

Note:

*FREN 310 *and* FREN 360 *cannot both be taken for credit toward the minor in French.*

Italian Minor

The upper-division requirements include one core course plus an additional three courses to be selected in consultation with the department adviser (no more than one of which may be in English). Of the additional four courses, at least one must be at the 400 level.

Lower Division

Some or all of these classes may be waived by examination.

- ITAL 120 Italian I Units: 4
- ITAL 150 Italian II Units: 4
- ITAL 220 Italian III Units: 4
- ITAL 224 Italian Composition and Conversation Units: 4

Upper Division (4 Courses)

Required core course:

- ITAL 320 Critical Writing in Italian Units: 4

Three upper-division Italian courses to be chosen from the following and to include at least one 400-level course:

- ITAL 345 Contemporary Italy Units: 4 (in English)
- ITAL 350g Italian Renaissance Literature in Translation Units: 4 (in English)
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- ITAL 360 Italian Cinema Units: 4
- ITAL 380 Italian Women Writers Units: 4
- ITAL 381 Storytelling in the Italian Tradition Units: 4
- ITAL 382g Dante Units: 4
- ITAL 392 Seminar in Literary and Cultural Studies Units: 4
- ITAL 393 Seminar in Italian Thought Units: 4
- ITAL 402 Studies in Modernity Units: 4
- ITAL 403 Studies in Colonialism and Postcolonialism Units: 4
- ITAL 440 Futurism and Fascism in Italy Units: 4
- ITAL 461 Italian Theatre Units: 4
- ITAL 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- ITAL 499 Special Topics Units: 2, 3, 4 , max 8

Freshman Seminars

Grace Ford Salvatori Hall, Suite 320
(213) 740-2961
dornsife.usc.edu/fsem
Director: Richard Fliegel, PhD

Freshman Seminars introduce freshmen to the larger academic world they are now entering. These small group seminars address topics of current interest in contemporary research and scholarship.

Freshmen earn two units of baccalaureate credit through participation in these weekly seminars. Active exploration of the life of the mind is emphasized through a variety of classroom activities and assignments.

To encourage the relaxed interchange of information and ideas, most seminars are graded credit/no credit. Each seminar is limited in enrollment to 18 freshmen.

Freshman Seminars encourage the natural development of the mentoring relationship between faculty and students. An early start on building these connections enhances the opportunities for intellectual growth throughout the student's years at USC.

Freshman Seminars are offered for the fall and spring semesters in a variety of subjects. Individual topics are indicated by parenthetical titles in the *Schedule of Classes* (usc.edu/soc) under the FSEM designation or on the department's Website (usc.edu/fsem).

For further information, contact Richard Fliegel, PhD, (213) 740-2961, email: fliegel@usc.edu, or Marsha Chavarria-Winbush, (213) 740-2961, email: chavarri@usc.edu.

Gender Studies

The Gender Studies major is designed for students drawn to the interdisciplinary study of gender and sexuality. In exploring how gender and sexuality have operated across time and cultures, students will engage with the approaches and methodologies of established disciplines: sociology, literature, history, political theory, religion; as well as interdisciplinary fields like queer studies and ethnic studies. Our curriculum analyzes how gender and sexuality operate in politics, popular culture, the workplace, health, science, sports, intimate life, and the very production of knowledge itself. Our classes emphasize that gender and sexuality are not stand-alone categories but rather take shape through their intersection with outer relations of power, including race and ethnicity, religion, class, and nationality. Majoring in Gender Studies prepares students for graduate school in the social sciences and the humanities as well as in law, business, and education. In addition, the major and each of our several minors prepare students for work in governmental and non-governmental organizations, communications and the media, arts, and public service.

Mark Taper Hall of Humanities 422
(213) 740-8286
FAX: (213) 740-6168
Email: gender@dornsife.usc.edu
Director: Alice Echols, PhD*

Faculty

Barbra Streisand Professor of Contemporary Gender Studies and Professor of History and Gender Studies: Alice Echols, PhD* *(History)*
Professors: Joseph Boone, PhD *(English)*; Jack Halberstam, PhD* *(American Studies & Ethnicity)*; Sharon Hays, PhD *(Sociology)*; Michael Messner, PhD *(Sociology)*; Rhacel Parrenas, PhD *(Sociology)*; Sherry Marie Velasco, PhD *(Spanish and Portuguese)*
Professor (Teaching): Diana Blaine, PhD *(Writing Program)*
Associate Professors: Tim Biblarz, PhD *(Sociology)*; Sheila Briggs, PhD *(Religion)*; Ange-Marie Hancock, PhD *(Political Science)*; Sunyoung Park, PhD *(East Asian Languages and Cultures)*; Karen L. Tongson, PhD *(English)*
Assistant Professor: Katie Hasson, PhD
Lecturers: Heather Berg, PhD; Karina Eileraas, PhD

Gender Studies Advisory Board

Professors: Elinor Accampo, PhD *(History)*; Lisa Bitel, PhD *(History)*; David Cruz, PhD *(Law)*; Diane Ghirardo, PhD *(Architecture)*; Pierrette Hondagneu-Sotelo, PhD *(Sociology)*; Janet Hoskins, PhD *(Anthropology)*; Eunice Howe, PhD *(Art History)*; Peggy Kamuf, PhD *(French and Italian)*; Susan McCabe, PhD *(English)*; Azade-Ayse Rorlich, PhD *(History)*; Eliz Sanasarian, PhD *(Political Science)*; Hilary Schor, PhD *(English)*; Ellen Seiter, PhD *(Cinematic Arts)*; David Sloane, PhD *(Public Policy)*; Melora Sundt, PhD *(Education)*; Ruth Wallach, MLS *(USC Libraries)*; Holly Willis, PhD *(Cinematic Arts)*; Diane Winston, PhD *(Journalism and Religion)*
Associate Professors: Marjorie Becker, PhD *(History)*; Bettine Birge, PhD *(East Asian Languages and Cultures)*; Kim Buchanan, LLM, JSD *(Law)*; Tracy Fullerton, PhD *(Cinematic Arts)*; Alice Gambrell, PhD *(English)*; Sharon Gillerman, PhD *(Hebrew Union College)*; Kara Keeling, PhD *(Cinematic Arts)*; Paul Lerner, PhD *(History)*; Tara McPherson, PhD *(Cinematic Arts)*; Lori Meeks, PhD *(Religion)*; Sunyoung Park, PhD *(East Asian Languages and Cultures)*
Assistant Professors: Katie Hasson, PhD *(Sociology)*; Diana Williams, PhD *(History)*
Lecturer: M.G. Lord, PhD *(Professional Writing)*
Administrative Associates: Susan Harris, PhD *(Joint Educational Project)*; Brie Loskota *(Center for Religion and Civic Culture)*
**Recipient of a university-wide or college teaching award.*

Undergraduate Degrees

Internship

A special feature of the undergraduate program is the internship, a required class for majors in which students gain valuable job skills and professional connections. Students have chosen internships related to gender and sexuality at health clinic, Hollywood studios, law offices, and the ONE Archives, the world's largest LGBTQ archive. The major also includes a capstone class, which offers students the opportunity to study intensively with a professor in her or his current area of research.

Minor in Gender and Social Justice

The minor in Gender and Social Justice is tailored for students interested in careers in the area of social policy. The minor is unique in its focus on the ways in which large-scale social and economic processes such as neoliberalism, globalization, and economic precarity are connected and gendered. Topics include gender and violence; human trafficking; migration; reproductive rights; global human rights in relation to sexual orientation and gender identity; the prison state; prostitution and sex work. Students will examine the difficulties of translating feminist theorizing into social policy.

Minor in LGBTQ Studies

The interdisciplinary minor in LGBTQ Studies establishes sexuality as a critical category of analysis for humanists and social scientists. The minor enables students to explore the shifting social organization and cultural meanings of same-sex sexuality and cross-gender identification.

Graduate Degrees

Gender Studies also offers a graduate certificate, a credential that is increasingly necessary for tenure-track positions in gender and sexuality departments and in disciplines searching in the area of gender and sexuality. We encourage graduate students to participate in conferences and to organize campus lectures. Travel grants are available through the program as well. Students can apply to mentoring workshops run by the program and the Center for Feminist Research.

Bachelor's Degree

Gender Studies (BA)

Lower Division

For the lower division, one of the following courses may be selected as the requirement:

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Studies in Gender and Sexuality: An Introduction Units: 4
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4

Upper Division

For the upper division, 32 units of SWMS courses, including SWMS 301, SWMS 311 and SWMS 410, are required.

- SWMS 301gm Feminist Theory: An Introduction Units: 4
- SWMS 311 Gender Studies and the Community: Internship Units: 4
- SWMS 410 Senior Seminar in Gender Studies Units: 4

Honors Program Requirements

The Gender Studies Program offers a two-semester honors program, in which qualified students spend their first semester in an honors track in an upper-division seminar, usually SWMS 410 Senior Seminar in Gender Studies. During the second semester, all honors students are required to take SWMS 492 Honors Thesis, in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the departmental honors director for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Minor

Gender and Social Justice Minor

The minor in gender and social justice provides students with the intellectual foundation and practical skills necessary to tackle inequality and injustice as they relate to gender and sexuality in today's increasingly global world. This minor prepares students for employment in nonprofit organizations, politics, government agencies, cultural reporting and socially conscious niches within the entertainment industry.

Twenty units of course work are required to complete the minor in gender and social justice: SWMS 210, SWMS 212 or SWMS 215; SWMS 310; and three additional four-unit, upper-division courses.

Required Course - Lower Division (4 Units)

- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 212gp Studies in Gender and Sexuality: An Introduction Units: 4
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4

Required Course - Upper Division (4 Units)

- SWMS 310 Gender and Social Justice Units: 4

Electives - Upper Division (12 Units)

- IR 316 Gender and Global Issues Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- SOCI 402 Human Trafficking Units: 4
- SWMS 301gm Feminist Theory: An Introduction Units: 4
- SWMS 311 Gender Studies and the Community: Internship Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4
- SWMS 349 Women and the Law Units: 4
- SWMS 385m Men and Masculinity Units: 4

Gender Studies Minor

The program offers a minor for students specializing in other disciplines. Twenty units of course work are required for completion of the minor in gender studies: SWMS 210, SWMS 212 or SWMS 215; SWMS 301; SWMS 410; and two additional 4-unit upper-division SWMS courses. Since many SWMS courses are cross-listed, the two elective upper-division courses must be from two different departments.

LGBTQ Studies Minor

The LGBTQ Studies minor focuses on how sexuality and sexual orientation shape gender identities, roles and status in societies past and present. Twenty units of course work are required for completion of the LGBTQ Studies minor: SWMS 210, SWMS 212 or SWMS 215 ; SWMS 306; and 12 units of upper-division electives.

Required Course – Lower Division (4 Units)

- SWMS 210gmw Social Analysis of Gender Units: 4 or
- SWMS 212gp Studies in Gender and Sexuality: An Introduction Units: 4 or
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4

Required Course – Upper Division (4 Units)

- SWMS 306 Introduction to LGBTQ Studies Units: 4

Upper-Division Electives (12 Units)

- HIST 302 From Sappho to Stonewall: Lesbians in History Units: 4
- SWMS 310 Gender and Social Justice Units: 4
- SWMS 311 Gender Studies and the Community: Internship Units: 4
- SWMS 355 Transgender Studies Units: 4
- SWMS 358 U.S. Gay and Lesbian History Units: 4
- SWMS 385m Men and Masculinity Units: 4
- SWMS 425 Queer Los Angeles Units: 4

University Certificate

Gender Studies Graduate Certificate

Graduate students intending to concentrate in gender studies must be admitted to a USC graduate or professional program. While meeting the requirements for a departmental graduate degree, they may earn a certificate of competency in gender studies. To earn a certificate, students must take SWMS 560 and other courses from the SWMS list of graduate level courses, 500 and above, to a total of at least 12 units. No more than four units of directed research may be taken and those units must be taken as SWMS 590. Each academic department will determine the number of units completed which may be applied to the student's graduate degree in that department.

In addition to the completion of course requirements, students must include a focus on gender as part of their major department master's thesis, doctoral dissertation or law review note. Or they may take an oral examination on three research papers they have written within the areas of gender studies and on relevant graduate work pertaining to the field of gender studies. The oral exam will be administered by members of the Gender Studies faculty. A Gender Studies faculty member will be assigned as an adviser for each student. Gender Studies faculty will be responsible for judging the adequacy of the gender studies analysis in the student's thesis, dissertation or oral examination.

Geography

College Academic Services Building 200
(213) 740-8555
Email: jmcody@dornsife.usc.edu
Interim Chair: Jane M. Cody, PhD

German

Taper Hall of Humanities 255
(213) 740-2735
FAX: (213) 740-8560
Email: german@dornsife.usc.edu

Faculty

Associate Professor (Teaching) of German: Britta Bothe, PhD
Assistant Professors (Teaching) of German: John W. Arensmeyer, Jr., PhD; Eve Lee, PhD
Emeritus Professor: Gerhard Clausing, PhD
Emeritus Associate Professor: Cornelius Schnauber, PhD
The USC Dornsife College of Letters, Arts and Sciences offers a variety of courses from basic and advanced language classes to literature classes and general and cultural topics.
Note: Students are no longer being admitted as majors in German. See also Slavic Languages and Literatures.

Minor

German Minor

Required Courses, Lower-Division

- GERM 101 German I Units: 4
- GERM 102 German II Units: 4
- GERM 201 German III, Conversation and Composition Units: 4
- GERM 221 Conversational German IV Units: 4 , or the equivalent by test

Required Courses, Upper-Division

Four courses — 16 units in the two areas of concentration.

One course from the following:

- GERM 310 Business German I Units: 4 *
- GERM 311 Business German II Units: 4 *
- GERM 470 Advanced Composition and Stylistics Units: 4

Note:
**Prerequisite:* GERM 201 *or the equivalent by test.*

Three elective courses from the following:

(only one course each from HIST and IR may be counted toward the minor):

- GERM 320 Composition and Conversation on Contemporary Affairs Units: 4
- GERM 325 Composition and Conversation in Cultural History Units: 4
- GERM 330 Introduction to Literary Studies Units: 4
- GERM 346 German Folklore and Popular Culture Units: 4
- GERM 352 Colloquium on Poetry Units: 4
- GERM 353 Colloquium on Prose Units: 4
- GERM 360g 20th Century German Prose: Texts and Films Units: 4
- GERM 410 Profile of German Literature I Units: 4
- GERM 420 Profile of German Literature II Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 414 Contemporary Europe Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- HIST 428 Life and Death in Nazi Germany Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 468 European Integration Units: 4
- POSC 463 European Politics Units: 4

Health and Humanity

Department of Anthropology
Grace Ford Salvatori 120
(213) 740-2534
Email: malekzad@usc.edu

Bachelor's Degree

Health and Humanity (BA)

The Bachelor of Arts in Health and Humanity is a liberal arts degree. It is intended for students interested in fields that inform the health professions and in related questions about health and human experience. Courses in this interdisciplinary major meet many of the requirements for admission to the professional programs in medicine, nursing and other fields, but do not meet all of those entrance requirements. Some electives in this major have prerequisites in mathematics and physics that cannot be counted toward the 36-unit requirement in major electives. Students should consult their academic advisers for precise information on prerequisites and admission requirements for specific health fields.

Summary of Requirements

Core: 24 units; experiential learning: 1–4 units; major electives: one thematic module 16–20 units, other electives 16–20 units; total requirements: 61–64 units including at least 36 upper-division units plus prerequisites for certain electives.

Core (16 Lower-Division, 8 Upper-Division)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or

- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 320L Molecular Biology Units: 4

- CHEM 105aLg General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or

- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 115bL Advanced General Chemistry Units: 4

- HBIO 300 Evolution, Ecology, and Culture Units: 4

Experiential Learning (1–4 Units)

Choose one course. A health-related internship is required:

- AMST 365 Leadership in the Community — Internship Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4
- MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice Units: 1, 2 , max 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8 (4 Units Required)
- SWMS 311 Gender Studies and the Community: Internship Units: 4

Major Electives

Choose one complete thematic module from the list below (16–20 units). Then choose additional electives from the list of modules to equal nine courses (36 units) in all. No more than two courses may be lower-division (100- or 200-level). At least two courses must come from Group A and two courses from Group B.

Group A

Bioethics Module (16 units)

- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- POSC 333 Stigma and Society: Physical Disability in America Units: 4 or
- SOCI 475 Medical Sociology Units: 4 or
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4 or
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4

- REL 319 Religious and Ethical Issues in Death and Dying Units: 4 or
- REL 341 Technology, Culture, and Ethics Units: 4 or
- REL 360 Ethical Issues in the New Medical Revolution Units: 4

- REL 460 Senior Seminar: Medical Ethics Units: 4

Health, Gender and Ethnicity Module (16 units)

- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4 or
- SWMS 225 Gender, Sex, and Science: A Gender Studies Approach Units: 4

- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- HBIO 405 Evolutionary Medicine Units: 4

- PSYC 462m Culture and Mental Health Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Health and Aging Module (16 units)

- GERO 320g Psychology of Adult Development Units: 4 (Recommended preparation: PSYC 100), or
- GERO 330 Society and Adult Development Units: 4

- GERO 340 Policy, Values, and Power in an Aging Society Units: 4 or
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4

- GERO 380m Diversity in Aging Units: 4 or
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4

- GERO 416 Health Issues in Adulthood Units: 4

Health and the Mind Module (20 units)

- PSYC 100Lg Introduction to Psychology Units: 4

- PSYC 320 Principles of Psychobiology Units: 4 or
- PSYC 326 Behavioral Neuroscience Units: 4

- PSYC 336L Developmental Psychology Units: 4

- PSYC 360 Abnormal Psychology Units: 4 or
- PSYC 404L Psychophysiology of Emotion Units: 4

- PSYC 361 Introduction to Clinical Psychology Units: 4 or
- PSYC 462m Culture and Mental Health Units: 4

Global Health Module (20 Units)

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4 or
- ANTH 105g Culture, Medicine and Politics Units: 4

- ANTH 305 Childhood, Birth and Reproduction Units: 4 or
- HBIO 405 Evolutionary Medicine Units: 4

- IR 305w Managing New Global Problems Units: 4 or
- IR 382w Order and Disorder in Global Affairs Units: 4

- IR 306 International Organizations Units: 4 or
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4

- IR 344 Developing Countries in World Politics Units: 4

Group B

Biological Sciences Module (20 units)

- BISC 290 Introduction to Biological Research Units: 2 or 4 (4 Units Required) (lab assignment required) or
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 Units Required) (lab assignment required)

- BISC 325 Genetics Units: 4 or
- BISC 330L Biochemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- MATH 208x Elementary Probability and Statistics Units: 4

Biochemistry Module (20 units)

- BISC 330L Biochemistry Units: 4
- CHEM 300L Analytical Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

- CHEM 432 Physical Chemistry for the Life Sciences Units: 4 or
- BISC 403 Advanced Molecular Biology Units: 4 or
- BISC 435 Advanced Biochemistry Units: 4

Biotechnology Module (20 units)

- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 406L Biotechnology Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4 or

- CHEM 325aL Organic Chemistry Units: 4
- CHEM 325bL Organic Chemistry Units: 4

History

The Department of History offers courses in ancient, medieval and modern European history, including Russian history; in both North and Latin American history; in the history of East Asia; and in world history. Some of the department's courses are chronological, some national or regional and some are thematic, with special strengths in gender, race and ethnicity, popular culture, medicine and urban history. The faculty is committed to continuous review and revision of the department curriculum, as student needs and professional emphases shift. Many departmental courses meet general education requirements, and various programs for majors and non-majors are available. The department offers an honors program for qualified seniors. Honors programs are individually arranged through consultation with the honors director, and completion of an honors thesis is required. The Department of History offers the BA, a minor, and PhD in History; the BA in Law, History, and Culture; the BA in History and Social Science Education; and the minor in

Resistance to Genocide; and, the minor in the History and Culture of Business.

Social Science Building 153
(213) 740-1657
FAX: (213) 740-6999
Email: history@dornsife.usc.edu
dornsife.usc.edu/hist
Chair: Philip J. Ethington, PhD

Faculty

University Professor: Kevin Starr, PhD
University Professor and Leo S. Bing Chair in English and American Literature and Professor of English and History: Leo Braudy, PhD
Barbara Streisand Professor of Contemporary Gender Studies and Professor of History and Gender Studies: Alice Echols, PhD*
Gordon L. MacDonald Chair in History and Professor of History and East Asian Languages and Cultures: Joan Piggott, PhD
Shapell-Guerin Chair in Jewish Studies and Professor of History: Wolf Gruner, PhD
Andrew W. Mellon Professor of the Humanities, Linda and Harlan Martens Director of the Early Modern Studies Institute and Professor of History and Anthropology: Peter C. Mancall, PhD
Turpanjian Early Career Chair in Contemporary Armenian Studies and Assistant Professor of History: Richard Antaramian, PhD
Professors: Elinor A. Accampo, PhD; Lisa Bitel, PhD; William Deverell, PhD*; Philip J. Ethington, PhD; Richard W. Fox, PhD; Ariela Gross, PhD *(Law)*; Karen Halttunen, PhD; Kyung Moon Hwang, PhD; Daniel Klerman, PhD *(Law)*; Carolyn Malone, PhD *(Art History)*; Paul Lerner, PhD*; John Pollini, PhD *(Art History)*; Azade-Ayse Rorlich, PhD*; Steven J. Ross, PhD*; George J. Sanchez, PhD* *(American Studies and Ethnicity)*; Mary Sarotte, PhD *(International Relations)*; Vanessa Schwartz, PhD; Nayan Shah *(American Studies and Ethnicity)*; Brett Sheehan, PhD*; David Sloane, PhD *(Public Policy)*; Jacob Soll, PhD
Professor (Teaching): Deborah Harkness, PhD*
Associate Professors: Marjorie R. Becker, PhD; Bettine Birge, PhD *(East Asian Languages and Cultures)*; Daniela Bleichmar, PhD *(Art History)*; Jason Glenn, PhD; Joshua Goldstein, PhD; Sarah Gualtieri, PhD*; Lon Kurashige, PhD; Ramzi Rouighi, PhD; Francile Wilson, PhD *(American Studies and Ethnicity)*
Assistant Professors: Gerard Clinton Rainier Godart, PhD; Edgardo Perez Morales, PhD; Nathan Perl-Rosenthal, PhD; Diana Williams, PhD
Assistant Professor (Teaching): Lindsay O'Neill, PhD
Adjunct Professor: Richard Hovannisian, PhD
Adjunct Assistant Professor (Research): Peter Westwick, PhD
Professor Emerita of History and John R. Hubbard Chair in British History Emerita: Judith Bennett, PhD*
Professor Emerita of History and John R. Hubbard Chair in British History Emerita: Cynthia Herrup, PhD
Professor Emerita and John R. Hubbard Chair Emerita in History: Carole Shammas, PhD
Emeritus Professors: Lois W. Banner, PhD*; Gordon M. Berger, PhD; Roger Dingman, PhD; Charlotte Furth, PhD; Paul W. Knoll, PhD; Franklin D. Mitchell, PhD; D. Brendan Nagle, PhD; Edwin J. Perkins, PhD; John E. Wills, PhD
Associate Professor Emeritus: Terry L. Seip, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

The Department of History has one full-time staff adviser available to provide academic advisement, assist in the navigation of department and university requirements, review progress and future plans. Students interested in a major or minor in the department should contact the adviser to schedule a meeting. Faculty advisers are also available to offer guidance on pursuing the field of history both within and beyond USC.

Honors Program for History (BA)

The department offers a two-semester honors program, in which qualified students spend their first semester in an honors track in an upper-division seminar or take HIST 490x Directed Research in their concentration. During the second semester, all honors students are required to take HIST 492 Honors Thesis in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the department honors director for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Honors Program for History and Social Science Education (BA)

The department offers a two-semester honors program, in which qualified students spend their first semester in an honors track in an upper-division seminar on HIST 490x Directed Research in their concentration. During the second semester, all honors students are required to take HIST 492 Honors Thesis in which each completes a thesis project on a topic of his or her choosing under faculty direction. Contact the department honors director for further information. To graduate with honors, department majors must have a minimum GPA of 3.5 in their major course work.

Honor Society

The department sponsors its own local chapter of Phi Alpha Theta, the national history honor society. Phi Alpha Theta provides opportunities for students to take their interest in history beyond the classroom and to cultivate their intellectual pursuits in a community setting.

Membership is open to history majors and other interested students with a 3.33 GPA in history courses and a 3.0 overall GPA. For more information contact the honors director.

Teaching Credential Requirements

Credential requirements in California and elsewhere are complex and changeable. Students interested in preparing for public school teaching should contact the Credentials Office, Rossier School of Education, and the undergraduate adviser, Department of History, for up-to-date information.

Interdisciplinary Minor in Early Modern Studies

This minor brings together the resources of the departments of English, History and Art History to study the literatures and cultures of Europe and the Americas from the late medieval period to 1800. For a complete listing of requirements, see Department of English.

Interdisciplinary Middle East Studies Minor

See the Department of Middle East Studies.

Interdisciplinary Race, Ethnicity and Politics Minor

See Department of Political Science.

Interdisciplinary Russian Area Studies Minor

See Department of Slavic Languages and Literatures.

Interdisciplinary Law and Society Minor

See Department of Political Science.

Graduate Degrees

The graduate program in History offers a rigorous course of study that balances depth in particular fields with a broad, transnational, and interdisciplinary perspective. We train our students in historical methods, research, critical analysis of written and visual sources, historical writing, and historical pedagogy through intensive reading courses, seminars, and tutorials. This training culminates in the PhD dissertation, a significant scholarly and historiographical contribution to the study of a field.

Admission Requirements

Prerequisites

An applicant should have an undergraduate degree or an MA degree in history or a related discipline. Promising students trained in other fields will also be considered.

Criteria

All applicants must take the general test of the Graduate Record Examinations. The subject test in history is not required. In addition,

applicants must submit at least three letters of recommendation from college-level instructors and a sample of written work from a college-level history, social science or humanities course. This material should be submitted to the director of the graduate program for the Department of History.

Procedure

For complete information on the doctoral program, prospective applicants should address inquiries to Graduate Admission, Department of History, SOS 153, University of Southern California, Los Angeles, CA 90089-0034. Information on the programs is also available online at http://dornsife.usc.edu/hist/doctoral-program/.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Advisement

Students should seek advice on their program of studies from the Director of Graduate Studies, a professor in their major field of study and other members of their qualifying exam committee.

Bachelor's Degree

History (BA)

The Bachelor of Arts in History requires students to take 10 courses (40 units).

Lower-Division Requirements

All majors are required to complete HIST 201, Approaches to History. It is recommended that students complete HIST 201 early in their course of study.

Three additional lower-division geographic survey courses are required and must include at least one 100-level course and one 200-level course. Majors must complete a lower-division course in each of the following geographic distributions: Asia and Eurasia, Europe, and North and Latin America. The Department of History will accept scores of 4 or 5 on either Advanced Placement European History or Advanced Placement American History as a substitute for one geographic survey course requirement at the 100-level.

Upper-Division Requirements

Six upper division courses are required, of which at least two must be a 400-level seminar. A minimum of three courses, one of which must be a 400-level seminar, must pertain to a thematic, temporal or geographic concentration, which must be approved by a faculty adviser. No more than 4 units of HIST 490 Directed Research may be counted as satisfying the upper-division seminar requirement.

Temporal Breadth Requirements:

For temporal breadth, at least one of the 10 required courses must be taken from approved course work in each of the three following time periods: before 1300, 1300-1800 and 1800-present. Students may refer to the department Website, STARS Report, and/or faculty or staff adviser to assist with determining the courses that meet these requirements.

History and Social Science Education (BA)

This degree is designed for students who are interested in a career in secondary school teaching. The courses chosen reflect the content of subjects taught in high schools and middle schools in California and therefore should be useful for those contemplating the profession of teaching history and social studies. It does not, however, provide a waiver of the CSET examination.

Required Courses

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- HIST 201 Approaches to History Units: 4
- HIST 488 Teaching History in the Secondary Schools Units: 4

Additional Requirements

Surveys of U.S. and World History

Choose three from the following:

- HIST 100gm The American Experience Units: 4
- HIST 240gp The History of California Units: 4
- HIST 349 Colonial North America 1600–1760 Units: 4
- HIST 360 19th Century U.S. History Units: 4
- HIST 361 20th Century U.S. History Units: 4
- HIST 440 Early Modern World History Units: 4
- HIST 441 Modern World History Units: 4

Pre-modern World History

Choose one of the following:

- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 102gm Medieval People: Early Europe and Its Neighbors, 400–1500 Units: 4
- HIST 103g The Emergence of Modern Europe Units: 4
- HIST 180gw The Middle East Units: 4
- HIST 275g The Worlds of the Silk Road Units: 4
- HIST 335 History of Japan to 1550 Units: 4
- HIST 338 China to 960 A.D. Units: 4
- HIST 339 China, 960–1800 A.D. Units: 4
- HIST 369 Aztecs, Mayas, and other Indigenous Peoples of the Americas Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4

Modern World History

Choose one of the following:

- HIST 104gp Modern Europe Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 336 History of Japan, 1550–1945 Units: 4
- HIST 340 History of China since 1800 Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 383 The Modern Middle East Units: 4

Political Science

Choose one of the following:

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 340 Constitutional Law Units: 4

Required Capstone Seminar

(see under "required courses")

A capstone seminar, HIST 488 Teaching History in the Secondary Schools, will be taught by a member of the history department and will focus on the ways in which historical research is brought into middle and high school curriculum. Seminar participants will examine textbooks and other materials designed for history instruction; engage in independent research; write curriculum and/or classroom units or lesson plans; and visit classrooms to assist with history instruction in the schools.

Honors Thesis

In addition to the 10 courses required for the major, students pursuing departmental honors must complete one additional course, HIST 492 Honors Thesis. This course will be taught by a history department faculty for select students choosing to research and write an honors thesis.

- HIST 492 Honors Thesis Units: 4

Combined Major

Law, History, and Culture (BA)

This major is designed for students drawn to interdisciplinary study of legal and cultural issues, as well as those who intend to pursue a law degree. It offers students an interdisciplinary education in legal institutions, languages and processes that are central to social, cultural and political developments in the past and present, and play a critical role in shaping our most basic concepts and categories of thought and identity. It combines approaches from history, literature, philosophy, political theory, religion and classical studies to explore the law's position at the nexus of society. The major will help students develop the critical skills of reading, writing and analysis crucial to both a liberal education and the study of law.

Students will gain theoretical and analytical perspectives on ethical, political and social issues relevant to law as they explore specific legal issues from a humanistic perspective.

Required Courses

This major requires 36 units from the following courses. Majors must complete all courses listed in Category 1 and seven courses from Category 2.

Category 1:

(All courses required.)

- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- LAW 300 Concepts in American Law Units: 4

Category 2:

(Seven courses required.)

- AMST 101gmw Race and Class in Los Angeles Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 342m Law and Identities Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 389m Carceral Geographies Units: 4
- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- CLAS 305 Roman Law Units: 4
- CLAS 307 Law and Society in Classical Greece Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 340 Ethics and Politics in Ancient Rome Units: 4
- CLAS 348g Athens in the Age of Democracy and Empire Units: 4
- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 470 Democracies Ancient and Modern Units: 4
- COLT 385 Literature and Justice Units: 4
- COLT 472 Los Angeles Crime Fiction Units: 4
- COLT 475 Politics and the Novel Units: 4
- COLT 476 Narrative and the Law Units: 4
- ENGL 355g Anglo-American Law and Literature Units: 4
- HIST 210gw How to Be An American: Global Histories of U.S. Citizenship Units: 4
- HIST 220 Murder on Trial in America Units: 4
- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 351 The American Revolution Units: 4
- HIST 355 The African-American Experience Units: 4
- HIST 377 Law and Society in Premodern China and Japan Units: 4
- HIST 385 Anglo-American Law before the 18th Century Units: 4
- HIST 386 American Legal History Units: 4
- HIST 453 The Age of Emancipation Units: 4
- HIST 455 Advanced Topics in African-American History Units: 4
- HIST 463 The Constitutional History of the United States Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- JS 342 Reading in Two Directions: Connecting Law and Literature in Jewish Tradition Units: 4
- PHIL 330 Theories of Law Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 345 International Law Units: 4
- POSC 370 European Political Thought I Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 374 The American Founders: Visions, Values and Legacy Units: 4
- POSC 375 American Political Thought Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 380 Political Theories and Social Reform Units: 2 or 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 443 Law in Film Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL 414 History of Islamic Law Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4
- SWMS 349 Women and the Law Units: 4
- SWMS 355 Transgender Studies Units: 4

Minor

History and Culture of Business Minor

The minor in the history and culture of business is available to all students in all schools and departments. It is designed to cultivate an understanding of business as it is embedded in changing cultural, social and political environments in the United States and around the globe. Completion of the minor requires twenty units; four units at the lower division and sixteen units at the upper division. At least eight units must be from Department of History course offerings. Interested students should meet with the undergraduate adviser for the Department of History.

Lower-Division Requirements

Choose one course (4 units)*

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- HIST 215g Business and Labor in America Units: 4
- HIST 266gp Business and East Asian Culture, 1800-Present Units: 4

Note:

*ECON 351 *or* ECON 352 *may be substituted for the lower-division requirement.*

Upper-Division Requirements

Choose four courses (16 units), at least one from each of the groups below.

Corporate Culture

- ECON 330 The Political Economy of Institutions Units: 4
- ECON 348g Current Problems of the American Economy Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- HIST 343 Work, Leisure, and Violence in Industrializing America Units: 4
- HIST 348 The Dynamics of American Capitalism Units: 4
- HIST 442 The Ethics of Financial and Political Accountability Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 369 Post-War European Relations Units: 4
- MOR 385gm Business, Government and Society Units: 4
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4

Consumer Culture

- COMM 363 Media Consumption Units: 4
- COMM 433 Home Entertainment Units: 4
- HIST 380 American Popular Culture Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- PSYC 456 Conservation Psychology Units: 4

- REL-375 Conflict and Change and the Ethics of Business Units: 4

Global and Regional Culture

- BUCO 333mw Communication in the Working World — Managing Diversity and Conflict Units: 4
- BUCO 460 International Business Communication Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- ECON 346 Economics of Transition and Development: China Units: 4
- ECON 350 The World Economy Units: 4
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 331 The Global Economy 2030 Units: 4
- IR 333 China in International Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- MOR 468 Cross-Cultural Negotiations: Communication and Strategy Units: 4

History Minor

The minor in history is available to students in all schools and departments. The study of history deepens our understanding of peoples and societies and expands our knowledge of important issues operative in the world today. History minors will strengthen their skills in critical thinking, assessing evidence, and formulating clear and persuasive arguments both oral and written. History is essentially a laboratory of human experience, and students from a wide range of disciplines can discover new perspectives on their own intellectual interests through the study of the past.

Prerequisites: cumulative GPA of 2.0 or better and approval of a minor plan of study by the department's undergraduate adviser.

Requirements: 20 upper-division units, including a minimum of 16 upper-division units from Department of History offerings. The remaining 4 units may come from either (1) HIST 201 (preferable), or (2) upon the approval of a History Department adviser, 4 upper-division units from another department.

An appropriate capstone course chosen from 400-level seminar offerings must be included in the proposed program as part of the departmental work. The capstone course will normally be the last (or among the last) courses taken for the minor.

Interdisciplinary Minors

For Business

Resistance to Genocide Interdisciplinary Minor

To resist genocide effectively, we need to understand its history — the factors that have brought it about and those that have enabled people to prevent, resist or recuperate from mass violence. This interdisciplinary minor draws upon USC faculty in 11 academic units researching the causes, results and representations of attempted genocide as well as resistance to genocidal mass violence. Courses include attention to different definitions of genocide, its occurrence around the world and its representation in literature and the arts.

Course Requirements

The minor requires five courses (20 units); at least four must be at the upper-division level. As with all minors, students must choose at least four courses (16 units) outside their major department and four courses (16 units) that are not being used to satisfy any other subject requirement.

Lower-Division Requirement

Choose one course (4 units) from the following list:

List A

- JS 211gw The Holocaust Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 260 Global Ethnic Politics Units: 4

Upper-Division Requirements

Choose four courses (16 units) from the lists below, at least one from each list:

List B — Representations of Genocide

- COLT 485 The Shoah (Holocaust) in Literature and the Arts Units: 4
- ENGL 444m Native American Literature Units: 4
- FREN 373g Remembering Loss, Writing Memory Units: 4
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- JS 362 Terror and Resistance in Literature and the Media Units: 4
- MUSC 430m Music and the Holocaust Units: 4

List C — The Reality of Genocide

- ANTH 357g Cultures of Genocide Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 428 Life and Death in Nazi Germany Units: 4
- IR 313 Religions and Political Violence Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4
- MDA 330 The Armenian Heritage: History, Arts, and Culture Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- PSYC 453 Intergroup Relations Units: 4 *

List D — Capstone Courses: Resisting Genocide

- HIST 444 Mass Violence and Comparative Genocide in Modern World History Units: 4
- HIST 446 Resistance to Genocide Units: 4
- IR 437 Comparative Genocide Units: 4

Note:

**Prerequisite:* PSYC 355

Master's Degree

History (MA)

The department does not accept applicants for a Master of Arts degree in history. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in history.

Foreign Language/Research Tool Requirement

Students are required to demonstrate competence in one foreign language, with the exception that none is required of majors in United States history.

Course Requirements

All students must enroll in HIST 500 Introduction to Graduate Historical Studies, and it is recommended that it be completed in the first year of residence.

Thesis Plan

Students must take a minimum of six graduate courses, including HIST 500 plus HIST 594a, HIST 594b Master's Thesis. No more than two 400-level courses may count toward this total. A thesis must be written and defended.

Comprehensive Examination Plan

This plan requires the approval of the student's master's committee chair to substitute a comprehensive examination for the thesis. If approved, the student completes eight graduate level courses, including 500, with no more than two 400-level courses counting toward this total, plus written exams in three fields, one of which may be in another department. Examinations are normally offered in October and April. An oral examination may be given at the discretion of the master's committee. Examinations are graded on an honors, pass or fail basis. Any student who receives a grade

of fail in two examinations is considered as not having qualified for the degree. A student who receives one fail must retake an examination in that field at the next scheduled examination period. An examination cannot be retaken more than once.

Doctoral Degree

History (PhD)

Application deadline: December 1

The history profession nationwide combines a traditional emphasis on geo-temporal fields (e.g., U.S. in the 19th century; medieval Europe) with a new emphasis on trans-nationalism, comparative history and interdisciplinary investigation. The USC program is at the forefront of these trends. Following the traditional emphasis, each graduate student must declare a major field in a geo-temporal area at the time of application to the program. Major fields of study include: China, Japan, Korea, Latin America, Middle East, American/United States, medieval Europe, early modern Europe and modern Europe. The purpose of the major field is to prepare students broadly for teaching and research.

By the beginning of his or her second year in the program, each graduate student must declare a minor field and an area of specialization. The minor field is intended to broaden skills beyond the geo-temporal boundaries of the major field; the area of specialization is intended to deepen the student's scholarly training in the chosen area of the dissertation. The minor field may be chosen from the list of major fields (i.e., a student entering the program with American/U.S. as a major field might select "modern Europe" as a minor field), or it may be conceived comparatively, thematically or cross-disciplinarily. Possible minor fields include: Latin America; premodern Japan; the colonial Americas; gender and sexuality; visual culture; and anthropology. Possible fields for the area of specialization include: 19th or 20th century U.S. intellectual history; visual culture of the 20th century; modern European cities; and the American West. These lists are not exhaustive and are meant to suggest only possible courses of study.

For the major field, each student must take a minimum of four courses; for the minor field two courses; for the area of specialization three courses. Either the minor field or the area of specialization must be outside the major field of study, transnational or outside the discipline of history. Each student must consult with his or her adviser in putting together these fields of study.

Foreign Language/Research Tool Requirements

Students are required to demonstrate competence in two foreign languages to be selected in consultation with the faculty adviser. Students in United States history may substitute competence in quantitative methods for one foreign language. The requirements in this category must be met before a student is eligible to take the qualifying examination.

Course Requirements

All entering students (including those with MA degrees) are required to take HIST 500 in their first semester of study. All students are required to take two 600-level research seminars in the History Department. At least one of these seminars must be in the major area of study. Students must complete a minimum of 60 units of course work. No more than 8 units of the 60 may be in HIST 794a, HIST 794b, HIST 794c, HIST 794d, HIST 794z (dissertation writing). Students must complete at least 30 units of graduate course work within the History Department.

Screening Procedures

The performance of every doctoral student is formally evaluated by the full faculty of the History Department, normally at the end of the spring semester and before a student has completed 24 units toward the degree. Unsatisfactory progress toward the degree requires either remedy of the deficiencies or termination of the student's graduate program. After successfully passing the screening procedures, each student establishes a qualifying exam committee which then supervises preparation for the qualifying examination.

Qualifying Exam Committee and Qualifying Examinations

Each student must set up a qualifying exam committee by the end of the third semester in residence. It includes at least five members, at least three of them from the History Department, and at least one of them from outside the History Department (this person must be a tenure-track faculty member from a PhD granting program). The qualifying exam committee will oversee the student's written and oral qualifying examination, which should be taken by the end of his or her fifth semester in residence and no later than the end of the sixth semester. The examination covers the major field, minor field and area of specialization. Students prepare for these exams by developing, in collaboration with their qualifying exam committee, reading lists for study in their major field, minor field and area of specialization.

The qualifying examination consists of two parts: (1) Three four-hour written responses, based, respectively, on the major field, the minor field and the area of specialization; (2) a two-hour oral session, which may include some discussion of the written exam. Students with one fail or more than two low-pass grades on the written responses will not be permitted to sit for the oral segment of the examination. The qualifying exam committee determines whether a student may retake any parts of the examination graded low-pass or fail.

A student must wait at least six, but not more than nine, months to retake any part, or all, of the qualifying examination. No part of the examination can be retaken more than once.

Dissertation

After students have successfully completed their qualifying examinations, they will select a dissertation committee consisting of at least three members, including at least two from the History Department. These individuals will be in charge of guiding the dissertation to completion. Within six months of passing the qualifying examination, students must submit a formal dissertation prospectus to all members of the dissertation committee and pass a one-hour prospectus defense convened by that committee. Some students (e.g., those whose major field is East Asia) can, with the approval of their dissertation committee, petition the Graduate Studies Committee for an extension of this six-month deadline. After passing the dissertation prospectus defense, a student is admitted to candidacy for the PhD degree. The student will thereafter concentrate on the dissertation. After a student becomes a doctoral candidate, he or she must register for HIST 794a, HIST 794b, HIST 794c, HIST 794d, HIST 794z Doctoral Dissertation each semester thereafter until the dissertation is completed.

Interdisciplinary Studies

College Academic Services Building
(213) 740-2961
FAX: (213) 740-4839
Email: fliegel@college.usc.edu
dornsife.usc.edu/interdisciplinary-studies
Faculty Director: Thomas Gustafson, PhD
Director: Richard Fliegel, PhD

Interdisciplinary Major

The interdisciplinary major allows students to create an individual, original major. It is a flexible option available when a combination of existing majors and academic minors does not adequately fulfill a student's educational goals. With close advisement, students can build their own programs of study.

The interdisciplinary major is an intensive research program for students with a focused interest in a topic that requires study from more than one disciplinary perspective. Interdisciplinary majors

are usually self-motivated students with good writing skills and an intellectual passion for a particular area of inquiry. Course work is selected to lead to a thesis project integrating the areas of research comprising the interdisciplinary major.

Admission

Admission to the interdisciplinary major is by application. Applications, which may be obtained from the program office, are considered by a special admissions committee. Interested students must have a GPA of 3.0 (A = 4.0) or above; those with less than a 3.3 are the exception. No one is usually admitted after the end of the first semester of the junior year.

Program Requirements

Students in the program must meet all graduation requirements of the college. When admitted, students establish an academic "contract," which outlines each semester's course of study through graduation. The contract includes a minimum of nine (four unit) upper-division courses, distributed in at least two fields. The primary focus of the major should be in the USC Dornsife College of Letters, Arts and Sciences. These areas of concentration must then be combined in a senior thesis or project, written under the guidance of a faculty committee.

Restrictions

Course prerequisites cannot be waived; admission to courses restricted to majors is subject to availability and direct negotiations; admission to departments and/or schools which have their own admission requirements must be processed separately.

Bachelor of Arts in Narrative Studies

See English for a full description of the major.

Bachelor's Degree

Contemporary Latino and Latin American Studies

The Bachelor of Arts in Contemporary Latino and Latin American Studies (CLLA) is an interdisciplinary major bridging the fields of Latin American Studies (focusing on the history and cultures of Central and South America) and Latino Studies (focusing on the experience of Chicano/a and Latino/a communities in the United States). By combining these two areas of scholarly inquiry in a single undergraduate degree, students acquire interdisciplinary perspectives on the indigenous and transnational histories, cultures, and social issues of the Américas.

The Bachelor of Arts in Contemporary Latino and Latin American Studies provides an opportunity for undergraduates to gain a general understanding of this area of scholarship and research and focus their study to reflect their personal aspirations. The major requires nine courses (36 units), two at the lower-division (100 and 200) level and seven at the upper-division (300 and 400) level. This curriculum prepares students for careers in business, diplomacy, or social change that reflect and respect the cultural diversity of the western hemisphere.

Lower-division Requirements (8 units)

Language Requirement (4 units)

Choose one of the following four courses or earn a sufficient score on the Spanish placement exam:

- SPAN 245 Spanish Through Social Issues in Costa Rica Units: 4
- SPAN 250x Spanish for Business Communication Units: 4
- SPAN 261 Advanced Spanish: Society and the Media Units: 4
- SPAN 270 Spanish for Native Speakers Units: 4
  Students who satisfy this requirement by placement exam score should take an additional course from the list below to satisfy the unit requirement.

Introduction to Latin American Culture (4 units)

Choose one course from the following list:

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 140gw Borderlands in a Global Context Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- MUJZ 218a Afro-Latin Percussion Instruments Units: 2
- MUJZ 218b Afro-Latin Percussion Instruments Units: 2

Upper-division Requirements (28 units)

Contemporary Latin Americans (8 units)

Choose two of the following:

- AMST 340m Latina/o LA Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- POSC 428 Latino Politics Units: 4

Major Interest (16 units)

Choose four additional courses not yet taken from one of the three following lists:

The Cultural Heritage of Latin America

- AHIS 319 Mesoamerican Art and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- COLT 375 Latin American Cultural and Literary Theory Units: 4
- HIST 369 Aztecs, Mayas, and other Indigenous Peoples of the Americas Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- REL 333 Religion in the Borderlands Units: 4
- REL 334 Religion and Colonial Encounter Units: 4
- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 304 The Art of Fiction Units: 4
- SPAN 306 Performance from Street to Stage Units: 4
- SPAN 308 The Art of Poetry Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 380g Literature of Mexico Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 481 Literature and Popular Culture Units: 4
- SPAN 482 Literature and the City Units: 4
- SPAN 483 Gender and Sexuality Units: 4
- SPAN 484 Studies in Visual and Material Culture Units: 4

Social Realities in the United States and Latin America

- AMST 340m Latina/o LA Units: 4
- AMST 353m Race and Racism in the Americas Units: 4
- AMST 357m Latino Social Movements Units: 4
- AMST 373m History of the Mexican American Units: 4
- ANTH 328m Culture Change and the Mexican People Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 354 Mexican Migration to the United States Units: 4, 2 years
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4

- POSC 350 Politics of Latin America Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SPAN 320 Politics, Thought, Society Units: 4

Latino and Latin American Arts and Media

- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 328 Colonial Latin American Art Units: 4
- AHIS 428 Studies in Colonial Latin American Art Units: 4
- AMST 446 Cultural Circuits in the Americas Units: 4
- COLT 470 Literature and Media in Latin America Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- JOUR 465m Latino News Media in the United States Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 466 Argentina, Society and the Arts Units: 4
- THTR 481 From The Border to Broadway Units: 4

Capstone Experience (4 units)

Students engage in travel or original research by choosing one of the following courses, which include Maymester and Problems Without Passport courses, overseas programs, or courses created for this purpose. Choose one of the following:

- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- IR 337 The Impact of Remittances on Development in Mexico Units: 4

Minor

Critical Approaches to Leadership Minor

This minor is offered by faculty from several disciplines whose perspectives are brought to bear on issues and questions that should inform the judgements of capable, ethical leaders. Students are introduced to theoretical and historical models of leadership, engage in case studies of modern leaders, select critical electives that explore ethical and social considerations of leadership, examine professional applications of leadership principles, and integrate what they have learned in a capstone course. The emphasis of the minor is on leadership as expertise in community-building and takes advantage of USC's programs in community service, including the Joint Educational Project, the Jesse M. Unruh Institute of Politics and other internships available through the Division of Student Affairs.

Five upper-division courses, totaling 20 units, are required.

Core Courses

Choose two:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 375 Alexander the Great: Leadership, Personality and World Conquest Units: 4
- PHIL 335 Theoretical Models of Leadership Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4

Critical Electives

Group A — choose one

- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PSYC 355 Social Psychology Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL-375 Conflict and Change and the Ethics of Business Units: 4

Group B — choose one

- IR 303 Leadership and Diplomacy Units: 4
- MOR 470 Global Leadership Units: 4
- POSC 365 World Political Leadership Units: 4
- POSC 423 Presidents and the Presidency Units: 4

Capstone Course

- AMST 365 Leadership in the Community — Internship Units: 4 or
- MDA 365 The Art and Adventure of Leadership Units: 4 or
- MDA 475 The Future of California Units: 4

Core Courses

Choose two:

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- CLAS 375 Alexander the Great: Leadership, Personality and World Conquest Units: 4
- PHIL 335 Theoretical Models of Leadership Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4

International Health, Development, and Social Justice Interdisciplinary Minor

This minor is intended for students who wish to understand the challenges associated with health care as an ethical issue in the international context. In doing so, it focuses on the convergence of three large fields of inquiry, raising questions about their intersection. Social justice is concerned with equity, with questions of fairness as they inform (or should inform) access to resources necessary for the survival and well-being of people around the globe.

To provide the necessary content, this minor presents an introduction to political economy, to cross-cultural approaches to health and wellness, and to theories of economic development as they relate to health care.

This minor is intended to prepare students for careers and leadership roles in the arenas of international health, medical ethics, overpopulation, economic development, human welfare and principles of social justice.

As with all minors, students should include four courses outside their major, four courses at the upper-division level, and four courses that are not being used to satisfy any other subject requirement. In addition, to satisfy this minor, students must choose courses from at least two different departments.

REQUIRED COURSE WORK: 24 units

Lower Division Requirement: Choose one Course (4 Units)

Students should have some experience with engaging ethical questions or considering the context in which these issues arise, which can be accomplished by completing one of the following:

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- ANTH 105g Culture, Medicine and Politics Units: 4
- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4
- ANTH 205g Introduction to Global Studies and Overseas Research Units: 4
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 103Lgx General Biology for the Environment and Life Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 101gxw International Relations Units: 4
- IR 213 The Global Economy Units: 4 *
- PHIL 166gw Current Moral and Social Issues Units: 4
- PHIL 172gmw Social Ethics for Earthlings and Others Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 242g Sociology, Demography, and Health Units: 4
- SWMS 225 Gender, Sex, and Science: A Gender Studies Approach Units: 4

Note:

**Prerequisite:* IR 210

Introduction to Political Economy: Choose One Course (4 Units)

The courses in this and the following categories provide an understanding of the forces that shape global development.

- ECON 238xg Political Economy and Social Issues Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 350 The World Economy Units: 4 *
- POSC 435 Politics and the Economy Units: 4

Note:

**Prerequisite:* ECON 203 *or* ECON 205

Theories of Development: Choose One Course (4 Units)

- IR 325 North-South Relations in the Global Economy Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 454 The International Political Economy of Development Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 450 Political Development Units: 4
- POSC 456 Women in International Development Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Cross-Cultural Perspectives on Health and Wellness: Choose One Course (4 Units)

These courses explore cultural attitudes and differences about health and wellness that affect decisions about health care.

- ANTH 301 The Performance of Healing Units: 4
- ANTH 305 Childhood, Birth and Reproduction Units: 4
- ANTH 405 Evolutionary Medicine Units: 4
- IR 339 Public Health and International Relations Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4 *
- PSYC 462m Culture and Mental Health Units: 4 **
- REL 460 Senior Seminar: Medical Ethics Units: 4
- SOCI 475 Medical Sociology Units: 4
- SWMS 336 Health, Gender and Ethnicity Units: 4

Note:

**Prerequisite:* PSYC 100
***Recommended preparation:* PSYC 100

Perspectives on Social Justice: Choose One Course (4 Units)

These courses familiarize students with the application of legal and ethical questions to social phenomena and the allocation of resources.

- ANTH 300 Evolution, Ecology, and Culture Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 401 The United Nations and World Order Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- REL 366 Religion and Social Change Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4

Capstone Requirement: Choose One Course (4 Units)

These three capstone courses examine efforts to introduce issues of social justice to the distribution of health care and other resources essential for human survival and well-being.

- MDA 320 Global Ethics: Poverty, Health and the Human Condition Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Pol Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4

User Experience Minor

This interdisciplinary minor explores the experience of people interacting with digital sites and other products and environments. It involves training in psychology, sociology, economics, design, marketing and other units offering course work in relevant areas. How do individual factors, culture and economics influence people's decisions? Why do people form the impressions that they do, and how can products and environments be designed to engage them more readily and responsively?

As with all minors, students must choose at least four upper-division 4-unit courses and four courses dedicated exclusively to this minor (which may or may not be the same four courses). Students must also include four courses outside their major. To earn credit for this minor, psychology majors must choose four courses outside of psychology, art and design majors must choose four courses outside of the Roski School, and Business Administration majors must choose four courses outside of the Marshall School. Among the total, students must include courses from at least three departments.

For advisement, contact the Dornsife Advising Office.

Requirements

Please note that prerequisites will *not* be waived for upper-division courses; students should be sure to complete the introductory classes they will need.

Lower Division Courses - Group A

Choose 4 units from the following:

- ACAD 280 Designing for Experiences Units: 4
- ART 141Lg Creating and Understanding Visuals Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- DES 123Lg The Design Challenge: Exploring the Design Process Units: 4
- DES 203 Digital Tools for Design Units: 2 *
  and
- DES 303 Web Design Units: 2 *
- ECON 203g Principles of Microeconomics Units: 4
- LING 275Lg Language and Mind Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 201Lg The Science of Happiness Units: 4

Note:

**Both DES 203 and DES 303 (2 units each) must be completed, if students choose that option. DES 303 requires DES 203 as a prerequisite.*

Upper Division Courses - Group B

Choose one of the following:

- ACAD 323g Design Theory Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- COMM 302 Persuasion Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- PSYC 355 Social Psychology Units: 4 *

Note:

**Requires PSYC 100Lg.*

Upper Division Courses - Group C

Choose one of the following:

- COMM 309 Communication and Technology Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- DES 302 Design III Units: 4 *
- ECON 303 Intermediate Microeconomic Theory Units: 4
- MKT 425 Marketing in a Digital World Units: 4
- MKT 445 New Product Development and Branding Units: 4 **
- PSYC 422 Human Judgment and Decision Making Units: 4 ***

Note:

**Requires DES 202.*
***Requires BUAD 307.*
****Requires PSYC 314L.*

Upper-division Courses - Group D

Choose one of the following:

- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4 *
- ECON 415 Behavioral Economics Units: 4 **
- PSYC 301L Cognitive Processes Units: 4 ***
- PSYC 304L Sensation and Perception Units: 4 ***
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4 ***
- PSYC 454 Social Cognition Units: 4 ***

Note:

**Requires BISC 421.*
***Requires ECON 303.*
****Requires PSYC 100Lg.*

Capstone Courses - Group E

Choose one of the following:

- ART 361 Internet Studio and Online Experimentation Units: 4
- COMM 473 Advanced Issues in Communication and Technology Units: 4 *
- CSCI 534 Affective Computing Units: 4
- DES 402 Advanced Design Projects Units: 4 **
- MDA 423 User Experience Units: 4
- PSYC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 (4 units required)

Note:

**Requires COMM 301Lg.*
***Requires DES 302.*

Minimum Units Required: 20

International Relations

The School of International Relations (SIR) offers a BA in international relations; a BA in international relations (global business); a BA in international relations and the global economy; a dual MA in international relations/Juris Doctor offered with the USC Gould School of Law; a Master of Public Diplomacy; and a PhD in political science and international relations offered with the Political Science Department. The SIR also offers minors in global communication, international relations and international policy and management.

The SIR encourages undergraduate double majors, especially with economics, environmental studies, geography, history, journalism, foreign languages, political science and sociology. Programs are flexible, allowing students to gain a broad background in international studies and, at the same time, to specialize in a particular area. Minors in international relations; international policy and management; international urban development; and global communication, as well as interdisciplinary minors in nonprofits, philanthropy and volunteerism; and Russian area studies are also offered.

Von KleinSmid Center 330
(213) 740-6278; 740-2136
FAX: (213) 821-4424
Email: sir@dornsife.usc.edu
dornsife.usc.edu/sir
Director: Wayne Sandholtz, Ph.D.

Faculty

Robert R. and Katheryn A. Dockson Chair in Economics and International Relations and Professor of International Relations and Economics: Joshua Aizenman, PhD
John A. McCone Chair in International Relations and Professor of International Relations and Law: Wayne Sandholtz, PhD
Robert Grandford Wright Professor and Professor of International Relations and Middle East Studies: Laurie A. Brand, PhD*
Dean's Professor of International Relations: Patrick James, PhD*
University Professor, Wallis Annenberg Chair of Communication Technology and Society and Professor of Communication, Sociology, Planning, and International Relations: Manuel Castells, PhD *(Communication)*
Professors: Jonathan D. Aronson, PhD* *(Communication)*; David Kang, PhD; Steven L. Lamy, PhD*; Najmedin Meshkati, PhD *(Civil and Environmental Engineering)*; Gerardo Munck, PhD; Michael Parks *(Communication)*; Brian Rathbun, PhD; Philip Seib, JD *(Communication)*; Mary Elise Sarotte, PhD; Edwin M. Smith, JD *(Law)*
Associate Professors: Robert English, PhD; Jacques Hymans, PhD; Saori N. Katada, PhD; Daniel Lynch, PhD; Carol Wise, PhD
Assistant Professors: Pablo Barbera, PhD; Erin Baggott, PhD; Brett Carter, PhD; Andrew Coe, PhD; Benjamin Graham, PhD; Jonathan Mark, PhD
Professor of the Practice of International Relations and Economics: Lord John Eatwell, PhD
Professor of the Practice: Gregory Treverton, PhD
Associate Professors (Teaching): Nina Rathbun, PhD; Pamela K. Starr, PhD
Assistant Professor of the Practice: Jeffrey R. Fields, PhD
Assistant Professors (Teaching): Douglas Becker, PhD; Shannon Gibson, PhD
Adjunct Assistant Professor (Teaching): Mehmet Sinan Birdal, PhD
Lecturers: Megan Becker, PhD; Iva Bozovic, PhD; Fayez Hammad, PhD; Evis Mezini, PhD; Jessica Peet, PhD
Emeritus Professors: Peter A. Berton, PhD*; Michael G. Fry, PhD; Abraham F. Lowenthal, PhD; John S. Odell, PhD; Ron Steel, MA; Rodger Swearingen, PhD; J. Ann Tickner, PhD
Emeritus Professor of the Practice: Gary W. Glass, PhD
**Recipient of university-wide or college award for teaching or research.*

Undergraduate Degrees

Honors Program

The honors program centers around the IR 494 Honors Thesis Seminar that culminates in a thesis based on original research. In the spring of the junior year, students who have earned a GPA of 3.5 in the major and an overall GPA of 3.3 submit an application, two letters of recommendation and a research proposal that identifies the thesis topic to the student affairs office. Upon admission to the program, the student identifies an appropriate faculty member to co-supervise the thesis and, in the fall of the senior year, enrolls in IR 311 to develop the formal research design and complete the literature review. Students may enroll in IR 311 in the fall of their junior year if their research interests are well specified. In the spring of the senior year, the student enrolls in IR 494. If the program is completed successfully (a B+ or better in IR 494, a major GPA of 3.5 and an overall GPA of 3.3 [A = 4.0]), the transcript will read "with Honors."

Dornsife Washington, D.C. Program (See USC Dornsife College of Letters, Arts and Sciences)

Bachelor of Arts in Central European Studies

See the department of Slavic Languages and Literature for program requirements.

Bachelor of Science in Global Health Studies

The Bachelor of Science in Global Health Studies is a multidisciplinary degree of the Keck School of Medicine's Department of Preventive Medicine. Students complete course work in Health Promotion and Disease Prevention Studies. For degree requirements, see Department of Preventive Medicine.

Interdisciplinary Nonprofits, Philanthropy and Volunteerism Minor

See the USC Price School of Public Policy.

Interdisciplinary Russian Area Studies Minor

See Department of Slavic Languages and Literatures.

Advisement

Advisement is required for all majors and minors. Students are encouraged to meet with School of International Relations advisers at least once a semester to review the direction of their individual programs. Students are also encouraged to seek the advisement of faculty members whose specializations are appropriate to their programs of study, and with the School of International Relations' career adviser.

Academic Specialization

Students majoring in international relations who wish to develop their own specialization or emphasize a particular regional area may establish with a faculty adviser, or with School of International Relations advisers, an academic program that will accomplish the students' objectives.

Graduate Degrees

The School of International Relations offers graduate curricula leading to several different graduate degrees. With courses and faculty renowned for their strengths in a great variety of fields — culture, gender and globalization, political economy, foreign policy and security, regional studies — our graduate international programs generally emphasize training for careers in advanced research and teaching. The school also welcomes professionally oriented students with related interests in fields such as law, communication, economics and business and public policy.

The School of International Relations has programs leading to a dual MA in international relations/Juris Doctor offered with the USC Gould School of Law; Master of Public Diplomacy; and a PhD in political science and international relations offered with the Political Science Department.

Admission Requirements

The School of International Relations welcomes talented candidates from a variety of academic backgrounds. Admission decisions are based on consideration of applicants' prior academic performance, as reflected in course grades and letters of recommendation. Applicants also are strongly encouraged to submit a sample of their written work in English, preferably a research-oriented paper. The committee also considers the potential for success in a graduate program based on Graduate Record Examinations scores. Business, government and other practical experiences related to international relations also are taken into account.

It is strongly recommended that master's and doctoral degree candidates should have completed at least one undergraduate course in statistics or quantitative methods and at least one course in economics before enrolling for graduate study. A course in social or political theory or international history also is highly desirable. The faculty may admit promising students who lack one or more of these courses. Students with this preparation tend to be more successful in the program and more likely to prosper in an academic or research setting afterwards.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

All graduate students are required to maintain regular contact with the graduate coordinator to assure compliance with departmental regulations.

Foreign Language Requirement

Students in the joint MA/JD must show proficiency in at least one foreign language at the fourth semester level. In special instances a doctoral student's dissertation guidance committee may require a student to show research competence in one or two foreign languages. International students whose native language is not English may satisfy this requirement by submitting proof of their ability to read and understand social science materials in their native language where appropriate, or in another language in which significant social science material is available.

Substantive Paper Requirement

Students in the progressive BA/MA and joint MA/JD, MA/MPl and MA/MPA master's programs must submit a substantive paper or alternative project. This requirement is meant to encourage students to polish articles that may ultimately prove suitable for publication, to develop materials that will display their talents for doctoral and graduate school admission committees or prospective employers, and to begin to develop dissertation proposals early in the graduate education process. A student may submit a revised version of a research paper or a detailed policy memorandum along with a copy of the original paper for which he or she received a grade of B+ or better in one international relations graduate class. Students may also submit a paper or project based on other original work. A two-person faculty examining committee, which must consist of School of International Relations faculty members, will evaluate the substantive paper or project and may, at their discretion, call the student for an oral examination on the project. The student may add a third outside member to the committee. They may also choose to examine the student on his or her course work in international relations.

Master of Arts, Political Science and International Relations

Only students who have a degree objective of obtaining the PhD will be admitted into the Political Science and International Relations program. However, interested students can obtain an MA degree while pursuing the PhD. The degree is awarded upon successful completion of (a) 28 units, including three of the five courses in the program's theory and methodology sequence, a master's thesis and registration in POSC 594a/POSC 594b or IR 594a/IR 594b; and (b) the approval of the master's thesis by the thesis committee.

Master of Public Diplomacy and Master of Public Diplomacy (Practitioner and Mid-Career Professional)

These degrees combine the resources of the USC Annenberg School for Communication and Journalism and USC Dornsife College of Letters, Arts and Sciences' School of International Relations. The Master of Public Diplomacy is designed for students who already have a substantial undergraduate background in social sciences or relevant professional experience in subjects such as communication, film and media studies, journalism, political science, public relations and international relations. The Master of Public Diplomacy (Practitioner and Mid-Career Professional) is designed for students who have at least five years experience working in public diplomacy. See USC Annenberg School for Communication and Journalism for degree requirements.

Doctor of Philosophy in Political Science and International Relations

See Political Science and International Relations for degree requirements.

Bachelor's Degree

International Relations (BA)

The International Relations major requires a minimum of 48 units. All majors should complete IR 210gw International Relations: Introductory Analysis, IR 211g International Relations: Approaches to Research, IR 212 Historical Approaches to International Relations and IR 213 The Global Economy in their first 32 total units. The 200-level courses must be completed by the time they have completed 48 total units. The 200-level courses must be completed before attempting 400-level courses.

Four semesters of a single foreign language are required. All majors are encouraged to obtain as much foreign language training as possible either through a major or a minor in a foreign language or through a study program abroad.

Beyond IR 210, IR 211, IR 212 and IR 213, international relations majors are required to take eight additional upper-division courses. Majors must choose one course from each of the four fields: Culture, Gender and a Global Society; Foreign Policy Analysis; International Political Economy; International Politics and Security Studies. In addition, students must complete one course from Regional Studies (Europe; Russia, Eastern Europe and Eurasia; Latin America; the Middle East and Africa; or Pacific Rim). Finally, students must complete one 400-level course of their choice. Students are encouraged to explore different professional career options within international relations by enrolling in IR 391 Directed International Relations Field Study, a 2-unit course that can be repeated for major credit. Students may receive both general education credit and major credit for the same course.

Culture, Gender and Global Society

This field explores identities and interests shaping the politics of intellectual global society.

- IR 303 Leadership and Diplomacy Units: 4
- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 309 Global Governance Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 339 Public Health and International Relations Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 404 International Relations Policy Task Force Units: 4
- IR 406 Ethics and World Politics Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- IR 437 Comparative Genocide Units: 4
- IR 438 Nationalism and Ethnic Conflict after Communism Units: 4
- IR 444w Theories of Global Society Units: 4
- IR 449 International Courts and the Globalization of Law Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 382 International Development Units: 4
- SOCI 335 Society and Population Units: 4
- SOCI 435m Women in Society Units: 4
- SOCI 445 Political and Social Theory Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Foreign Policy Analysis

This area examines the external relations of states, particularly the domestic and international factors that influence the formulation and implementation of national foreign policies. Factors within states (leadership, small group dynamics and domestic lobbying groups) and factors between states are stressed.

- IR 303 Leadership and Diplomacy Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 342 The Politics and Strategy of Weapons of Mass Destruction Units: 4
- IR 343 U.S. Foreign Policy since World War II Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 368 French Foreign Policy: 1945 to the Present Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 410 The History of Modern International Relations Units: 4
- IR 440 America's Pacific Century: Dialogues between the U.S. and Asia Units: 4
- IR 441 Comparative Analysis of Foreign Policy Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 443 Formulation of U.S. Foreign Policy Units: 4
- IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 484 American Religion, Foreign Policy and the News Media Units: 4

International Political Economy

These courses focus on what used to be considered "low" politics, but which have become key issues. Money, trade, investment, development, the environment, law and foreign economic policy are examined.

- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 331 The Global Economy 2030 Units: 4
- IR 349 International Law and Politics Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 428 China's Political Economy Units: 4
- IR 430 The Politics of International Trade Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 449 International Courts and the Globalization of Law Units: 4
- IR 454 The International Political Economy of Development Units: 4
- ECON 338 Political Economy and Social Issues Units: 4
- ECON 450 International Trade Units: 4
- ECON 452 International Finance Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4

International Politics and Security Studies

War and peace are at the heart of relations among nations. These courses investigate defense analysis, arms control, peace-building and strategic studies. The domestic, technological and international factors influencing defense and arms control policies and negotiations are considered. The World Wars, Korea, Vietnam and the numerous crises of the Cold War are the backdrop in these courses.

- IR 302 International Relations of the Great Powers in the Late 19th and 20th Centuries Units: 4
- IR 303 Leadership and Diplomacy Units: 4
- IR 304 Espionage and Intelligence Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 311 Research Design and Methods Units: 4
- IR 313 Religions and Political Violence Units: 4
- IR 318 Violent Conflict Units: 4

- IR 342 The Politics and Strategy of Weapons of Mass Destruction Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 383 Third World Negotiations Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 386 Terrorism and Counterterrorism Units: 4
- IR 387 Strategic Studies Units: 4
- IR 402 Theories of War Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 404 International Relations Policy Task Force Units: 4
- IR 410 The History of Modern International Relations Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 437 Comparative Genocide Units: 4
- IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 448a The Politics of Peace Units: 4
- POSC 448b The Politics of Peace Units: 4

Regional Studies

The regional studies field focuses on geographic regions, such as the Pacific Rim, Latin America, Europe, the Middle East and Africa. These courses test general theories of international relations within the framework of a specific region. The economic, political, ethnic and social history of a region are examined to help explain current developments and interstate and domestic policies and issues within a region.

Europe:

- IR 368 French Foreign Policy: 1945 to the Present Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 389 Islam in France Units: 4
- IR 468 European Integration Units: 4
- FREN 410 Actualités Françaises Units: 4
- GERM 465 Germany East and West Units: 4
- HIST 312 The Age of the French Revolution and Napoleon Units: 4
- HIST 313 France and the French from Napoleon to Mitterand Units: 4
- HIST 332 British Empire from the Mid-19th Century Units: 4
- HIST 414 Contemporary Europe Units: 4
- HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present Units: 4
- HIST 425 The Era of the First World War Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- POSC 370 European Political Thought I Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 463 European Politics Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4

Russia, Eastern Europe and Eurasia:

- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 438 Nationalism and Ethnic Conflict after Communism Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4

Latin America:

- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4

The Middle East and Africa:

- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 463 Islam and Arab Nationalism Units: 4
- ANTH 327 Anthropology of the Middle East and Islam Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4

Pacific Rim:

- IR 333 China in International Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 376 U.S.-Japan Encounters: War, Trade, and Culture Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 440 America's Pacific Century: Dialogues between the U.S. and Asia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities Units: 4
- ANTH 324 Regional Ethnology: China Units: 4, 2 years
- EALC 340gp Japanese Civilization Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 375 Women and Gender in China: Past and Present Units: 4
- EASC 360 Global East Asia Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- HIST 333 Korea: The Modern Transformation Units: 4
- HIST 337 Japan since 1945 Units: 4
- HIST 340 History of China since 1800 Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 355 Politics of East Asia Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4
- POSC 377 Asian Political Thought Units: 4
- POSC 453 Political Change in Asia Units: 4

International Relations (Global Business) (BA)

The BA in International Relations with an emphasis in Global Business will give students the opportunity to pursue a degree in international relations and acquire specific skills in one of three concentrations in international business: international finance, global marketing or global management. Students who have earned a GPA of 3.0 or above and a "B" average in IR 210 International Relations: Introductory Analysis and a second 300-level or above IR course are eligible to apply during their sophomore year.

The degree cannot also be combined as an additional major in any business administration degree. The degree is administered by the School of International Relations.

In addition to the IR requirements, students need to complete the following prerequisite courses:

before they can begin this program.

- ECON 203g Principles of Microeconomics Units: 4 or
- ECON 351x Microeconomics for Business Units: 4

- ECON 205g Principles of Macroeconomics Units: 4 or
- ECON 352x Macroeconomics for Business Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 or
- MATH 125g Calculus I Units: 4

The international relations course work consists of 28 units:

- IR 210gw International Relations: Introductory Analysis Units: 4
- a regional course
- a 400-level course
- an international political economy course
- and three upper-division electives

International Political Economy Course

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 328 The Evolving Global Economic Architecture-Capital Mobility Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 331 The Global Economy 2030 Units: 4

Course work at the USC Marshall School of Business consists of

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 310g Applied Business Statistics Units: 4
  or
- ECON 317 Introduction to Statistics for Economists Units: 4
  and
  16 units in the respective areas of concentration

International Finance:

- BUAD 215x Foundations of Business Finance Units: 4

  and 3 of the following options:
- FBE 402 Government and Business Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- FBE 421 Financial Analysis and Valuation Units: 4
- FBE 423 Introduction to Venture Capital and Private Equity Units: 4
- FBE 429 International Business Law Units: 4
- FBE 431 Financial Policies and Corporate Governance Units: 4
- FBE 432 Corporate Financial Strategy Units: 4
- FBE 436 Financial Management of Multinational Corporations Units: 4
- FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms Units: 4
- FBE 440 Trading and Exchanges Units: 4
- FBE 441 Investments Units: 4
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4
- FBE 445 Topics in Economic Analysis of Business Strategy and Policy Units: 4
- FBE 458 Law, Finance and Ethics Units: 4
- FBE 459 Financial Derivatives Units: 4
- FBE 460 Mergers, Acquisitions and Restructuring Units: 4
- FBE 462 International Trade, Finance and Commercial Policy Units: 4

Global Marketing:

- BUAD 307 Marketing Fundamentals Units: 4
  and 3 of the following options
- MKT 402 Research Skills for Marketing Insights Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 410 Professional Selling Units: 4
- MKT 425 Marketing in a Digital World Units: 4
- MKT 440 Marketing Analysis and Strategy Units: 4
- MKT 445 New Product Development and Branding Units: 4
- MKT 450 Consumer Behavior and Marketing Units: 4
- MKT 465 Global Marketing Management Units: 4

Global Management:

- BUAD 304 Organizational Behavior and Leadership Units: 4
  and 3 of the following options
- MOR 421 Social and Ethical Issues in Business Units: 4
- MOR 431 Interpersonal Competence and Development Units: 4
- MOR 451 Mastering Decision Making Units: 4
- MOR 461 Design of Effective Organizations Units: 4
- MOR 462 Management Consulting Units: 4
- MOR 463 Organization Change and Development Units: 4
- MOR 466 Business and Environmental Sustainability Units: 4
- MOR 467 Strategic Management of Innovation Units: 4
- MOR 469 Negotiation and Persuasion Units: 4
- MOR 470 Global Leadership Units: 4
- MOR 471 Managing and Developing People Units: 4
- MOR 472 Power, Politics and Influence Units: 4
- MOR 473 Designing and Leading Teams Units: 4
- MOR 492 Global Strategy Units: 4

International Relations and the Global Economy

The BA in International Relations and the Global Economy (IRGE) offers students rigorous interdisciplinary training at the intersection of international relations and economics. The major prepares students for careers ranging from foreign policy and international development to international finance and political risk analysis. It is also ideally suited for students who plan to seek advanced degrees in the social sciences.

The degree cannot also be combined as an additional major with any economics degree. The degree is administered by the School of International Relations.

Lower-Division Courses

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- IR 213 The Global Economy Units: 4

- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4 *

Core Skills and Issues

- IR 330 Politics of the World Economy Units: 4 or
- ECON 350 The World Economy Units: 4

- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4

Choose two courses (8 units):

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 329 The Global Finance and Monetary Regime Units: 4
- IR 331 The Global Economy 2030 Units: 4

Regional Study

Choose one course (4 units):

- ECON 340 Economics of Less Developed Countries Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- ECON 343 Economic Development of East Asia Units: 4
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4
- ECON 346 Economics of Transition and Development: China Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 428 China's Political Economy Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4

Senior Emphasis

Choose one course (4 units):

- ECON 450 International Trade Units: 4 (prerequisite: ECON 303)
- ECON 452 International Finance Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 430 The Politics of International Trade Units: 4
- IR 454 The International Political Economy of Development Units: 4

Total: 12 courses, 48 units

**Prerequisite required*

Minor

Global Communication Minor

The rise of global firms and international changes that followed the end of the cold war raise new opportunities and challenges. This minor provides students from fields such as business, journalism, engineering and political science an understanding of the dynamic nature of global relations, communications and technology. The global communication minor consists of six 4-unit courses, three from International Relations and three from Communication.

Required International Relations Course

- IR 305w Managing New Global Problems Units: 4

International Relations Regional Courses (Select One)

- IR 303 Leadership and Diplomacy Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4 (departmental approval)
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 368 French Foreign Policy: 1945 to the Present Units: 4 (offered in Paris only)
- IR 369 Post-War European Relations Units: 4
- IR 383 Third World Negotiations Units: 4
- IR 384 Asian Security Issues Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 403 Transnational Diplomacy and Global Security Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 468 European Integration Units: 4

IR Elective

Select one 300- or 400-level IR course

Required Communication Course

- COMM 487 Communication and Global Organizations Units: 4

Communication Electives (Select Two)

- COMM 324mw Intercultural Communication Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 371 Censorship and the Law: From the Press to Cyberspace Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 414 Communication and Social Change in China Units: 4
- COMM 430 Global Entertainment Units: 4 (Prerequisite: COMM 300)
- COMM 431 Global Strategy for the Communications Industry Units: 4

Total units: 24

International Policy and Management Minor

The minor in international policy and management brings together courses from the School of International Relations, dealing with the new global challenges, specific regions of the world and international organizations and policies, and the USC Price School of Public Policy dealing with core management skills and public policy processes. Students will gain an understanding of the changes and challenges transforming the world and a taste of the policy and management skills to deal with them. To increase their understanding of the context and application of these concepts, students must complete a semester-long internship either in Washington, D.C. or Los Angeles with an organization that has an international focus.

Students take three courses in international relations, including the gateway course, IR 305w Managing New Global Problems, three courses in public policy and management, and an approved internship through the School of International Relations (IR 491x).

Required Courses from International Relations:

- IR 305w Managing New Global Problems Units: 4

One regional course selected from:

- IR 333 China in International Affairs Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 358 The Asia Pacific in World Affairs Units: 4
- IR 360 International Relations of the Pacific Rim Units: 4
- IR 361 South and Southeast Asia in International Affairs Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 367 Africa in International Affairs Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 383 Third World Negotiations Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 442 Japanese Foreign Policy Units: 4
- IR 468 European Integration Units: 4

One course from either the regional course list or the following:

- IR 306 International Organizations Units: 4
- IR 307 Contemporary International Politics Units: 4
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 318 Violent Conflict Units: 4
- IR 323 Politics of Global Environment Units: 4

- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 326 U.S. Foreign Economic Policy Units: 4
- IR 327 International Negotiation Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 341 Foreign Policy Analysis Units: 4
- IR 343 U.S. Foreign Policy since World War II Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 381 Introduction to International Security Units: 4
- IR 382w Order and Disorder in Global Affairs Units: 4
- IR 427 Seminar on Economics and Security Units: 4
- IR 441 Comparative Analysis of Foreign Policy Units: 4
- IR 444w Theories of Global Society Units: 4

From Public Policy:

The public policy component requires the completion of the following three options:

- PPD 225 Public Policy and Management Units: 4

Two additional courses from the following:

- PPD 357 Government and Business Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 373 Public Policy and Planning Analysis Units: 4
- PPD 476 Politics and Administration Units: 4
- PPD 482 Comparative Public Administration Units: 4

Or from Public Management:

- PPD 402 Management of Public and Nonprofit Organizations Units: 4

Two additional courses from the following:

- PPD 313 Finance of the Public Sector Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 411a Sacramento Semester Units: 4
- PPD 476 Politics and Administration Units: 4

Additional Requirements

Internship

Each student is required to complete an approved internship with an international focus. Students take a twounit internship through the School of International Relations (IR 491).

International Relations Minor

The minor in international relations allows students to develop a specialty in the field without a full major. Requirements are: IR 210gw International Relations: Introductory Analysis and four upper-division courses including at least one regional course and one 400-level course. Students planning to minor in international relations should see the School of International Relations advisers in Von KleinSmid Center 301.

Master's Degree

International Relations (MA)

Requirements

Students who have the degree objective of joint MA programs (Master of Arts, International Relations/Juris Doctor; Master of Arts, International Relations/Master of Planning; and Master of Arts, International Relations/Master of Public Administration) must apply for an MA in International Relations. Students pursuing these joint programs must refer to the specific course requirements outlined for each program.

Advisement

Students should consult with the school's faculty adviser each semester before registering for courses for the next semester. Students also are encouraged to seek advice from other faculty who work in areas related to their interests. Students may, if they wish and if a faculty member agrees, select a different faculty adviser from among the school's faculty. Consult with and inform the Office of Student Affairs regarding changes in faculty advisers.

Dual Degree

Master of Arts, International Relations/Juris Doctor (MA/JD)

The USC Gould School of Law and the School of International Relations jointly offer a three-year program leading to the JD and MA degrees. (Students may extend the dual degree program to four years.) Applicants must apply to both the law school and the School of International Relations and meet requirements for admission to both. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE). Law students may apply to the School of International Relations during their first year at the law school.

In the first year, students take their course work in the law school exclusively. The second and third years include 24 units of courses in international relations and 40 units of law. Students pursuing the dual degree must complete LAW 662 or LAW 764 and one additional international law course. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs.

Students pursuing the dual degree must complete 24 units within the School of International Relations at the 500 level or above. These students are required to successfully complete IR 500 International Relations Theory, either IR 513 Social Science and Historical Research Methods: Introduction to Research Design or IR 517 International Policy Analysis, and two domain courses selected from among IR 502 Conflict and Cooperation, IR 509 Culture, Gender, and Global Society, IR 521 Introduction to Foreign Policy Analysis and IR 541 Politics of the World Economy. Like all other international relations master's degree programs, students in the dual degree program must complete a substantive paper or alternative project. The requirements, standards and evaluation procedure for the substantive paper are identical to those listed above for all MA students except that one member of the examining committee must come from the law school.

Joint Educational Project

Joint Educational Project House
801 W. 34th St.
(213) 740-1837
FAX: (213) 740-1825
Email: tanderso@usc.edu
dornsife.usc.edu/jep
Executive Director: Tammara Anderson

The Joint Educational Project (JEP) is one of the oldest and largest service-learning programs in the United States. Established in 1972, JEP places university students in supervised community service assignments as a part of their academic course work. JEP partners with more than 50 local organizations — including neighborhood schools, non-profit organizations, hospitals and health clinics and government agencies — to design service-learning projects that complement students' course work and address a community-identified need. Students serve in many capacities through JEP, such as tutor, mentor, teaching assistant, translator, research assistant or guide. JEP also houses two volunteer programs for pre-law and pre-med students — the Pre-Law Project and Trojan Health Volunteers — that give USC students practical experience in a legal or medical context. In the process, JEP students learn how to develop and apply knowledge, work in diverse social settings, become engaged in civic affairs, explore possible career paths and make professional contacts. "JEP" following a section number

indicates that the professor will offer JEP as a course option.

JEP also houses the USC Readers[PLUS] work-study program. "Readers" assist K-9 children in USC's "Family of Schools" in the areas of math and reading, allowing the USC students the opportunity to serve in the community while gaining work experience in an urban school environment.

Jewish Studies

Jewish Studies is offered by the Louchheim School for Judaic Studies, administrated jointly by the Hebrew Union College-Jewish Institute of Religion, an independent college adjacent to the USC campus, and and USC Dornsife's School of Religion. Students registering for classes in the program do so through the regular USC registration process and receive USC course credit and degrees. Hebrew courses may be used to fulfill graduation requirements in a foreign language; courses which meet humanities general education requirements may be used as electives or may be used for major or minor credit with the approval of an adviser.

Louchheim School for Judaic Studies
HUC—JIR
3077 University Ave.
Los Angeles, CA 90007
(213) 765-2113
FAX: (213) 747-6128
Email: louchheim@huc.edu, hochman@usc.edu
dornsife.usc.edu/jewishstudies
Chair: Leah Hochman, PhD
Liaison: Carol Sofer

Faculty

Professors: Reuven Firestone, PhD; Bruce Phillips, PhD; Dvora Weisberg, PhD
Associate Professors: Sarah Benor, PhD; Joshua Garroway, PhD; Sharon Gillerman, PhD; Leah Hochman, PhD; Joshua Holo, PhD
Visiting Assistant Professors: Kristine Garroway, PhD; Candice Levy, PhD
Adjunct Associate Professor: Yaffa Weisman, PhD
Hebrew Language Coordinator: Hagit Arieli-Chai, MAEd

Bachelor of Arts in Jewish Studies

Program requirements are listed in this catalogue under Religion.

Bachelor of Arts in Middle East Studies

See the Department of Middle East Studies for a complete listing of requirements.

Minor in Middle East Studies

See the Department of Middle East Studies.

Jewish Studies Minor

See Religion for a listing of requirements.

Minor

Jewish American Studies Minor (Jewish Studies)

The minor in Jewish American Studies offers the opportunity to study the experiences and cultures of the American Jewish community in relation to those of other American peoples. For the minor, 20 units of American Studies and Judaic Studies are required.

Core Requirements

- AMST 202m Interethnic Diversity in the West Units: 4
- JS 300 American Jewish History Units: 4

Three courses from the following:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 415 The American Jewish Experience in Film Units: 4
- JS 428 Blacks and Jews: Conflicts and Alliances Units: 4

Judaic Studies Minor

The minor in Judaic Studies provides the opportunity for in-depth study of Jewish history, literature, politics, culture, religion, sociology and gender studies using approaches developed through multidisciplinary approaches. Courses offered cover a broad time span — the ancient Near East to contemporary America — and they challenge and stimulate students to examine and learn about Jewish culture as a topic of scientific interest.

For the minor, 20 units in Judaic Studies and Religion are required. The following courses are required: REL 301 and JS 180. Three additional courses may be chosen from among JS 321, JS 340, JS 361, JS 375, JS 382, JS 383, JS 415 and REL 312. Successful completion of five 4-unit courses or the equivalent in Jewish American Studies is required to qualify for the minor.

Learner Centered Curricula

Richard Fliegel, PhD
(213) 740-2961
Email: fliegel@usc.edu

Collaborative Learning Projects (CLP) and Individual Programs of Study (IPOS)

A research university provides many opportunities for undergraduates to learn in settings that suit a wide variety of learning styles, talents and professional aspirations. Beyond the classroom lie opportunities for individual and collaborative research projects, creative literary work, the plastic and performing arts, service learning and internships, distance and distributive learning, overseas study and a range of other activities. To track an idea from its genesis in research to its application as the solution of a contemporary problem, students must be able to take advantage of all these learning modalities.

For that reason, the USC Dornsife College of Letters, Arts and Sciences offers two curricular structures that enable non-traditional learning experiences to be credited across institutions. In both of these options, students work with a faculty committee to create individual learning opportunities suited to their personal academic interests and professional aspirations. The first allows self-motivated, independent learners to combine resources in a particularly rich learning experience, while the second promotes collaborative learning across several aligned modalities.

Collaborative Learning Projects

The USC Dornsife College of Letters, Arts and Sciences offers a curricular construct (MDA 460) designed to promote collaborative learning. Two or more students may propose a research project or other collaborative program, with specified learning objectives; a faculty committee will review each proposal to decide if it comprises a well-conceived educational experience and determine the unit values to be awarded, either collectively or to each student who participates. Collaborative Learning Projects award only credit or no credit grades.

Individual Programs of Study

Individual Programs of Study (IPOS) allow individual students to design a "curriculum" of 2 to 18 units, including directed research, service learning and internships, creative artistic production and any

other educational experiences that might be relevant to the proposed academic program.

An Individual Program of Study (MDA 450) might be created for an entire semester's work, including directed research, an internship and a distance learning course. Or, a more modest proposal might include 4 units of original artwork plus service learning.

Individual Programs of Study encourage students to design educational experiences that inspire them, prompting a profound engagement with a learning environment ideally suited to their individual talents. Individual Programs of Study may include a wider array of educational contexts, experiences and opportunities for nontraditional learning than are generally available for credit at most institutions of higher education. Individual Programs of Study are letter graded.

Review Process

Students who are interested in proposing either an Individual Program of Study or a Collaborative Learning Project must complete an application that includes:

1. A full description of the project, including information about all courses, internships, and other academic activities that will be involved;
2. A statement explaining why these activities could not be accomplished within the context of existing course work and directed research;
3. A proposal for assessing the work that is to be completed for the project beyond that associated with graded courses;
4. The endorsement of a faculty member who will serve as sponsor for the project. This faculty member will typically lead directed research associated with the project and award the final grade for the entire project;
5. A sign-off from the student's major department is also required; and
6. The student's STARS report and transfer credit statement, if transfer courses are relevant.

These materials will be reviewed by three faculty members comprising an Independent Study Committee, which will consider the student's academic record and decide whether to allow the project, how many units to award and other relevant conditions.

Members of the Independent Study Committee are appointed by the vice dean of academic programs of the USC Dornsife College of Letters, Arts and Sciences for an academic year; they consult with a representative of the Registrar's Office on articulating credits. If a member of the committee wishes to serve as the sponsor for a project, the vice dean will appoint an alternate to serve on the committee and consider that student's proposal.

Credits count as elective units, unless individual departments choose to apply some or all of the units toward major or minor requirements. A student may count no more than 18 units toward the degree through a combination of Individual Programs of Study and Collaborative Learning Projects. Upon completion of the project, the student's transcript reads "Individual Program of Study" or "Collaborative Learning Project," with the units awarded and the titles of any courses included in the program. See Multidisciplinary Activities and MDA 450 and MDA 460 course descriptions.

Liberal Studies

Office of Advanced and Professional Programs
Mark Taper Hall 355
(213) 740-1349
FAX: (213) 740-5002
Email: mls@dornsife.usc.edu

Interim Director: Richard Fliegel, PhD

Affiliated Faculty

University Professor: Kevin Starr, PhD* *(History)*
Florence R. Scott Professor of English: Tania Modleski, PhD *(English)*
Professors: Jack Halberstam, PhD* *(American Studies and Ethnicity)*; Peter C. Mancall, PhD* *(History)*; Edwin McCann, PhD* *(Philosophy)*; Beth Meyerowitz, PhD* *(Psychology)*; William G. Thalmann, PhD* *(Classics)*
Associate Professors: Emily Anderson, PhD *(English)*; Roberto Ignacio Diáz, PhD* *(Spanish and Portuguese)*; William R. Handley, PhD *(English)*; Lori Meeks, PhD
Associate Professor (Teaching): Tok Thompson, PhD *(Anthropology)*
**Recipient of university-wide or college award for teaching or research.*

Master's Degree

Liberal Studies (MLS)

A multidisciplinary degree program, the Master of Liberal Studies (MLS) is designed for motivated, college educated individuals who wish to further their intellectual growth and pursue graduate work part-time or fulltime in the evenings.

The program centers on the major forces that are revolutionizing the way we conduct our professional lives, rather than on the individual liberal arts disciplines. In this way, subjects covered in the program's courses have immediate relevance to the problems and challenges of contemporary society. In particular, the program emphasizes some of the most fundamental dynamics shaping the contemporary world: urbanization and globalization, changing cultural landscape, and technological and environmental transformations.

The MLS is a year-round program consisting of nine 3-unit courses. The degree requires a core course and a summative project. Seven elective courses are chosen in consultation with the student's adviser and/or MLS program director.

Admission Requirements

Admission to the program is based upon possession of a baccalaureate degree from an accredited college or university, with a minimum 3.0 GPA. When possible, interviews will be conducted with applicants. Two letters of recommendation, a writing sample and a personal statement of purpose are required.

Degree Requirements

Course and Summative Project Requirements

Nine courses (27 units), including the core course, LBST 500 (3 units), and the summative project, LBST 585a, LBST 585b, LBST 585z (3 units), are required.

Linguistics

The Linguistics Department emphasizes the study of language both as an abstract system and in its psychological and social contexts. In addition to introductory linguistics and courses in linguistic analysis, students take courses in psycholinguistics (language acquisition, processing and language disorders) and/or sociolinguistics (language and society). The undergraduate major in linguistics focuses on how the human mind structures, processes and acquires language as well as how similar communication goals are met by diverse means in the languages of the world. The major in Computational Linguistics introduces students to the emerging interdisciplinary field of Computational Linguistics, which provides the theoretical basis of many new technologies, such as speech recognition and dialog systems. Students are encouraged to pursue combined majors in Linguistics and Philosophy, Linguistics and Psychology, Linguistics and East Asian Languages and Cultures, and Computational Linguistics. A linguistics minor is also

available and can be combined with other majors. Please contact the department adviser for more information. The Linguistics Department also offers graduate PhD programs. A wide range of courses allows students to study syntax, morphology, phonology, semantics, phonetics, psycholinguistics, sociolinguistics, universals and typology, speech therapy, and computational linguistics.

Grace Ford Salvatori 301
(213) 740-2986
FAX: (213) 740-9306
Email: lingdept@dornsife.usc.edu
dornsife.usc.edu/ling
Interim Chair: Louis Goldstein, PhD

Faculty

Andrew Viterbi Professor of Engineering, Professor of Electrical Engineering, Computer Science, Linguistics and Psychology: Shrikanth (Shri) Narayanan, PhD *(Electrical Engineering)*
Myron and Marian Casden Director and Professor of Religion and Linguistics: Steve Ross *(Religion)*
Professors: Dani Byrd, PhD; Louis Goldstein, PhD; Audrey Li, PhD *(East Asian Languages and Cultures)*; Barry Schein, PhD; Andrew Simpson, PhD; Rachel Walker, PhD; Maria Luisa Zubizarreta, PhD
Associate Professors: Hajime Hoji, PhD; Elsi Kaiser, PhD; Toben Mintz, PhD *(Psychology)*; Roumyana Pancheva, PhD; Jason Zevin, PhD *(Psychology)*
Assistant Professors: Khalil Iskarous, PhD; Stefan Keine, PhD
Associate Professor (Teaching): Sandra Disner, PhD
Lecturers: Mary Byram Washburn, PhD; Lauren Winans, PhD
Emeritus Professor: Edward Finegan, PhD*
**Recipient of university-wide or college teaching award.*

Graduate Degrees

The graduate program in linguistics trains individuals to engage in the scientific study of human language. Course work emphasizes the structural aspects of language. Students work closely with faculty members on problems in linguistic theory, the description of particular languages, and variation across different users and contexts, focusing on their implications for understanding cognitive structures relating to language.

Admission Requirements

Applicants for admission to the graduate program are expected to have a bachelor's degree in linguistics or other appropriate field. Other requirements for admission include: a detailed statement of purpose with specific information about interests and goals, scores from the General Test of the Graduate Record Examinations (GRE), and at least three letters of recommendation from academic sources.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Computational Linguistics (BS)

Major Requirements for the Bachelor of Science in Computational Linguistics

The degree requires six to seven lower-division courses (22-26 units) and six upper-division courses (24 units): a total of 46-50 units.

Lower-Division Courses (22-26 units)

Two in Linguistics (8 units)

- LING 210g Introduction to Linguistics Units: 4
- LING 285Lg Human Language and Technology Units: 4

Four to five courses in Computer Science (14-18 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4

Upper-Division Courses (24 units)

Five courses in Linguistics (20 units)

- LING 385Lg Human Language as Computation Units: 4 *

Choose two among the following (8 units)

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 415 Phonetics Units: 4
- LING 450 New Horizons in Forensic Speaker Identification Units: 4

Choose one among the following (4 units)

- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4

Choose one among the following (4 units)

- LING 302 Introduction to Syntax and Semantics Units: 4
- LING 303 Logic and Meaning in Natural Language Units: 4 *

One course in Computer Science (4 units)

Choose one among the following (4 units)

- CSCI 310 Software Engineering Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4

Linguistics (BA)

Required Courses, Lower Division

- LING 210g Introduction to Linguistics Units: 4

Required Courses, Upper Division

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 302 Introduction to Syntax and Semantics Units: 4

Elective Courses, Upper Division

Select 16 units from the following

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 412 Language and Law Units: 4
- LING 415 Phonetics Units: 4
- LING 450 New Horizons in Forensic Speaker Identification Units: 4
- LING 466 Word and Phrase Origins Units: 4
- LING 485 Field Methodology Units: 4
- LING 497 Honors Thesis Units: 4
- One additional upper-division course in linguistics or a related field Units: 4

Linguistics Major with Honors

The linguistics major with honors requires the student to complete the requirements for the major with a GPA of 3.5 or above and to complete in addition LING 497 Honors Thesis with a grade of B or better. Intent to complete the linguistics major with honors should be registered with the undergraduate adviser no later than the second semester of the junior year.

- LING 497 Honors Thesis Units: 4

Capstone Experience

The major requires a capstone experience, which can be fulfilled in one of the following ways:

(A) A research paper completed as Honors Thesis LING 497, or as Directed Research LING 490 or as a Linguistic 400-level course.

(B) A poster presented at the **USC UG symposium** or at a conference.

(C) A summer internship related to the degree.

- LING 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- LING 497 Honors Thesis Units: 4

Linguistics and Cognitive Science (BA)

Combined major program between the Department of Linguistics and the Department of Cognitive Science.

Lower-Division Courses (12 units)

- LING 210g Introduction to Linguistics Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4

Upper-Division Courses (32 units)

Two among the following (8 units)

- LING 301 Introduction to Phonetics and Phonology Units: 4
- LING 302 Introduction to Syntax and Semantics Units: 4
- LING 303 Logic and Meaning in Natural Language Units: 4

One among the following (4 units)

- PSYC 301L Cognitive Processes Units: 4

Three among the following (12 units)

- LING 401 Advanced Phonology Units: 4
  or
- LING 402 Advanced Syntax Units: 4
  or
- LING 403 Advanced Semantics Units: 4
- LING 322g Language Contact and Language Acquisition Units: 4
- LING 325g Language and Number Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4

One among the following (4 units)

- PSYC 336L Developmental Psychology Units: 4
- PSYC 433 Children's Learning and Cognitive Development Units: 4

Additional Requirement

An additional upper division course from the above list or from a related field (4 units)

Combined Major

Linguistics and East Asian Languages and Cultures (BA)

For the lower division

- LING 210g Introduction to Linguistics Units: 4 is required

For the upper division, the following courses are required:

- LING 301 Introduction to Phonetics and Phonology Units: 4 and
- LING 302 Introduction to Syntax and Semantics Units: 4

- EALC 470 Introduction to East Asian Linguistics Units: 4

Two courses from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4 and
- LING 485 Field Methodology Units: 4

Two courses selected from

- EALC 304 Advanced Modern Chinese I Units: 4
- EALC 306 Advanced Modern Chinese II Units: 4
- EALC 315 Advanced Korean I Units: 4
- EALC 317 Advanced Korean II Units: 4
- EALC 320 Advanced Japanese I Units: 4
- EALC 322 Advanced Japanese II Units: 4
- EALC 400 Classical Chinese I Units: 4
- EALC 402 Classical Chinese II Units: 4
- EALC 406 Advanced Modern Chinese IV Units: 4
- EALC 407 News and Web Chinese Units: 4
- EALC 412a Business Chinese Units: 4
- EALC 412b Business Chinese Units: 4
- EALC 413 Business Japanese Units: 4
- EALC 415 Advanced Korean III Units: 4
- EALC 417 Advanced Korean IV Units: 4
- EALC 422 Advanced Japanese III Units: 4
- EALC 424 Advanced Japanese IV Units: 4 and
- EALC 426 Classical Japanese Units: 4

One EALC literature, civilization or thought course from

- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 365 Studies in Japanese Thought Units: 4
- EALC 380 Cultural Topics in East Asian Literature Units: 4
- EALC 386 Readings in Modern Korean Literature Units: 4
- EALC 452 Chinese Fiction Units: 4
- EALC 455 Japanese Fiction Units: 4 and
- EALC 460 Love, Self and Gender in Japanese Literature Units: 4

Two additional EALC courses

Two additional EALC courses from category IV or V. (After consultation with a department adviser, students may petition to use EALC courses not listed toward this requirement.)

Linguistics and Philosophy (BA)

For the lower division,

- LING 210g Introduction to Linguistics Units: 4 is required

For the upper division the following courses are required:

- LING 301 Introduction to Phonetics and Phonology Units: 4 and
- LING 302 Introduction to Syntax and Semantics Units: 4

- PHIL 350 Symbolic Logic Units: 4 and
- PHIL 465 Philosophy of Language Units: 4

Two courses selected from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4 and
- LING 485 Field Methodology Units: 4

And three courses selected from

- PHIL 450 Intermediate Symbolic Logic Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4 and
- PHIL 470 Theory of Knowledge Units: 4

Combined Major in Linguistics and Philosophy with Honors

The combined major in linguistics and philosophy with honors requires the student to complete the requirements for the major with a GPA of 3.5 or above and to complete in addition LING 497 Honors Thesis or PHIL 494 Senior Thesis with a grade of B or better. Intent to complete the major with honors should be registered with the undergraduate adviser no later than the second semester of the junior year.

Linguistics and Psychology (BA)

For the lower division:

- LING 210g Introduction to Linguistics Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4 and
- PSYC 274Lg Statistics Units: 4 are required.

For the upper division the following courses are required:

- LING 301 Introduction to Phonetics and Phonology Units: 4 and
- LING 302 Introduction to Syntax and Semantics Units: 4

- PSYC 314L Research Methods Units: 4

Two courses selected from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4
- LING 485 Field Methodology Units: 4

Three additional courses selected from

- LING 406 Psycholinguistics Units: 4
- PSYC 301L Cognitive Processes Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 337L Adult Development and Aging Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 433 Children's Learning and Cognitive Development Units: 4

Combined Major in Linguistics and Psychology with Honors

The combined major in linguistics and psychology with honors requires the student to complete the requirements for the major with a GPA of 3.5 or above and to complete in addition either LING 497 Honors Thesis or PSYC 380 Junior Honors Seminar and PSYC 480 Senior Honors Seminar, with a grade of B or better. Intent to complete the major with honors should be registered with the undergraduate adviser no later than the second semester of the junior year.

Minor

Linguistics Minor

Lower division:

- LING 210g Introduction to Linguistics Units: 4

Upper division:

- LING 301 Introduction to Phonetics and Phonology Units: 4 and
- LING 302 Introduction to Syntax and Semantics Units: 4

One course in psycholinguistics

- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4 or
- LING 410 Second Language Acquisition Units: 4

Or in sociolinguistics

- LING 375 Sociolinguistics Units: 4

And one additional upper-division course from

- LING 380 Languages of the World Units: 4
- LING 401 Advanced Phonology Units: 4
- LING 402 Advanced Syntax Units: 4
- LING 403 Advanced Semantics Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 410 Second Language Acquisition Units: 4
- LING 415 Phonetics Units: 4
- LING 466 Word and Phrase Origins Units: 4 and
- LING 485 Field Methodology Units: 4

Master's Degree

Linguistics (MA)

The department does not accept applicants for a Master of Arts degree. All graduate work in Linguistics at USC is taken as part of the PhD program, and the MA in Linguistics is intended only as a transitional degree in the process of completing requirements for the PhD.

A student admitted to the graduate program may choose later to earn a terminal MA degree, or may be invited by the department to attempt a terminal degree.

Students pursuing the PhD program in linguistics are required to complete 32 units of course work toward the MA degree. The choice of courses is subject to approval by the Graduate Studies Committee. In addition, students must satisfy one foreign language or research tool requirement. (See Foreign Language/Research Tool Requirement.)

MA Research Paper

In addition to course work and the foreign language/research tool requirement, students are also required to write one research paper the contents of which represent a distinct area. The completed paper must be submitted to the Graduate Studies Committee no later than the student's fourth semester of graduate study by the deadline established for that academic year. Following submission of the research paper, each student will conduct an oral defense of his or her work.

Doctoral Degree

Linguistics (PhD)

Application deadline: December 1

Students pursuing the PhD in Linguistics are required to complete a minimum of 60 units of course work beyond the baccalaureate. In addition to the 32 units completed toward the MA, students are required to take three 600-level seminars in linguistics and a minimum of four units of 794ab Doctoral Dissertation. No more than eight units of 794 may be applied toward the PhD degree. A maximum of 30 transfer units, approved by the university and the department may be applied to the PhD degree.

After successfully completing the screening procedure, students will establish a qualifying exam committee to determine a PhD course program in preparation for the dissertation. This course program must be approved by the Graduate Studies Committee.

Advisement

The student in his or her first semester will have the option of either selecting a faculty adviser or postponing such a selection until, but no later than, the last day of classes of the first year in the program. The Graduate Studies Committee (GSC) will serve as a provisional adviser until the student makes a selection.

The student has the option of changing advisers at any time without the need to seek the original adviser's approval. The student should inform the GSC and the previous adviser of the change.

At the beginning of the second year of graduate study, the

faculty adviser will assist the student in planning a program of study appropriate to the student's interests leading to the screening procedure.

Required Core Courses in Linguistics

Students pursuing the PhD program in linguistics are required to complete 32 units of course work toward the MA degree. See Waiver and Substitution of Course Requirements for possible exceptions.

Required Courses

- LING 530 Generative Syntax Units: 3
- LING 531a Phonology Units: 3
- LING 534 Logic and the Theory of Meaning Units: 3
- LING 576 Psycholinguistics Units: 3
- LING 580 General Phonetics Units: 3

Additional Requirements

Screening Procedure

Before a doctoral qualifying exam committee can be established for applicants to the PhD program, a student must pass a screening procedure. This procedure consists of a review of the student's graduate work at USC by Linguistics Department faculty. The review will be based on the following criteria: course work completed, including grades and papers; faculty recommendations; and evaluation of both the student's MA research paper and a PhD screening paper. The MA research and PhD screening papers must be in two different sub areas of linguistics, for example: syntax and psycholinguistics, or phonology and semantics, or sociolinguistics and typology.

The MA research paper must be completed and defended prior to the end of the fourth semester of graduate study, and the PhD screening paper must be completed and defended prior to the end of the fifth semester. The set of courses leading to the MA research paper and the PhD screening paper are determined through recommendation of the screening committee and approval of the Graduate Studies Committee.

Qualifying Exam Committee

Following the successful completion of the screening procedure, the student will establish a five-member qualifying exam committee. The qualifying exam committee is composed of at least five members; a minimum of three, including at least one tenured member, must be from the Linguistics Department and one must be a faculty member from outside the Linguistics Department. The Associate Vice Provost for Graduate Programs is ex officio a member of all qualifying exam committees. (Refer to the Graduate School Policies and Requirements for instructions on forming a qualifying exam committee.)

The Request to Take the Qualifying Examination Form is the means by which the qualifying exam committee is formally established. This form should be filed with the qualifying exam committee and the Graduate School the semester prior to taking the qualifying examination but no later than 30 days before the date of the student's written examination. In order to take the written examination, the student must submit a dissertation prospectus and an original research paper to each member of the qualifying exam committee.

Qualifying Examination

The examination qualifying a student for candidacy for the PhD degree is comprehensive in nature, partly written and partly oral. Prior to taking the qualifying examination, the student must have met all of the departmental requirements for doing so and have the recommendation of the qualifying exam committee. The committee will determine and administer the written examination.

The written examination consists of a limited number of questions in the fields related to the student's research. Students will receive the written examination two weeks after submitting the qualifying paper and will have 30 days to complete the questions. An oral examination will be scheduled by the qualifying exam committee two weeks after the written examination has been submitted.

The successful completion of the qualifying procedure is represented by the approval by the qualifying exam committee of (1) the prospectus, (2) the original research paper, (3) the written examination, and (4) oral defense.

Dissertation

The final stage of the program is the submission and defense of a dissertation that makes an original and substantial contribution to its field of study. Refer to the Graduate School section of the catalogue for the policies and procedures governing the submission of a dissertation.

Linguistics (Specialization in East Asian Linguistics) (PhD)

Application deadline: December 1

Students interested in East Asian linguistics take the Doctor of Philosophy in Linguistics with a specialization in East Asian linguistics. In addition to all requirements for the PhD in linguistics, the following courses are required: four courses or 15 units related to East Asian linguistics that are approved by the Graduate Studies Committee (GSC), which may be chosen from the following list: EALC 537, EALC 547, EALC 557, EALC 558, EALC 560, EALC 561, EALC 580, EALC 620 and LING 539. Upon approval by the GSC, other courses may be substituted. In addition, one of the two screening papers, the research paper associated with the qualifying examination and the doctoral dissertation must deal with at least one East Asian language. Students must also take LING 794a Doctoral Dissertation, LING 794b Doctoral Dissertation. Students must pass the reading examination in one East Asian language.

Four courses or 15 units

Four courses or 15 units related to East Asian linguistics that are approved by the Graduate Studies Committee (GSC), which may be chosen from the following list:

- EALC 537 Structure of the Korean Language Units: 4
- EALC 547 Structure of the Japanese Language Units: 4
- EALC 557 Structure of the Chinese Language Units: 4
- EALC 558 History of the Chinese Language Units: 4
- EALC 560 Comparative Syntax of East Asian Languages Units: 4
- EALC 561 Topics and Issues in East Asian Linguistics Units: 4
- EALC 580 Readings in East Asian Linguistics Units: 4
- EALC 620 Seminar in East Asian Linguistics Units: 4
- LING 539 Japanese/Korean Syntax and Theoretical Implications Units: 3

Linguistics (Specialization in Slavic Linguistics) (PhD)

Application deadline: January 1

Students interested in Slavic linguistics take the Doctor of Philosophy in Linguistics with a specialization in Slavic linguistics. In addition to all requirements for the MA in Linguistics, the following courses are required: LING 542; SLL 510, SLL 512, SLL 514 and SLL 516; three LING 600-level seminars; and 794a Doctoral Dissertation, 794b Doctoral Dissertation . Students must pass reading examinations in one Slavic language and either French or German.

In addition

In addition to all requirements for the MA in Linguistics, the following courses are required:

- LING 542 Historical Linguistics Units: 3, 2 years
- SLL 510 Old Church Slavonic Units: 3
- SLL 512 History of the Russian Language Units: 3
- SLL 514 Structure of Modern Russian: Phonology Units: 3
- SLL 516 Structure of Modern Russian: Morphology Units: 3

Mathematical Finance

Kaprielian Hall 104
(213) 740-2400
FAX: (213) 740-2424
Email: uscmsmf@usc.edu (Graduate)
Director: Jin Ma, PhD *(Mathematics)*
Co-director: Michael Magill, PhD *(Economics)*

Progressive Degree Programs in Mathematics

See Mathematics for progressive degree requirements.

Minor

Mathematical Finance Minor

Kaprielian Hall 104
(213) 740-3800
Staff Contact: Cynthia Mata-Flores (Undergraduate)

This interdisciplinary minor was created for students in business, economics and mathematics, whose majors already require some of the introductory course work. Students in other programs are welcome but should expect the minor to require more units than it does for students in those programs.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. Economics majors must choose four courses outside of economics; math majors must choose four courses outside of math; business majors must choose four courses outside of the Marshall School of Business. These may be the same courses used to meet the first two conditions.

Requirements

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4 or

- ECON 351x Microeconomics for Business Units: 4 *
- ECON 352x Macroeconomics for Business Units: 4 *

Choose one of the following two sequences (8 units):

- ECON 303 Intermediate Microeconomic Theory Units: 4 *

- ECON 305 Intermediate Macroeconomic Theory Units: 4 * or
- BUAD 350 Macroeconomic Analysis for Business Decisions Units: 4 *

- BUAD 351 Economic Analysis for Business Decisions Units: 4 *

Choose two courses, one from each of the following groups (8 units):

- MATH 118gx Fundamental Principles of Calculus Units: 4 * or
- MATH 125g Calculus I Units: 4 *

- MATH 308 Statistical Inference and Data Analysis II Units: 4 * or
- MATH 407 Probability Theory Units: 4 * or
- ECON 317 Introduction to Statistics for Economists Units: 4 *

Choose two courses from the following list (8 units):

- MATH 126 Calculus II Units: 4 * or
- MATH 127 Enhanced Calculus II Units: 4 *

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 * or
- MATH 245 Mathematics of Physics and Engineering I Units: 4 *

- MATH 226 Calculus III Units: 4 * or
- MATH 227 Enhanced Calculus III Units: 4 *

- MATH 408 Mathematical Statistics Units: 4 * or
- MATH 467 Theory and Computational Methods for Optimization Units: 4 *

Choose one course from the following list (4 units):

- BUAD 306 Business Finance Units: 4 *
- BUAD 310g Applied Business Statistics Units: 4
- ECON 350 The World Economy Units: 4 *
- ECON 357 Money, Credit, and Banking Units: 4 *
- FBE 441 Investments Units: 4 *

Choose one course from the following list (4 units):

- ECON 452 International Finance Units: 4 *
- ECON 457 Financial Markets Units: 4 *
- FBE 324 The Financial System Units: 4 *
- FBE 421 Financial Analysis and Valuation Units: 4 *
- FBE 443 Introduction to Forecasting and Risk Analysis Units: 4 *
- FBE 445 Topics in Economic Analysis of Business Strategy and Policy Units: 4 *
- FBE 459 Financial Derivatives Units: 4 *
- FBE 462 International Trade, Finance and Commercial Policy Units: 4 *

Choose one course from the following:

- ITP 109 Introduction to Java Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2
- CSCI 101L Fundamentals of Computer Programming Units: 3

Note:

**Prerequisite required*

Total requirements, for students with no prior course work: 42–43 units

Students majoring in business administration, economics or mathematics can meet many of these requirements with course work that also satisfies their majors. In addition to those classes, students in those majors must complete the following requirements:

- Business majors satisfy 24 units with course work that is also required for the major and need to complete only 18 units in MATH, ECON and ITP or CSCI
- Economics majors satisfy 20–24 units with course work required for the major (including one major elective), needing only 18–22 units in BUAD, FBE, ITP or CSCI and MATH
- Mathematics majors satisfy 16 units with course work required for the major, needing only 26 units in BUAD, ECON, FBE and ITP or CSCI

Master's Degree

Mathematical Finance (MS)

The objective of this master of science program is to produce graduates with a rigorous foundation in the economic theory and mathematical modeling of financial markets. The program creates an integrated curriculum spanning four disciplines: economics, mathematics, econometrics/statistics and computational/numerical analysis. The program is designed for recent graduates in the fields of applied mathematics, physics and engineering — or for graduates in economics, business and finance with strong mathematical backgrounds — who wish to pursue high-tech finance careers in financial institutions, industry or government.

Admission Requirements

Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All applicants must take the GRE General Test. Complete transcripts of undergraduate and any graduate level courses are required, as well as a statement of purpose and three recommendation letters. A substantial undergraduate background in mathematics is required, which should include one semester of real analysis or advanced calculus, one semester of linear algebra and one semester of advanced probability/statistics. Candidates with weaker backgrounds may be required to take mathematics classes prior to admission to the program. An undergraduate knowledge of microeconomics and of macroeconomics, and partial differential equations is helpful,

although it is not required for admission. Some experience in Matlab and C/C++ programming is also useful.

Foreign Language Requirement

There is no foreign language requirement.

Course Requirements

Thirty units of course work are required, six core courses and four to five elective courses. Students are required to satisfy a summative experience for degree completion. This will be in the form of registration in 1 unit of MATH 590 Directed Research with a summative report at the end of the term. Topics of research will be determined by the program director. The program consists of:

Required Core Courses (6 Courses, 18 Units)

Mathematics and Mathematical Finance:

- MATH 530a Stochastic Calculus and Mathematical Finance Units: 3
- MATH 530b Stochastic Calculus and Mathematical Finance Units: 3
- MATH 512 Financial Informatics and Simulation (Computer Labs and Practitioner Seminar) Units: 3
- MATH 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1 Units Required)

Financial Economics and Econometrics:

- ECON 613 Economic and Financial Time Series I Units: 4
- ECON 659 Economics of Financial Markets I Units: 4

Elective Courses (4 Courses, 12 Units)

Computational and Empirical Finance (must take at least 2 courses)*:

- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 559 Management of Financial Risk Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3

Note:
(FBE 555 highly recommended)

Statistics*:

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 543L Nonparametric Statistics Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3

Numerical/Optimization/Other Methods*:

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3
- MATH 504a Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 504b Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 508 Filtering Theory Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 585 Mathematical Theory of Optimal Control Units: 3

Computational and Financial Economics:

- ECON 614 Economic and Financial Time Series II Units: 4
- ECON 652 Economics of Financial Markets II Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4

Note:

Prerequisites for any of the above courses can be waived based on students' knowledge of the subject area. Approval from the program director is required.
**The elective courses in statistics/numerical/optimization/other methods and computational and empirical finance have to be approved for each student by the program directors. Other electives, not on this list, may sometimes be approved after consultation with program directors.*

Mathematics

The Department of Mathematics has designed its major to give students an understanding of the several areas of mathematics. The program of study allows students to use electives to prepare themselves for a specific field, whether in industry, teaching or advanced graduate research. The faculty is engaged in a wide variety of research activities and offers courses in many areas. The department offers the BS, BA and minor in mathematics; BS and BA in applied and computational mathematics; BS in mathematics/economics; minor in mathematical finance and minor in statistics; progressive degree programs in mathematics; MS in applied mathematics; MS in mathematical finance; MS in statistics; MA in mathematics; MA in applied mathematics; MS in computational molecular biology; PhD in applied mathematics; and PhD in mathematics.

Kaprielian Hall 104
(213) 740-2400
FAX: (213) 740-2424
Email: mathinfo@dornsife.usc.edu
Chair: Eric M. Friedlander, PhD

Faculty

University Professor, USC Associates Chair in Natural Sciences and Professor of Biological Sciences, Computer Science and Mathematics: Michael S. Waterman, PhD *(Biological Sciences)*
Dean's Professor of Mathematics: Eric M. Friedlander, PhD
Gabilan Assistant Professor of Mathematics: Sami Assaf, PhD
Professors: Kenneth Alexander, PhD; Richard Arratia, PhD; Jay Bartroff, PhD; Peter Baxendale, PhD; Francis Bonahon, PhD*; Susan Friedlander, PhD; Jason Fulman, PhD; Larry Goldstein, PhD; Robert Guralnick, PhD*; Nicolai T.A. Haydn, PhD; Edmond A. Jonckheere, PhD *(Electrical Engineering)*; Sheldon Kamienny, PhD; Igor Kukavica, PhD; Aaron Lauda, PhD; Sergey Lototsky, PhD; Jin Ma, PhD; Feodor Malikov, PhD; Remigijus Mikulevicius, PhD; Susan M. Montgomery, PhD*; Paul K. Newton, PhD *(Aerospace and Mechanical Engineering)*; Gary Rosen, PhD; Robert J. Sacker, PhD; Fengzhu Sun, PhD *(Biological Sciences)*; Chunming Wang, PhD; Nicholas P. Warner, PhD *(Physics)*; Jianfeng Zhang, PhD; Mohammed Ziane, PhD
Associate Professors: Aravind Asok, PhD; Juhi Jang, PhD
Assistant Professors: Sheel Ganatra, PhD; Marc Hoyois, PhD; Stanislav Minsker, PhD;
Associate Professor (Teaching): Cymra Haskell, PhD
Assistant Professors (Teaching): David Crombecque, PhD; Nathaniel Emerson, PhD; Neelesh Tiruvilumala, PhD
Assistant Professors (RTPC) of Mathematics: Tam Do, PhD; Matthew Hogancamp, PhD; James-Michael Leahy, PhD; Jesse Levitt, PhD; Aaron Mazel-Gee, PhD; Alexander Neshitov, PhD; Dominic Searles, PhD; Alexander Soibelman, PhD; Jeremy Toulisse, PhD; Gerrit Welper, PhD; Ting-Kam Leonard Wong, PhD; Christian Zillinger, PhD
Lecturers: Cindy Blois, PhD; Guillaume Dreyer, PhD; Ricardo Mancera, PhD; Guillermo Reyes Souto, PhD; Paul Tokorcheck, PhD; Frank Wolcott, PhD
Professors Emeritus: Ronald E. Bruck Jr., PhD; Wlodek Proskurowski, PhD; Alan Schumitzky, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advanced Placement Examinations in Mathematics

The university grants 4 units of credit in mathematics for scores of 4 or 5.

Grade Point Average Requirements

For each undergraduate degree an overall GPA of 2.0 in all upper-division courses taken for the degree is required. In addition, any upper-division course specifically listed as required must be passed with a grade of C (2.0) or better (e.g., MATH 410, MATH 425a, MATH 425b and MATH 471 for the BS degree).

Minor in Mathematical Finance

This interdisciplinary minor was created for students in business, economics and mathematics, whose majors already require some of the introductory course work. Students in other programs are welcome but should expect the minor to require more units than it does for students in these programs. For more information, see Mathematical Finance.

Honors Program in Mathematics

Admission to the Program

The honors program is available for mathematics majors. A student must apply to the department for admission. A minimum grade point average of 3.5 is required in the first two years of university work as well as in the lower-division mathematics courses MATH 125, MATH 126 or MATH 127, MATH 225 and MATH 226 or MATH 227.

Requirements

The students must complete all requirements for the degree program in which they are enrolled. MATH 410, MATH 425a, MATH 425b and MATH 471 are required. The remaining courses at the 400 level or higher must be acceptable for the BS degree.

In addition, students in the honors program must register for at least 4 units of MATH 490x Directed Research. The student must have an overall GPA of at least 3.5 in all courses at the 400 level or higher.

Language

Those students intending to go on to graduate school should satisfy the language requirement in French, German or Russian.

Progressive Degree Programs in Mathematics

Outstanding undergraduate students may apply for a master's degree in any area for which their major is relevant. If accepted into the master's degree program, the student may work simultaneously toward their bachelor's degree and the master's degree. To apply for a master's degree, a student must have completed at least 64 units, but fewer than 96 units, toward their major. The application requires two letters of recommendation from USC faculty, at least one of whom must be in the department of the student's major. For more information on progressive degree programs, see here.

Graduate Degrees

Admission Requirements

All applicants must take the Graduate Record Examinations General Test.

Master of Arts and Doctor of Philosophy in Mathematics and in Applied Mathematics

A substantial undergraduate background in mathematics which includes one year of real analysis (MATH 425a/MATH 425b), one semester of abstract algebra (MATH 410) and one semester of upper-division linear algebra (MATH 471) is required.

Master of Science in Applied Mathematics, in Statistics and in Computational Molecular Biology

A substantial undergraduate background in mathematics that includes one semester of real analysis or advanced calculus and one semester of linear algebra is required.

Regular admission pending completion during the first year of graduate studies of prerequisite undergraduate mathematics may be considered for applicants who otherwise qualify for the program.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Master of Science in Mathematical Finance

See Mathematical Finance.

Bachelor's Degree

Applied and Computational Mathematics (BA)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226 Calculus III Units: 4

In Mathematics:

- MATH 407 Probability Theory Units: 4
- MATH 458 Numerical Methods Units: 4

At Least Four More Courses From the Following:

- MATH 370 Applied Algebra Units: 4
- MATH 408 Mathematical Statistics Units: 4
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 430 Theory of Numbers Units: 4
- MATH 432 Applied Combinatorics Units: 4
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- MATH 466 Dynamic Modeling Units: 4
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

In Computing:

At least one programming course such as CSCI 101, ITP 109, ITP 165x or other programming courses approved by the program advisers.

Electives:

At least three additional courses with significant quantitative content, in mathematics, natural sciences, computer science, engineering, economics or other fields approved by the department. At least two of these must be outside the mathematics department; moreover, at least two of these three must be in the same department, one of which must be an upper-division course.

Applied and Computational Mathematics (BS)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4

In Mathematics:

- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 458 Numerical Methods Units: 4

At least three courses from

- MATH 370 Applied Algebra Units: 4
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 430 Theory of Numbers Units: 4
- MATH 432 Applied Combinatorics Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- MATH 465 Nonlinear Dynamics in Science and Engineering Units: 4
- MATH 466 Dynamic Modeling Units: 4
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

Students contemplating a graduate degree in mathematics are advised to take

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

In Computing:

At least one programming course such as

- CSCI 101L Fundamentals of Computer Programming Units: 3
- CSCI 103L Introduction to Programming Units: 4
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- ITP 168 Introduction to MATLAB Units: 2
- or other programming course approved by the program advisers

Electives:

At least four additional courses with significant quantitative content in mathematics, natural sciences, computer science, engineering, economics or other fields approved by the department. At least three of the four must be outside the mathematics department; and at least one must be upper-division.

Mathematics (BA)

Six math courses at the 400 level or above including

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4 and either

- MATH 434 Geometry and Transformations Units: 4 or
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4 are required

Mathematics (BS)

Pre-major Requirements:

- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4 are required

Eight math courses at the 400 level or above

- excluding MATH 450 History of Mathematics Units: 4 but including:

Required Courses

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 425b Fundamental Concepts of Analysis Units: 4
- MATH 471 Topics in Linear Algebra Units: 4

Required Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Note:

Four additional courses in natural sciences or computer science, but excluding courses in mathematics, are required. At least one of these must be an upper-division course, and each of the four courses must be acceptable for the Bachelor of Science degree in the department in which it is offered.

Combined Major

Mathematics/Economics (BS)

Students are required to take seven courses in economics, seven courses in mathematics and one course in computer programming languages.

Pre-major Requirement:

- MATH 125g Calculus I Units: 4

In Economics:

- ECON 203g Principles of Microeconomics Units: 4
- ECON 205g Principles of Macroeconomics Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- ECON 305 Intermediate Macroeconomic Theory Units: 4
- ECON 318 Introduction to Econometrics Units: 4
- and at least two other ECON courses at the 400-level or above

In Mathematics:

- MATH 126 Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4

- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4
- at least two other MATH courses at the 400-level or above

In Computing:

At least one course chosen from

- ITP 165 Introduction to C++ Programming Units: 2
- CSCI 101L Fundamentals of Computer Programming Units: 3

Note:

Electives must be approved by the program advisers.

Minor

Mathematics Minor

Requirements

- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- MATH 245 Mathematics of Physics and Engineering I Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 227 Enhanced Calculus III Units: 4

- and four math courses at the 400 level or above

One of which must be from

- MATH 410 Fundamental Concepts of Modern Algebra Units: 4
- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 435 Vector Analysis and Introduction to Differential Geometry Units: 4

- MATH 440 Topology Units: 4 or
- MATH 471 Topics in Linear Algebra Units: 4

Note:

These four courses at the 400 level or above must total at least 16 units.

Statistics Minor

Kaprielian Hall 104
(213) 740-2400

This interdisciplinary minor should appeal to students from any discipline who are interested in acquiring a basic understanding of the mathematics underlying modern statistical analysis and inference techniques, in learning how to handle and analyze large data sets, and in gaining insight into the applications of modern statistics. Students who complete this minor should be able to critically interpret statistically based conclusions, should be viable candidates for entry level positions requiring some knowledge of modern statistics and data analysis, and should be prepared to enter a graduate-level program in applied statistics. The only prerequisite for this minor is one semester of elementary calculus.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (which may be the same four courses). Finally, students must select four courses outside their major department. These may be the same four courses used to meet the first two conditions. Note that Math BA and BS economics/mathematics students may complete this minor by taking MATH 407 and MATH 408 and at least 16 additional upper-division units approved by the Department of Mathematics, which are not in their major department and not being used to satisfy a requirement for their major. Note also that if calculus must be taken to satisfy the prerequisite for MATH 307, 20 units would be required to complete the minor.

Requirements

- MATH 307 Statistical Inference and Data Analysis I Units: 4 (prerequisite: MATH 118 or MATH 125)
- MATH 308 Statistical Inference and Data Analysis II Units: 4 or

- MATH 407 Probability Theory Units: 4
- MATH 408 Mathematical Statistics Units: 4

- Electives* Units: 8

Total units: 16

**Electives may be any upper-division or graduate level classes involving the theory or application of statistics approved by the Department of Mathematics. The department maintains a list of currently pre-approved courses that students may choose from. Potential courses include: BISC 478 Computational Genome Analysis (4 units), ECON 318 Introduction to Econometrics (4 units), ECON 419 Advanced Econometrics (4 units) and PSYC 421L Applied Multivariate Statistical Methods (4 units).*

Master's Degree

Applied Mathematics (MA)

Master of Arts in Mathematics and Master of Arts in Applied Mathematics

The objective of the Master of Arts program is to prepare students for research, teaching and other professional careers in mathematics and applied mathematics, respectively. In addition to the algebra requirement and differential geometry/topology option for the Master of Arts in Mathematics, the two programs differ in emphasis: the Master of Arts in Mathematics emphasizes the core courses in pure mathematics, and the Master of Arts in Applied Mathematics emphasizes courses in mathematics and affiliated fields that are fundamental in applied mathematics.

Relationship to PhD Programs in Mathematics and in Applied Mathematics

The two year MA program is an expansion of the first year of graduate studies in the PhD program in mathematics (respectively, the PhD program in applied mathematics). The program provides a rigorous foundation in mathematics (applied mathematics) while affording students additional time for preparatory training. The comprehensive examinations for the MA program can serve as the preliminary qualifying examination for either PhD program, and the written PhD qualifying examinations serve as comprehensive examinations for the corresponding Master of Arts degree.

Requirements for the Master of Arts in Mathematics

At least 24 units are required, including:

Required Courses

- MATH 510a Algebra Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525a Real Analysis Units: 3

And one option from A, B, C or D:

(A)
- MATH 535a Differential Geometry Units: 3
- MATH 540 Topology Units: 3

(B)
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

(C)
- MATH 507a Theory of Probability Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3

(D)
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

Additional Requirements

The degree is completed with either departmental examinations (two written examinations selected from the two required components and the optional component) or a thesis demonstrating research ability in pure mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Requirements for the Master of Arts in Applied Mathematics

At least 24 units are required, including

- MATH 525a Real Analysis Units: 3

And at least three from these courses:

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

- MATH 505a Applied Probability Units: 3 or
- MATH 507a Theory of Probability Units: 3

- MATH 505b Applied Probability Units: 3 or
- MATH 506 Stochastic Processes, or
- MATH 507b Theory of Probability Units: 3

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Other elective courses, including those from other departments, have

to be approved by the program adviser.
The degree is completed with either departmental comprehensive examinations (two examinations, one covering the required component MATH 525a, and the second covering one of the elective MATH courses) or a thesis demonstrating research ability in applied mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Applied Mathematics (MS)

This program is intended for individuals who are seeking or currently hold positions which involve mathematical applications, or for mid-career people wishing to improve their skills in applied areas. Specific options in the program include: biomedicine, discrete mathematics, economics, finance and business economics, fluid dynamics, numerical analysis and computation, and systems and control. In addition, students may design their own option to suit specific needs.

On admission to the program, each student is assigned an option adviser. The adviser serves on the student's master's committee and assists the student in determining the courses of study in the selected option. Courses of instruction are drawn from the Department of Mathematics and other participating departments which include: aerospace engineering, biomedical engineering, civil engineering, computer science, economics, electrical engineering, business administration, mechanical engineering, physiology and biophysics, and preventive medicine.

Required Courses

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 570a Methods of Applied Mathematics Units: 3
- MATH 601 Optimization Theory and Techniques Units: 3
- plus at least 15 units of elected option courses

Additional Requirements

In addition, registration in MATH 594a, MATH 594b and a master's thesis is required for all students. This thesis is the end product of a practicum in the selected option. The practicum is supervised by the student's master's committee.
For this program students are not required to take the screening examination or to satisfy a foreign language requirement.

Computational Molecular Biology (MS)

The computational molecular biology program is designed to attract recent graduates in either mathematics, statistics, biology or computer science, or scientists and engineers interested in retraining. A commercial or laboratory internship is required. Students will be prepared for employment in the rapidly expanding areas of computational molecular biology and bioinformatics. The program has two tracks, appropriate for different undergraduate backgrounds: biology and mathematical science. The required courses for each track are indicated below.

Required Courses

Biological Sciences

- BISC 403 Advanced Molecular Biology Units: 4 ***
- BISC 478 Computational Genome Analysis Units: 4 **
- BISC 505 Genomics and Molecular Genetics Units: 4 *
- BISC 542 Seminar in Molecular Biology Units: 1 *
- BISC 577a Computational Molecular Biology Laboratory Units: 2 *
- BISC 577b Computational Molecular Biology Laboratory Units: 2 *

Computer Science

- CSCI 485 File and Database Management Units: 4 **
- CSCI 570 Analysis of Algorithms Units: 4 ***

Mathematics

- MATH 407 Probability Theory Units: 4 **
- MATH 408 Mathematical Statistics Units: 4 **
- MATH 505a Applied Probability Units: 3 ***
- MATH 541a Introduction to Mathematical Statistics Units: 3 ***
- MATH 578a Computational Molecular Biology Units: 3 ***
- MATH 592 Computational Molecular Biology Internship Units: 3 *
- MATH 650 Seminar in Statistical Consulting Units: 3 *

Total units: 33-34

**Both tracks*
***Biology track*
****Mathematical science track*

Students are required to demonstrate skill in C++, Java or Perl, and to demonstrate knowledge of molecular biology at the level of BISC 320L. A substantial report on the commercial or laboratory internship must be submitted (for which enrollment in MATH 592 is required).

Mathematics (MA)

Master of Arts in Mathematics and Master of Arts in Applied Mathematics

The objective of the Master of Arts program is to prepare students for research, teaching and other professional careers in mathematics and applied mathematics, respectively. In addition to the algebra requirement and differential geometry/topology option for the Master of Arts in Mathematics, the two programs differ in emphasis: the Master of Arts in Mathematics emphasizes the core courses in pure mathematics, and the Master of Arts in Applied Mathematics emphasizes courses in mathematics and affiliated fields that are fundamental in applied mathematics.

Relationship to PhD Programs in Mathematics and in Applied Mathematics

The two year MA program is an expansion of the first year of graduate studies in the PhD program in mathematics (respectively, the PhD program in applied mathematics). The program provides a rigorous foundation in mathematics (applied mathematics) while affording students additional time for preparatory training. The comprehensive examinations for the MA program can serve as the preliminary qualifying examination for either PhD program, and the written PhD qualifying examinations serve as comprehensive examinations for the corresponding Master of Arts degree.

Requirements for the Master of Arts in Mathematics

At least 24 units are required, including:

Required Courses

- MATH 510a Algebra Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525a Real Analysis Units: 3

And one option from A, B, C or D:

(A)
- MATH 535a Differential Geometry Units: 3
- MATH 540 Topology Units: 3

(B)
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

(C)
- MATH 507a Theory of Probability Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3

(D)
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

Additional Requirements

The degree is completed with either departmental examinations (two written examinations selected from the two required components and the optional component) or a thesis demonstrating research ability in pure mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Requirements for the Master of Arts in Applied Mathematics

At least 24 units are required, including

- MATH 525a Real Analysis Units: 3

And at least three from these courses:

- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3

- MATH 505a Applied Probability Units: 3 or
- MATH 507a Theory of Probability Units: 3

- MATH 505b Applied Probability Units: 3 or
- MATH 506 Stochastic Processes, or
- MATH 507b Theory of Probability Units: 3

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Other elective courses, including those from other departments, have to be approved by the program adviser.
The degree is completed with either departmental comprehensive examinations (two examinations, one covering the required component MATH 525a, and the second covering one of the elective MATH courses) or a thesis demonstrating research ability in applied mathematics (the thesis option requires four additional thesis units selected from MATH 594a, MATH 594b, MATH 594z).

Statistics (MS)

The object of this program is to provide academic instruction in statistical theory with a solid mathematical foundation while emphasizing applications to real world problems. Some probability theory is included to provide a rigorous foundation. The program is intended for individuals who are seeking or currently hold positions that involve statistical methodology and practice. A student may orient his or her course of study toward a particular field of application through appropriate selections from the program listings plus elective courses from other disciplines.

Course Requirements

Thirty units of course work are required, including:

Required Courses

- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 650 Seminar in Statistical Consulting Units: 3

And one from each of options A, B, C:

(A)

- MATH 505a Applied Probability Units: 3
- MATH 507a Theory of Probability Units: 3

(B)

- MATH 542L Analysis of Variance and Design Units: 3
- MATH 545L Introduction to Time Series Units: 3

(C)

- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- PM 511aL Data Analysis Units: 4

Plus at least 12 units of adviser-approved courses

Additional Requirements

Students may opt for a master's thesis (and registration in MATH 594a, MATH 594b) or a written examination covering material from MATH 505a or MATH 507a, and MATH 541a, MATH 541b. The examination will normally be given at the end of the fall semester. Students must pass MATH 505a or MATH 507a, and MATH 541a, MATH 541b with a grade of B or higher. If a student receives a grade of B- or lower in any of these courses, the requirement can be waived upon passing the screening exam for the course at the master's level or higher.

Doctoral Degree

Applied Mathematics (PhD)

Application deadline: December 15

The program requires a maximum effort by the student for a minimum of four years of full-time work.

Screening Procedure

The screening examination consists of four one-hour examinations covering the subject content of: MATH 502a Numerical Analysis; MATH 505a Applied Probability (or, at the student's discretion, MATH 507a Theory of Probability); MATH 525a Real Analysis; and MATH 541a Introduction to Mathematical Statistics.

The department offers the examinations twice a year, at the end of summer and at the beginning of the spring semester. All four parts of the screening examination must be attempted by the end of the third semester (not counting summer sessions) in the program. The students may take each of the exams as many times as they wish, but three of the exams must be successfully completed by the end of the fourth semester (not counting summer sessions) and all four must be successfully completed by the end of the sixth semester in the program. The qualifying examination should follow two or three semesters after the successful completion of the screening procedure.

Qualifying Exam Committee

No later than at the end of the first semester after passing the screening procedure the student must form a qualifying exam committee consisting of an adviser and four other faculty members, including at least one from another department.

Qualifying Examination

The written portion of the qualifying examination consists of a PhD dissertation proposal. This document should include: introduction, statement of the problem, literature survey, methodology, summary of preliminary results, proposed research, references, appendix (including one or two fundamental references).

The oral portion of the qualifying examination consists of a presentation of the PhD dissertation proposal. The student must demonstrate research potential.

Course Requirements

The student must complete, with no grade lower than B, a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee.

These must include

- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

And six courses from the following:

- MATH 502b Numerical Analysis Units: 3
- MATH 504a Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 504b Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 507b Theory of Probability Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 530b Stochastic Calculus and Mathematical Finance Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 542L Analysis of Variance and Design Units: 3
- MATH 545L Introduction to Time Series Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3
- MATH 574 Applied Matrix Analysis Units: 3
- MATH 576 Applied Complex Analysis and Integral Transforms Units: 3
- MATH 580 Introduction to Functional Analysis Units: 3
- MATH 585 Mathematical Theory of Optimal Control Units: 3

Additional Requirements

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. A maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD A grade of B(A = 4.0) or lower will not be accepted and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit, after he or she passes the qualifying examination.

Foreign Language Requirement

The student must demonstrate a reading comprehension of mathematics in one language (other than English) in which there is a significant body of research mathematics (such as Chinese, French, German, Japanese and Russian) by passing a written examination, administered by the Mathematics Department, in translation of mathematical content.

Dissertation

Following passage of the screening examination and approval of a dissertation topic by the qualifying exam committee, the student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement of the PhD is an acceptable dissertation based on a substantial amount of original research conducted by the student.

Research Areas

Opportunities for research are available from the faculty in several areas of applied mathematics with an emphasis on: computational biology, control theory, financial mathematics, mathematical neurosciences, numerical analysis, optimization, scientific computing, statistical genetics, statistics and stochastic differential equations.

Mathematics (PhD)

Application deadline: December 15

The program requires the maximum endeavor by the student for normally a minimum of four years of full-time work.

The student must choose between two concentrations: Pure Mathematics or Pure and Applied Mathematics.

Screening Procedure

Appointment of a qualifying exam committee and retention in the doctoral program are contingent on passing the preliminary qualifying examination by the end of the second semester. If a student fails the examination, the department, at its discretion, may permit the student to take it again during the third semester of graduate studies.

The preliminary qualifying exam is a written two-hour examination administered by the department. The student must choose between two options: analysis or algebra. Each option approximately covers the content of two one-semester graduate courses, with the precise list of possible topics made available to the student by the department.

Course Requirements

The student must complete with no grade lower than B a minimum of 60 units of courses carrying graduate credit and approved by the qualifying exam committee.

Pure Mathematics Concentration

Required Courses

- MATH 510a Algebra Units: 3
- MATH 525a Real Analysis Units: 3
- MATH 535a Differential Geometry Units: 3
- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

Five courses selected from the following:

- MATH 507a Theory of Probability Units: 3
- MATH 510b Algebra Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 540 Topology Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Pure and Applied Mathematics Concentration

Required Courses

- MATH 502a Numerical Analysis Units: 3
- MATH 510a Algebra Units: 3
- MATH 525a Real Analysis Units: 3
- MATH 794a Doctoral Dissertation Units: 2
- MATH 794b Doctoral Dissertation Units: 2

Five courses selected from the following:

- MATH 502b Numerical Analysis Units: 3
- MATH 507a Theory of Probability Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 525b Real Analysis Units: 3
- MATH 532 Combinatorial Analysis Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 555a Partial Differential Equations Units: 3
- MATH 565a Ordinary Differential Equations Units: 3

Additional Requirements

Transfer of Credit

No transfer of credit will be considered until the screening examination is passed. Normally a maximum of 30 units of graduate work at another institution may be applied toward the course requirements for the PhD A grade of B- or lower will not be accepted, and, at most, two grades of B will be accepted. A PhD candidate may petition the department for transfer of additional credit after passing the qualifying examination.

Foreign Language Requirement

The student must demonstrate a reading comprehension of mathematics in one language (other than English) in which there is a significant body of research mathematics (such as Chinese, French, German, Japanese and Russian) by passing a written examination, administered by the department, in translation of mathematical content.

Qualifying Examination

The written portion of the qualifying examination is comprehensive, consisting of two, two-hour examinations administered by the department. These examinations cover two out of the following five options, excluding the option already selected for the preliminary examination: algebra, analysis, geometry/topology, probability/statistics, differential equations. Each option approximately covers the content of two, one-semester graduate courses, with the precise list of possible topics made available to the students by the department. The selection of options must be approved by the qualifying exam committee.

The oral portion of the qualifying examination covers one topic selected from department research areas in mathematics and approved by the qualifying exam committee. The student must demonstrate research potential in this field.

Dissertation

Following passage of the qualifying examination and approval of a dissertation topic by the qualifying exam committee, the student begins research toward the dissertation under the supervision of the dissertation committee. The primary requirement for the PhD is an acceptable dissertation which is based on a substantial amount of original research conducted by the student.

Research Areas

Opportunities for research are offered in the areas of algebraic geometry, arithmetic geometry, combinatorics, complex geometry, control theory, differential equations, differential geometry, dynamical systems, functional analysis, geometric analysis, group theory, K-theory, nonlinear analysis, number theory, numerical analysis, optimization, probability, representation theory, ring theory and topology.

Middle East Studies

The Department of Middle East Studies (MDES) is committed to the teaching and study of the languages, cultures, peoples and societies throughout the Middle East region. With faculty in Arabic, Classics, Comparative Literature, Economics, French, History, International Relations, Judaic Studies, Persian, Political Science and Religion, MDES is home to an interdisciplinary major and minor in Middle East Studies, a minor in Iranian Studies, and a minor in Arabic. The department organizes lively and exciting lectures, colloquia, conferences and film series on a broad range of topics ranging from politics and economics to religion and popular culture.

Taper Hall of Humanities 256
(213) 740-2795
FAX: (213) 740-9354
Email: mdes@usc.edu
dornsife.usc.edu/mdes
Chair: Ramzi Rouighi, PhD

Faculty

Robert Grandford Wright Professor and Professor of International Relations and Middle East Studies: Laurie A. Brand, PhD *(International Relations)*
Vice Dean and Professor: Philip Seib, JD *(Annenberg School for Communication and Journalism)*
Professor: Azade-Ayse Rorlich, PhD *(History)*
Associate Professors: Sarah Gualtieri, PhD (*History & American Studies and Ethnicity*); Olivia Harrison, PhD (*French and Italian*); Ramzi Rouighi, PhD *(History)*
Assistant Professors (Teaching): Yasmeen Daifallah, PhD; Peyman Nojoumian, PhD
Adjunct Assistant Professor (Teaching): Mehmet Sinan Birdal, PhD *(International Relations)*
Lecturers: Hani Khafipour, PhD; Afaf Nash, PhD; Sozan Wali, EdD

Affiliated Faculty

King Faisal Chair in Islamic Thought and Culture and Professor of Religion and American Studies and Ethnicity: Sherman Jackson, PhD *(Religion)*
Professors: Reuven Firestone, PhD *(Hebrew Union College)*; Jeffrey B. Nugent, PhD *(Economics and Business)*; Bruce A. Phillips, PhD *(Hebrew Union College);* Bruce Zuckerman, PhD *(Religion)*
Associate Professor: Christelle Fischer-Bovet, PhD *(Classics)*
Assistant Professor: Veli Yashin, PhD *(Comparative Literature)*
Associate Professor of the Practice: Lynn Swartz Dodd, PhD *(Religion)*
Lecturer: Fayez Hammad, PhD *(Political Science)*

Bachelor's Degree

Middle East Studies (BA)

This major is an interdisciplinary degree that draws on courses from classics, comparative literature, economics, French, history, international relations, Judaic studies, political science and religion. It offers students interested in exploring the richness and complexity of the Middle East, broadly defined as extending from Morocco through Iran, a framework for developing both expertise and wide-ranging critical perspectives on the region's past, present and future. The variety of courses will allow students to tailor their choices to a range of possible emphases.

Nine total courses are required for the major. No more than two courses may be counted toward this major and another major. Students participating in USC Overseas Studies programs should contact the Department of Middle East Studies to discuss course selection for the major. Students must meet with a Faculty Mentor from the department upon declaring a major in Middle East Studies.

I. Language

All MDES majors must demonstrate fourth semester competency in a Middle Eastern language. This can be achieved through placement, transfer credits from other institutions (subject to approval by MDES language faculty), from study abroad, or through successfully completing the level IV Arabic (ARAB 252), Hebrew (HEBR 315) or Persian (IRAN 250) courses at USC.

- ARAB 252 Arabic IV Units: 4
- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- IRAN 250 Persian IV Units: 4

II. Required Courses

All students must take the following two courses.

- HIST 180gw The Middle East Units: 4
- MDES 301g The Global Middle East Units: 4

III. Concentration I

Students must choose one course from this concentration.

- CLAS 349g Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- FREN 448m France and Islam Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 312 Shadow of God on Earth: Religion/Politics in Medieval Persia Units: 4
- MDES 313 Modern Iran: Fall of Monarchies and Rise of Islamic Republic Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 343g Modern Arab State and Society II: Culture and Literature Units: 4
- MDES 461 Topics in Ancient Iranian Languages and Cultures Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4

IV. Concentration II

Students must choose one course from this concentration.

- ECON 342 Economic Development of the Middle East Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- MDES 340 Perspectives on US Foreign Policy in the Middle East Units: 4
- MDES 342g Modern Arab State and Society I: Media and Intellectual Works Units: 4
- POSC 351 Middle East Politics Units: 4

V. Elective Courses

Students must also take four upper-division courses, chosen from the list below. Students who place out of the requirement to take

ARAB 252, HEBR 315 or IRAN 250 must take five elective courses. Departmental permission is required should a student want to apply more than three foreign language courses toward the major.

- ARAB 300 Introduction to Translation Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4
- ARAB 352 Advanced Arabic II Units: 4
- CLAS 349g Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- FREN 448m France and Islam Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- IRAN 320 Advanced Persian I Units: 4
- IRAN 350 Advanced Persian II Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 312 Shadow of God on Earth: Religion/Politics in Medieval Persia Units: 4
- MDES 313 Modern Iran: Fall of Monarchies and Rise of Islamic Republic Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 340 Perspectives on US Foreign Policy in the Middle East Units: 4
- MDES 342g Modern Arab State and Society I: Media and Intellectual Works Units: 4
- MDES 343g Modern Arab State and Society II: Culture and Literature Units: 4
- MDES 345p Sovereignty in the Middle East Units: 4
- MDES 461 Topics in Ancient Iranian Languages and Cultures Units: 4
- POSC 351 Middle East Politics Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4

Honors Program

Candidates for the BA in Middle East Studies may receive a designation on their transcripts of departmental honors. Admission to the honors program is required.

Prerequisites: 3.33 overall GPA; 3.5 GPA or better in courses in the major; a minimum grade of B+ in HIST 180; completion of at least one upper-level MDES course (400 level) requiring a seminar paper, at the time of admission; and submission of an application form to the MDES undergraduate faculty adviser. Prior approval of the thesis adviser and/or department chair is required for any modification of these requirements.

Required for departmental honors: The student must maintain the GPA requirements stated above and successfully complete the MDES 492 Honors Thesis. In semesters when MDES 492 is not offered, students may, with department approval, substitute MDES 490 (independent study) as constituting an honors seminar equivalent.

Minor

Arabic Minor

The Arabic minor provides students with advanced competency in speaking, reading, writing and understanding the Arabic language. Advanced ability in Arabic can open many doors. Course work for this minor prepares students for various careers and graduate-level study.

Five courses (20 units) are required for the minor. All students must take ARAB 252, ARAB 322 and ARAB 352. For those students who do not already have ARAB 252 equivalent proficiency, ARAB 122, ARAB 152 and ARAB 222 or their equivalent (which do not count toward the minor) must be completed before enrolling in ARAB 252. For those with prior study of Arabic, a placement exam is offered by the USC Language Center to determine language level. If student proficiency surpasses the third-semester college level, the USC Language Center should be consulted about a higher-level proficiency exam. The remaining two courses (8 units) must be selected from the list of elective courses below.

Students are encouraged to study abroad. Prior approval by the department is required of all courses that are to be counted toward the minor. Equivalent courses from other universities will be assessed by the MDES Curriculum Committee.

Required Courses

- ARAB 252 Arabic IV Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 352 Advanced Arabic II Units: 4

Upper-Division Arabic Elective Courses

Two courses (8 units) from the following list must also be selected (or substitutes that are pre-approved by the MDES Curriculum Committee). The prerequisite for ARAB 300 is either ARAB 252 or ARAB 334.

- ARAB 300 Introduction to Translation Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4

Iranian Studies Minor

The Iranian Studies minor provides students with the foundation for an advanced understanding of Iran, its history, peoples and cultures, from antiquity to the present. Neighboring countries that participated in Persian culture are included, as well as non-Persian Iranian peoples. Students finishing this minor will also have at least an intermediate ability in Persian, the official language of Iran, widely used in neighboring countries as well.

Five courses (20 units) are required for the minor. All students must take HIST 180gw and IRAN 250. For those students who do not already have IRAN 250-equivalent proficiency, IRAN 120, IRAN 150, and IRAN 220 or their equivalent (which do not count toward the minor) must be completed before enrolling in IRAN 250. For those with prior study of Persian, a placement exam is offered by the USC Language Center to determine language level. If student proficiency surpasses the third-semester college level, the USC Language Center should be consulted about a higher level proficiency exam.

At least one course (4 units) of the three additional courses (12 units) must be selected from the upper-division Iranian Studies Initiative courses. The other two (8 units) may be chosen from the upper-division Iranian Studies Initiative courses or the upper-division Middle East Studies courses listed below.

A special accommodation is in place for majors in the School of International Relations who minor in Iranian Studies. Courses that are cross-listed between MDES and IR can satisfy the four unique

courses (at least 16 units) that must be completed outside of their major department for this interdisciplinary minor. Students will still be required, however, to complete at least four courses (16 units) that are unique to the minor (not required to meet major course requirements).

Required Courses

- HIST 180gw The Middle East Units: 4
- IRAN 250 Persian IV Units: 4

Upper-Division Iranian Studies Initiative Courses

- IRAN 320 Advanced Persian I Units: 4
- IRAN 350 Advanced Persian II Units: 4
- MDES 312 Shadow of God on Earth: Religion/Politics in Medieval Persia Units: 4
- MDES 313 Modern Iran: Fall of Monarchies and Rise of Islamic Republic Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 461 Topics in Ancient Iranian Languages and Cultures Units: 4

Upper-Division Middle East Studies Courses

- CLAS 349g Ancient Empires Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- MDES 340 Perspectives on US Foreign Policy in the Middle East Units: 4
- MDES 345p Sovereignty in the Middle East Units: 4
- POSC 351 Middle East Politics Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 414 History of Islamic Law Units: 4

Middle East Studies Minor

Drawing on courses from 10 different departments, this interdisciplinary minor offers students interested in exploring the richness and complexity of the Middle East, broadly defined as extending from Morocco through Iran, a framework for developing a basic but solid understanding of the region. Students may select courses that provide a broad introduction across disciplines, or they may choose courses that address a particular historical period or theme.

Twenty units (five courses) are required. All students must take HIST 180. To complete the minor a student must also take four upper-division courses from the list below. Students who are also studying a language may substitute ARAB 252, HEBR 315 or IRAN 250 for one of the four upper-division courses. However there is no language requirement for the minor.

A special accommodation is in place for majors in the School of International Relations who minor in Middle East Studies. Courses that are cross-listed between MDES and IR can satisfy the four unique courses (at least 16 units) that must be completed outside of their major department for this interdisciplinary minor. Students will still be required, however, to complete at least four courses (16 units) that are unique to the minor (not required to meet major course requirements).

Required Courses

- HIST 180gw The Middle East Units: 4

Four of the following courses:

Four courses from the list below, only two of which may be language courses. ARAB 300, ARAB 333 and ARAB 334 may count toward the minor only with departmental permission.

- ARAB 252 Arabic IV Units: 4
- ARAB 300 Introduction to Translation Units: 4
- ARAB 322 Advanced Arabic I Units: 4
- ARAB 333 Colloquial Arabic: Regional Dialects Units: 4
- ARAB 334 Media Arabic Units: 4
- ARAB 352 Advanced Arabic II Units: 4
- CLAS 349g Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- CLAS 378 Ptolemaic Egypt Units: 4
- COLT 437 Arabic Autobiography: Writing and Interpreting the Self Units: 4
- COLT 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose Units: 4
- ECON 342 Economic Development of the Middle East Units: 4
- FREN 448m France and Islam Units: 4
- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 382 The Middle East, 500–1500 Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 384 Popular Culture in the Middle East Units: 4
- HIST 480 Seminar in Middle East History Units: 4
- IR 362 The International Relations of the Contemporary Middle East Units: 4
- IR 363 Middle East Political Economy Units: 4
- IR 464 US-Middle East Foreign Policy Issues Units: 4
- IRAN 250 Persian IV Units: 4
- IRAN 320 Advanced Persian I Units: 4
- IRAN 350 Advanced Persian II Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- MDES 301g The Global Middle East Units: 4
- MDES 312 Shadow of God on Earth: Religion/Politics in Medieval Persia Units: 4
- MDES 313 Modern Iran: Fall of Monarchies and Rise of Islamic Republic Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- MDES 324 Classical Persian Literature in Translation Units: 4
- MDES 325g Politics of Film and Literature in Modern Iran Units: 4
- MDES 340 Perspectives on US Foreign Policy in the Middle East Units: 4
- MDES 342g Modern Arab State and Society I: Media and Intellectual Works Units: 4
- MDES 343g Modern Arab State and Society II: Culture and Literature Units: 4
- MDES 345p Sovereignty in the Middle East Units: 4
- MDES 461 Topics in Ancient Iranian Languages and Cultures Units: 4
- POSC 351 Middle East Politics Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4

Multidisciplinary Activities

Undergraduate Programs, USC Dornsife College
(213) 740-2961
Email: fliegel@dornsife.usc.edu
Contact: Richard Fliegel, PhD

Multidisciplinary Activities (MDA) courses are developed and taught by faculty from more than one program, department and/or school. These courses exist because of the college's interest in supporting interdisciplinary teaching and research. A student's transcript indicates enrollment in a multidisciplinary activities course.

Students who enroll in MDA courses share a common interest in the subject matter, but are not necessarily majors in those disciplines. These courses can be used as electives for certain degree requirements and, when indicated by the "g" suffix, for general education credit.

Collaborative Learning Projects (CLP) and Individual Programs of Study (IPOS)

See Learner Centered Curricula.

Neuroscience (Undergraduate)

Hedco Neurosciences Building 120
(213) 740-6091
FAX: (213) 740-2534
Email: yuhungw@usc.edu
Participating Faculty: See Biological Sciences, Computer Science, Biomedical Engineering, Philosophy, Psychology, Engineering, Gerontology, Medicine and Pharmacy in this catalogue.

Honors Program in Neuroscience

An honors program is available to outstanding students who are pursuing a BA or BS degree in Neuroscience. This program offers students exceptional opportunities to participate in undergraduate research, culminating in the experience of writing an honors thesis summarizing their completed research. Honors students must register for 4 units of Directed Research (NEUR 490x). Honors students are also required to take two semesters of the Honors Seminar (BISC 493x as one of their upper-division electives, 1 unit/semester), in which small groups of students discuss recent findings in neuroscience literature and their own research. After completing the honors seminar, honors students also take one semester of Honors Thesis (BISC 494x, 2 units), in which students write their senior thesis. Students earning honors in neuroscience must have a minimum overall GPA of 3.5 at graduation. This program leads to the designation on the transcript of Bachelor of Arts/Science in Neuroscience with Honors.

Bachelor's Degree

Computational Neuroscience (BS)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

The computational neuroscience major is designed for those students with an interest in applying mathematical and computational methodologies toward understanding the structure and functioning of the nervous system. The major will provide progressive training in interdisciplinary and inter-faculty aspects of neuroscience, and serve as a foundation for students interested in pursuing post-graduate education in graduate or professional schools or career opportunities in technically advanced occupations. Research is integral to this major and students are encouraged to engage in research with neuroscience faculty as early as possible in their undergraduate years.

Grade Requirements

A grade of C- or higher is required to count toward major requirements.

Program Requirements:

Eleven core courses (44 units) + 6-7 electives (22-24 units) for a total of 66-68 units.

Core Requirements

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 421 Neurobiology Units: 4

- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4 or
- CHEM 105aLg General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- NEUR 408 Systems Neuroscience: From Synapses to Perception Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4

Computational Area

Students are to take a total of three courses. The courses are listed in the table according to the programming language of the courses. It is not obligatory that all courses be from the same programming language, but the student should be aware that knowledge of a different language will likely be assumed in the advanced courses. Only one introductory programming course will be counted toward the major.

Computational Area: Introductory Courses

Choose one course (2-4 units).

- CSCI 103L Introduction to Programming Units: 4
- CSCI 455x Introduction to Programming Systems Design Units: 4
- EE 150L Engineering Computational Methods Units: 3
- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 168 Introduction to MATLAB Units: 2

Computational Area: Advanced Courses

Choose two courses (8 units).

- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4

Graduate-Level Courses

A graduate-level advanced course from those listed below may be substituted for the undergraduate advanced course with permission:

- BME 502 Advanced Studies of the Nervous System Units: 4
- BME 575L Computational Neuroengineering Units: 3
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- CSCI 574 Computer Vision Units: 3
- CSCI 662 Advanced Natural Language Processing Units: 4
- EE 559 Mathematical Pattern Recognition Units: 3
- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4
- NSCI 532 Systems and Behavioral Neurobiology Units: 3
- PSYC 506 Learning and Cognition Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4
- PSYC 544 Psychophysiology Units: 4
- PSYC 545 Neuropsychology Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 551 Decision Neuroscience Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4

Biological Area

Choose 1-2 courses (4 units).

- BISC 424 Brain Architecture Units: 4
- BISC 461 Seminar in Molecular and Computational Biology Units: 2
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 481 Structural Bioinformatics: From Atoms to Cells Units: 4
- BISC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Psychology Area

Choose one (4 units).

- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 438 Behavioral Genetics Units: 4

Math Electives

Choose one Math course (4 units) from the list below OR choose one additional course from the areas listed above not already counting for the major.

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Neuroscience (BA)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

Grade Requirements

A grade of C- or higher is required to count toward major requirements.

Degree Requirements

The degree requires eight core courses (32 units) and four or five elective courses (minimum 16 units) for a minimum of 48 total units.

Core Requirements (32 Units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
  or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- BISC 421 Neurobiology Units: 4

- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4 or
- CHEM 105aLg General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4 *
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4

Note:
**An equivalent course may be substituted with permission.*

Elective Courses

Four or five upper-division elective courses (minimum 16 units) from the list below are required. At least one course in the upper-division electives must carry a lab ("L") designation or be NEUR 490x. No more than 4 units of NEUR 490x may be used to fulfill the upper-division elective requirement.

Electives

- BISC 307L General Physiology Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 422L Neurobiology Laboratory Units: 2
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 480 Developmental Biology Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- GERO 414 Neurobiology of Aging Units: 4
- GERO 415 Neuroaffective Disorders of Aging Units: 4
- HBIO 306 Primate Social Behavior and Ecology Units: 4
- MATH 265 Mathematical and Computational Methods for Neuroscience Units: 4 *
- NEUR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 426 Motivated Behaviors and Addiction Units: 4
- PSYC 438 Behavioral Genetics Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4

Note:
**Only an elective for BA and minor.*

Note:
A graduate class from the following list can be substituted for an upper-division elective with permission with minimum GPA of 3.3 and permission of co-directors and instructor.

- BME 575L Computational Neuroengineering Units: 3
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- NSCI 524 Advanced Overview of Neurosciences Units: 4
- NSCI 531 Molecular and Cellular Neurobiology Units: 4
- NSCI 532 Systems and Behavioral Neurobiology Units: 3
- PSYC 506 Learning and Cognition Units: 4
- PSYC 540 Cognitive Neuroscience Units: 4

- PSYC 544 Psychophysiology Units: 4
- PSYC 545 Neuropsychology Units: 4
- PSYC 547 Functional Neuroanatomy Units: 4
- PSYC 551 Decision Neuroscience Units: 4
- PSYC 555 Introduction to Functional Magnetic Resonance Imaging Units: 4

Neuroscience (BS)

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

Grade Requirements

A grade of C- or higher is required to count toward major requirements.

Degree Requirements

The degree requires 14 core courses (minimum 54 units) and five or six elective courses (minimum 20 units) for a minimum total of 74 units.

Core Requirements

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- BISC 408 Systems Neuroscience: From Synapses to Perception Units: 4
- BISC 421 Neurobiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- CSCI 103L Introduction to Programming Units: 4 or
- CSCI 455x Introduction to Programming Systems Design Units: 4 or
- EE 150L Engineering Computational Methods Units: 3 or
- ITP 109 Introduction to Java Programming Units: 2 or
- ITP 115 Programming in Python Units: 2 or
- ITP 168 Introduction to MATLAB Units: 2

- MATH 125g Calculus I Units: 4
- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4 *
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4

Note:

**An equivalent course may be substituted with permission.*

Elective courses

Five or six upper-division elective courses (minimum of 20 units) from the following list are required. At least one course in the upper-division electives must carry a lab ("L") designation or be 490. No more than 4 units of NEUR 490x may be used to fulfill the upper-division elective requirement.

Electives

- BISC 307L General Physiology Units: 4
- BISC 313L Evolution and Population Genetics Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 325 Genetics Units: 4
- BISC 330L Biochemistry Units: 4
- BISC 403 Advanced Molecular Biology Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 410 Applications of Molecular Biology to Medicine Units: 4
- BISC 411 Advanced Cell Biology Units: 4
- BISC 422L Neurobiology Laboratory Units: 2
- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4
- BISC 424 Brain Architecture Units: 4
- BISC 426 Principles of Neural Development Units: 4
- BISC 462 Seminar in Neurobiology Units: 2
- BISC 480 Developmental Biology Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- GERO 414 Neurobiology of Aging Units: 4
- GERO 415 Neuroaffective Disorders of Aging Units: 4
- HBIO 306 Primate Social Behavior and Ecology Units: 4
- MATH 265 Mathematical and Computational Methods for Neuroscience Units: 4
- NEUR 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 438 Behavioral Genetics Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4

A graduate class from the following list can be substituted for an upper-division elective with permission:

- BME 575L Computational Neuroengineering Units: 3 *
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3 *
- NSCI 524 Advanced Overview of Neurosciences Units: 4 *
- NSCI 531 Molecular and Cellular Neurobiology Units: 4 *
- NSCI 532 Systems and Behavioral Neurobiology Units: 3 *
- PSYC 506 Learning and Cognition Units: 4 *
- PSYC 540 Cognitive Neuroscience Units: 4 *
- PSYC 544 Psychophysiology Units: 4 *
- PSYC 545 Neuropsychology Units: 4 *
- PSYC 547 Functional Neuroanatomy Units: 4 *
- PSYC 551 Decision Neuroscience Units: 4 *

Note:
**With minimum GPA of 3.3 and permission of co-directors and instructor*

Minor

Neuroscience Minor

Coordinator: Jason Zevin, PhD
Undergraduate Advisers: Elizabeth Linkous, linkous@usc.edu; Lucy A. Leon, lucyleon@usc.edu

Grade Requirements

A grade of C- or higher is required to count toward minor requirements.

Core Requirements (20 Units)

- PSYC 274Lg Statistics Units: 4 *
- BISC 421 Neurobiology Units: 4 **
- NEUR 408 Systems Neuroscience: From Synapses to Perception Units: 4 **
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4 ***
- Electives A 300- or 400-level course from the elective list for majors Units: 4

Note:
**An equivalent course may be substituted with permission*
***Prerequisite: BISC 220 or BISC 221*
****Prerequisite: PSYC 100*
Recommended but not required: CHEM 103Lx (or CHEM 105La) plus MATH 125
Students who have not already taken the prerequisites (BISC 220/ BISC 221 and PSYC 100) will need to take a total of 28 units to satisfy the requirements of a minor in neuroscience. Thus, the range of units will vary from 20 to 28 depending on a student's background.

Ocean Sciences

Zumberge Hall of Science 117
(213) 740-6106
FAX: (213) 740-8801
Email: waite@usc.edu
oceansciences.usc.edu
Director: Douglas E. Hammond, PhD
Participating Faculty: See *Biological Sciences*, *Earth Sciences* and *Engineering* in this catalogue.
Applications for the Ocean Sciences program should be routed through the affiliated departments and a separate letter sent to the Ocean Sciences director, Douglas E. Hammond, USC Earth Sciences, Los Angeles, CA 90089-0740.

Degree Programs

The Graduate Program in Ocean Sciences (GPOS) provides interdisciplinary education and training to prepare professional ocean scientists for careers in academia, industry, and state and federal government. Students develop the ability to identify and solve significant problems in ocean sciences by using their training in several disciplines. They develop the ability to formulate and test hypotheses and integrate information and concepts about how the earth-ocean system is structured and how it functions. Training also is provided to develop skills in oral and written communication of technical and scientific information. Both MS and PhD degree programs are offered; both require preparation of a thesis (MS) or dissertation (PhD).

Admission Requirements

All rules and regulations described in The Graduate School section of this catalogue and Graduate Admission apply to students in the GPOS.

Official acceptance by the GPOS Admissions Committee is based on the recommendation of faculty from an affiliated department. Acceptance depends upon the applicant's letters of recommendation, research experience, intended area of research, personal interview (whenever possible), and the availability of a faculty member willing to advise and sponsor the applicant.

A BS or BA degree in an appropriate field of natural science, engineering or mathematics is required for admission.

It is expected that applicants to the GPOS will have attained a scholarship average of at least "B" (3.0 GPA on a 4.0 scale) preferably in the natural sciences or mathematics. Applicants must have taken the GRE aptitude test (verbal and quantitative). Successful applicants typically score in excess of 600 on both verbal and quantitative parts of the exam.
Applicants should contact the GPOS office by email or phone for an admission package. The GPOS admits students for both the fall and spring semesters; however, applicants for assistantships are encouraged to apply for the fall semester.

Graduate Degrees

Degree Requirements

Advanced degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Interdisciplinary Programs

The Graduate Program in Ocean Sciences is designed to be interdisciplinary, reflecting the nature of the field that combines principles of physical, chemical, geological and biological oceanography to solve relevant problems in the ocean environment.

Master's Degree

Ocean Sciences (MS)

The program does not accept applicants for a Master of Science degree in ocean sciences. The MS degree is intended only as a transitional degree in the process of completing requirements for the PhD in ocean sciences.

Research Tool Requirements

None required.

Course Requirements

The MS degree in Ocean Sciences requires at least 24 units of course work, including two core courses (OS 512 and 582). Four thesis units (OS 594) are also required. At least 16 units of course work must be at the 500-level or higher; no more than six units can be directed research (OS 590); a maximum of four units with superior grades in approved course work may be transferred from an accredited graduate school. Students are required to maintain an overall GPA of 3.0 in all graduate work.

Thesis

Students should arrange for the appointment of a thesis adviser and committee after the first semester, or at the latest, after the first year of graduate work. The thesis committee should consist of the adviser plus two other faculty members, all of whom are generally selected from GPOS faculty. Once the committee is arranged, the student may make formal application to the Graduate School for the MS degree.

Doctoral Degree

Ocean Sciences (PhD)

Research Tool Requirements

To be determined by qualifying exam committee.

Course Requirements

The PhD degree in Ocean Sciences requires at least 27 units of formal course work (including seminars) of the 60 total units needed. Two core courses are required (OS 512, OS 582). No more than 15 units of 400-level course work may be applied. A maximum of 30 units may be transferred from an accredited graduate school.

Students are required to maintain an overall GPA of 3.0 in all graduate work.

Students may request permission to take the PhD qualifying examination on completion of 24 units of course work, including two core courses in Ocean Sciences.

Screening Procedure

Students in the PhD program must pass the screening procedure before their 25th unit of graduate credit. Screening consists of a review of the student's progress and is usually done by the GPOS Review Committee following a written recommendation by the student's adviser(s). Screening occurs at the end of each semester.

Qualifying Exam Committee

The doctoral qualifying exam committee is formed after the student has passed the screening procedure. The committee is appointed by the department with the advice of the student's research adviser. The five-member committee consists of the adviser, a minimum of three other members from the GPOS faculty, and one additional tenure-track faculty member. The committee must

include faculty members from more than one academic department. A tenure-track faculty member must serve as research adviser or co-adviser. The committee consults with the student, recommends an appropriate program of study and administers written and oral qualifying examinations.

Qualifying Examination

The student may request permission to take the PhD qualifying examination upon completion of 24 units of course work, including two core courses in ocean sciences. The qualifying examination consists of a written and an oral part, both parts prepared, conducted and evaluated by the student's examination committee. The written examination will consist of a number of questions given on two consecutive days. Questions will be comprehensive in scope with respect to the student's chosen area of specialization and will be designed to test the student's conceptual, analytical and integrative ability and preparation.

The written part of the qualifying examination must be taken before the oral examination. The oral examination will be in the area of the student's intended research and will be based on a research project selected and developed by the student into a written proposition. The oral examination will be conducted and evaluated by the student's examination committee. The oral examination must be taken within one month of the written examination.

Defense of the Dissertation

After the student has passed the qualifying examination, the qualifying exam committee recommends to the Graduate School that the student be admitted to candidacy for the PhD degree. Following admission to candidacy the student must register for OS 794 Dissertation every semester, except summers, until the degree is awarded.

Once the qualifying examination is passed, the student is required, as soon as possible, to appoint a dissertation committee, using an appointment of committee form which can be found on the Graduate School Website (usc.edu/schools/GraduateSchool). All or some of the qualifying exam committee may be nominated. Until a dissertation committee is appointed, the qualifying exam committee will have responsibility for the student's program of study. The student must undertake an original investigation of a problem in ocean sciences. The topic must be approved by the student's dissertation committee and will usually be based on the written proposition presented in the qualifying examination.

A dissertation based on the student's research must be approved by the student's dissertation committee. The student must then defend the dissertation. The process for submission of the dissertation to the Graduate School can be found on the Graduate School Website under "Current Students — Thesis and Dissertations." This process should be started approximately one month before the defense, and the student must allow adequate time after the defense for final copy preparation.

The dissertation must conform to the general regulations described in Regulations for Format and Presentation of Theses and Dissertations, also available from the Graduate School Website, Additional regulations and information on the organization and preparation of the dissertation are provided in *Directions for Preparation of Dissertations and Research Reports as Required by the Graduate Program in Ocean Sciences/University of Southern California, available in the GPOS office.*

Philosophy

The School of Philosophy offers courses in most areas of philosophy, including philosophy of mind, philosophy of language, epistemology, metaphysics, logic, philosophy of science, political philosophy, ethics, aesthetics, the history of philosophy, phenomenology and existentialism. The major in philosophy is designed to acquaint students with the fundamental problems of Western thought and introduce them to the concepts and techniques necessary for independent philosophical thinking; it is equally intended to provide a broadening perspective for the various areas of specialization in the natural and social sciences and in literature and the arts. The school also offers minors in: philosophy; ethics and moral philosophy; philosophy; philosophy for business, law, and the professions; and theories of art. In addition to these undergraduate programs, The School of Philosophy also offers a Master of Arts in Philosophy, a Master of Arts in Philosophy and Law, a joint degree with the USC Gould School of Law, and a Doctor of Philosophy in Philosophy.

Mudd Hall of Philosophy 113
(213) 740-4084
FAX: (213) 740-5174
Email: philos@dornsife.usc.edu
dornsife.usc.edu/phil
Director: Scott Soames, PhD

Faculty

Distinguished Professor: Scott Soames, PhD*
Provost Professor of Philosophy and Law: Gary Watson, PhD
William T. Dalessi Professor of Law and Professor of Philosophy: Gregory Keating, PhD *(Law)*
Professors: Stephen Finlay, PhD; John Hawthorne, PhD; Robin Jeshion, PhD; Janet Levin, PhD; Sharon Lloyd, PhD*; Edwin McCann, PhD*; Kevin W. Robb, PhD*; Mark Schroeder, PhD*; Gabriel Uzquiano Cruz, PhD; James Van Cleve, PhD; Kadri Vihvelin, PhD; David Wallace, PhD; Ralph Wedgwood, PhD
Associate Professors: Zlatan Damnjanovic, PhD; John H. Dreher, PhD; Shieva Kleinschmidt, PhD; Jonathan Quong, PhD; Jacob Ross, PhD; Jefferey Sanford Russel, PhD
Assistant Professors: Andrew Bacon, PhD; Jeremy Goodman, PhD
Emeritus University Professor and Emeritus Dean of the USC Dornsife College of Letters, Arts and Sciences: S. Marshall Cohen, MA*
Emeritus Professors: Frank Lewis, PhD; George Wilson, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Double Major

Double majors are encouraged but a student must work in close consultation with the undergraduate adviser.

Bachelor of Arts with a Combined Major in Linguistics and Philosophy

See Linguistics.

Philosophy Honors Program

Students who are considering the possibility of continuing their education at a graduate level in philosophy or similar disciplines, or students who wish to undertake a more intensive course of studies in philosophy, which includes original independent research, are strongly encouraged to take the major with honors.

The major with honors requires completion of the requirements for the Bachelor of Arts, with the following additional requirements:

a. Students must take a capstone seminar, having completed the prerequisites for taking it.
b. In addition to the required courses for the major, students must take PHIL 494 Senior Thesis during the fall term of their senior year. The senior thesis will be graded by the student's adviser and another member of the School of Philosophy, following an oral defense. The senior thesis must be completed with a grade of B or higher.
c. Students must have a GPA of 3.5 or higher in their philosophy courses.

Students who intend to complete the major with honors are encouraged to enroll in the program during their sophomore year (but no later than the end of the first term of their junior year), and should consult about their studies with the faculty adviser for the honors program on a continuous basis.

Minor in Critical Approaches to Leadership

See Interdisciplinary Studies.

Graduate Degrees

The objective of the graduate program in philosophy is to equip suitably prepared and talented students to function effectively as teachers, thinkers and writers on philosophical topics in the Western tradition. The program provides for a wide range of studies within philosophy, but emphasizes the history of philosophy, both classical and modern, along with the traditional core disciplines: ethics, epistemology, metaphysics and logic.

Because philosophy is as much a special manner of intellectual activity as it is a special subject matter, the graduate student is expected not only to master major works in the historical and contemporary literature of philosophical thought, but also to develop the ability to engage in the ongoing process of philosophical research and dialogue.

Admission Requirements

An applicant for admission normally has an undergraduate major in philosophy, but programs may be arranged for promising students who do not. At least three letters of recommendation from the student's undergraduate teachers should be sent to the chair of graduate admissions of the School of Philosophy. All applicants are required to take the verbal and quantitative General Tests of the Graduate Record Examinations.

Degree Requirements

These degrees are awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Progressive Degree Program in Philosophy and Law

The progressive degree program permits exceptional undergraduate students with a major in philosophy to receive both an undergraduate degree and the Master of Arts in Philosophy and Law within five years. A minimum GPA of 3.5, two letters of recommendation and outstanding performance in philosophy courses are required for admission to this program. For other requirements of the progressive degree program, see here.

Graduate Advisement

In addition to the departmental graduate adviser, who has the formal role in graduate advising, each student will be matched with a personal adviser, who will share responsibility with the graduate adviser for monitoring a student's progress semester by semester. The graduate adviser is available to counsel any graduate student on all aspects of the graduate program. A student's personal adviser will consult informally with the student semester by semester on how to interpret his or her grades and especially the written reports provided by the instructor for each course in which the student is enrolled, discuss informally the student's selection of courses each semester, and generally keep track of the student's progress in the program. At the appropriate time, the student will consult his or her adviser concerning the appointment of a faculty committee for guidance and supervision. An official qualifying exam committee will be appointed at the time the student passes the screening examination; for the rules governing its establishment and makeup, see General Requirements for the Doctor of Philosophy degree in the Graduate School section. The qualifying exam committee will meet with the student soon after its appointment, and at least once each academic year thereafter.

Bachelor's Degree

Philosophy (BA)

The School of Philosophy offers three major options: the major in philosophy, the major in philosophy with honors, and the major in philosophy, politics and law.

The major in philosophy requires eight courses in philosophy; six of these must be at the upper-division level.

One of the eight courses must be a gateway course:

- PHIL 300 Introduction to the Philosophical Classics Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- which must be taken before taking any 400-level courses

Students are strongly encouraged to take a course in logic:

- PHIL 120g Introduction to Formal Logic Units: 4
- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4
  or
- PHIL 450 Intermediate Symbolic Logic Units: 4

Distribution Requirement

Students must take at least one course from each of the three categories listed below:

History of Philosophy

- PHIL 300 Introduction to the Philosophical Classics Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 410 Early Greek Thought Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 424 19th Century Philosophy Units: 4
- PHIL 425 American Philosophy Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 473 Wittgenstein Units: 4

Ethics, Law and Value Theory

- PHIL 330 Theories of Law Units: 4
- PHIL 335 Theoretical Models of Leadership Units: 4
- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 338 Political Economy and Social Issues Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 347 Philosophy in Literature Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Systematic Philosophy

- PHIL 350 Symbolic Logic Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 363 Philosophy of Perception Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 450 Intermediate Symbolic Logic Units: 4

- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4
- PHIL 480 Philosophy of Mathematics Units: 4
- PHIL 485 Development of Physical Science Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4

Note:

During the senior year, students enrolled in one of the three majors' programs in philosophy can take a capstone seminar. Students who are enrolled in one of the minors in philosophy may enroll in a capstone seminar only with the permission of the instructor. Enrollment in these seminars will not exceed 15 students. Students may enroll in a capstone seminar only if they have satisfied the following requirements: taken a course in logic (PHIL 120, PHIL 122a, PHIL 122b, PHIL 222, PHIL 351 Reasoning and Logic or PHIL 350), taken at least one 400-level course in philosophy and have a GPA in philosophy of 3.0 or above.

Philosophy, Politics and Law (BA)

This interdisciplinary major combines, in a systematic and structured way, basic education in philosophy, political theory and elements of law. An interdisciplinary approach to the combination of these three disciplines may be of particular interest to students contemplating post-graduate work in law; those interested in a career in public service or politics; and those attracted by the rigor of philosophy and its attention to foundational issues, who are also interested in politics and law. Students are exposed to a wider range of conceptual and methodological approaches than they would in any single discipline, while learning enough philosophy and political science to leave a choice of options for graduate schools. The major requires nine classes, one of which must be a gateway course — PHIL 300, PHIL 315, PHIL 320, PHIL 340 or PHIL 360 — distributed as follows.

Requirements

One lower-division class from the following:

- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 240g Mind, Self, and Consciousness Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Note:

Students who satisfy one of their general education requirements by taking a core, thematic options course of comparable scope and content, can, at the discretion of the director of the School of Philosophy and the philosophy undergraduate adviser for this major, substitute that course for one of the above.

One course in logic:

(Note: If selected, both PHIL 122a and PHIL 122b must be taken as they are considered two parts of one course.)

- PHIL 122ag Reasoning and Argument Units: 2
- PHIL 122bg Reasoning and Argument Units: 2
- PHIL 222g Logic and Language Units: 4
- PHIL 350 Symbolic Logic Units: 4

One course in philosophy of law:

- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4

Two courses from Categories A, B and C below

The two courses must belong to different categories, and one of these courses must be a gateway course: PHIL 300, PHIL 315, PHIL 320, PHIL 340 or PHIL 360. *Students are required to take a gateway course before enrolling in any 400-level course in philosophy.*

A. Moral and political philosophy

- PHIL 335 Theoretical Models of Leadership Units: 4
- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4
- PHIL 443 Value Theory Units: 4

B. History of philosophy:

- PHIL 300 Introduction to the Philosophical Classics Units: 4
- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 317 History of Western Philosophy: Medieval Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 426 20th Century European Philosophy Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4

C. Systematic areas of philosophy:

- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4

One course in constitutional politics:

- LAW 101w Law and the U.S. Constitution in Global History Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

One course in comparative or international politics and law:

- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- POSC 345 International Law Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 448a The Politics of Peace Units: 4

One course in politics, law, and public policy:

- LING 412 Language and Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- POSC 443 Law in Film Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4
- SWMS 349 Women and the Law Units: 4

One course in law:

- LAW 300 Concepts in American Law Units: 4

Note:

Students in the major may enroll in a capstone seminar in philosophy if they have satisfied the general requirements: a GPA of 3.0 in major course work; a course in logic, and at least one 400-level course in philosophy, completed prior to the capstone seminar.

Minor

Ethics and Moral Philosophy Minor

The aim of the minor is to provide students headed for medicine, biology, psychology and other health care professions with a broad humanistic perspective not found in professional education and the critical tools to deal with the ethical issues that may arise in their professional lives.

Students are required to take five courses in philosophy, at least four of which must be upper-division. Students must take at least one lower-division or 300-level course before taking any 400-level courses.

Students must take at least two courses from category one below, and at least one course from category two:

Ethics, History of Ethics and Value Theory:

- PHIL 141gp The Professions and the Public Interest in American Life Units: 4

- PHIL 340 Ethics Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4

Systematic Philosophy:

- PHIL 262g Mind and Self: Modern Conceptions Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4

Philosophy for Business, Law, and the Professions Minor

The aim of the minor is to provide students headed for business, law or the professions a strong set of critical, analytic and expository skills, while providing them with a broad humanistic perspective not found in professional education.

Students are required to take five courses, at least four of which must be upper-division. They must take one course from each of the following categories (1–4), and one additional course from either category 2 or 3. Students must take at least one lower-division or 300-level course before taking any 400-level courses.

1. Logic:

- PHIL 350 Symbolic Logic Units: 4
- PHIL 351 Reasoning and Logic Units: 4
- PHIL 352 Logic and Language Units: 4

2. Law, Leadership, and the Professions:

- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- PHIL 330 Theories of Law Units: 4
- PHIL 335 Theoretical Models of Leadership Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4

3. Ethics, History of Ethics, and Value:

- PHIL 340 Ethics Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4

4. Systematic Philosophy:

- PHIL 262g Mind and Self: Modern Conceptions Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4

Philosophy Minor

The minor in philosophy requires the completion of five philosophy courses, at least four of which are upper-division courses. All minors must take a gateway course — PHIL 315, PHIL 320, PHIL 340, or PHIL 360 — before enrolling in any 400-level course.

Distribution requirement:

Students must take at least one course from each of the three categories listed below:

History of Philosophy:

- PHIL 315 History of Western Philosophy: Ancient Period Units: 4
- PHIL 320 History of Western Philosophy: Modern Period Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 410 Early Greek Thought Units: 4
- PHIL 411 Plato Units: 4
- PHIL 415 Aristotle Units: 4
- PHIL 421 Continental Rationalism Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 424 19th Century Philosophy Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4

Ethics, Law and Value Theory:

- PHIL 330 Theories of Law Units: 4
- PHIL 335 Theoretical Models of Leadership Units: 4
- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 340 Ethics Units: 4
- PHIL 345 Greek Ethics Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- PHIL 440 Contemporary Ethical Theory Units: 4
- PHIL 442 History of Ethics to 1900 Units: 4

Systematic Topics:

- PHIL 350 Symbolic Logic Units: 4
- PHIL 351 Reasoning and Logic Units: 4
- PHIL 352 Logic and Language Units: 4
- PHIL 360 Epistemology and Metaphysics Units: 4
- PHIL 385 Science and Rationality Units: 4
- PHIL 427 20th Century Anglo-American Philosophy Units: 4
- PHIL 428 Anglo-American Philosophy Since 1950 Units: 4
- PHIL 460 Metaphysics Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 470 Theory of Knowledge Units: 4
- PHIL 480 Philosophy of Mathematics Units: 4
- PHIL 485 Development of Physical Science Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4

Theories of Art Minor

Theorizing about the arts takes place in the discipline of philosophy (aesthetics) as well as in all the individual disciplines concerned with the individual arts. Some of the issues involved (is perspective a matter of convention?; how does acting differ in cinema and in theatre?) are specific to a particular discipline or disciplines, but their discussion typically involves very general issues (in the cases mentioned, issues about the nature of convention or of artistic media) and many of the issues manifest themselves in all these disciplines (the relation of intention to interpretation; the epistemological and moral status of the arts; the nature of evaluative judgments). The understanding of these issues can be greatly enhanced by studying them as they arise in different arts and in different theoretical traditions. The minor should be of interest to students with an interest in philosophy, or students in any of the arts who are interested in their theoretical dimensions.

There are no entrance requirements for the minor, which requires six courses (23 or 24 units, depending on course selection).

All students must take

- PHIL 242 Theories of Art Units: 4

And select five courses from the following:

- AHIS 250m Modernity and Difference: Critical Approaches to Modern Art Units: 4
- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COLT 454 Aesthetic Philosophy and Theory Units: 4
- PHIL 445 Philosophy of the Arts Units: 4
- PHIL 446 Aesthetics and the Film Units: 4
- THTR 404 Acting Theory Units: 4

Master's Degree

Philosophy (MA)

The department does not accept applicants for a Master of Arts degree in philosophy. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in philosophy.

A student may obtain an MA in philosophy by fulfilling the following requirements: a minimum of 36 units in the USC philosophy school, at least 24 of which must be at the 500 level. Requirements include: PHIL 500, PHIL 503 and a 500-level course in each of the following three areas: metaphysics and epistemology, ethics and other value theory, and history of philosophy. Of the remaining four required (4-unit) courses, only four units of PHIL 590 are applicable to the degree. A publishable research paper is also required.

Philosophy and Law (MA)

A total of 36 units are required for the degree, including at least 24 units in philosophy. Twelve of these must come from completing the specialization and breadth requirements. The former requires students to take a 4unit, 500-level course in philosophy on a topic spanning philosophy and law. The latter requires students to take PHIL 500 or PHIL 503, plus another 4-unit, 500-level course in philosophy on a topic that does not span philosophy and law, including but not limited to topics in metaphysics, epistemology, philosophy of language, philosophy of science, ethics, aesthetics and history of philosophy. Students must also demonstrate a basic proficiency in symbolic logic, typically by passing, at a sufficiently high level, one of a specified range of 4-unit courses in logic offered by the School of Philosophy. The law requirement for this degree consists of two courses in the USC Gould School of Law. The first must be either LAW 503 Contracts or LAW 509 Torts I. The second must be either LAW 504 Criminal Law or LAW 508 Constitutional Law. Students who elect to take LAW 504 would normally also take 1 unit of PHIL 590 as an accompaniment. Degree candidates must also write a master's thesis on some subject in legal philosophy. At least one of the thesis advisers must have an appointment in the School of Philosophy.

Dual Degree

Master of Arts, Philosophy/Juris Doctor (MA/JD)

Students must complete 24 units in the USC School of Philosophy and 69 units in the USC Gould School of Law.

First Year: Required law school curriculum

Second and Third Years: The School of Philosophy prefers that students take at least one philosophy course each semester. During the four semesters, students must take at least 16 units at the 500-level, including PHIL 450 Intermediate Symbolic Logic or PHIL 510 Philosophical Logic and PHIL 500, and PHIL 503, one 400- or 500-level course in ethics or social/political philosophy or aesthetics or philosophy of law; one 400- or 500-level course in metaphysics or epistemology or philosophy of language or philosophy of science or philosophy of mind; one 400- or 500-level course in the history of ancient or early modern philosophy; passage of the second year review that shall include a research paper based on a completed seminar paper and completion of a publishable research paper. Students must also complete 36 additional law units.

Doctoral Degree

Philosophy (PhD)

Application deadline: January 1

Course Requirements

The minimum number of course credits required for the PhD is 60 units. No more than 8 of these units may be from 590 courses and no more than 8 of these units may be from 400-level courses in the School of Philosophy. PHIL 450 does not count toward this maximum of 8 units of 400-level courses in the School of Philosophy. No more than eight of these units may be earned in 794 Doctoral Dissertation. Each student must pass PHIL 450 with a grade of B or better and must pass both PHIL 500 and PHIL 503 with a grade of B+ or better. PHIL 450 and both PHIL 500 and PHIL 503 must be satisfactorily completed by the end of the second year.

The student may take up to two courses in a field of study related to philosophy. The PhD dissertation may be written in any area of philosophy for which adequate supervision is available from within the university. PhD students are also required to show evidence of practical or editorial training, or their equivalent.

Foreign Language/Research Tool Requirement

A foreign language examination, specified by the school, in French, German, Latin or classical Greek is required. The faculty may approve a replacement of the language requirement by a research tool requirement, consisting of an approved course or examination in a subject essential to the student's research program. The course or examination must be passed before the qualifying examination is attempted.

There are three levels of evaluation in the PhD program prior to the dissertation:

Distribution Requirement

There is a distribution requirement of six courses at the 500 level in the School of Philosophy, two each representing breadth within each of the following three areas: (1) metaphysics and epistemology (broadly construed, including philosophical logic; philosophy of science; philosophy of math, mind, and language), (2) value theory (broadly construed, including aesthetics, political philosophy, and the philosophy of law), and (3) pre-1879 history of philosophy. PHIL 500, PHIL 503 and PHIL 590 courses cannot count toward this requirement. Up to two 400-level courses may count by petition toward this requirement, provided that the departmental standards for graduate-level course work are met. For courses straddling two areas (for example, history of ancient philosophy and metaphysics; history of modern philosophy and ethics), instructors will indicate on the syllabus which requirement the course will satisfy. Courses dealing with subject matter within more than one of the areas listed may be used to satisfy any of the areas encompassed by the course although no single course may be used to satisfy two requirements at once. The two courses within each distribution area must represent breadth, as determined in advance by the graduate adviser and in accordance with departmental guidelines. All distribution requirements must be completed by the end of the fifth semester.

Screening Procedure

Students in the PhD program must pass a screening procedure before undertaking their 25th unit (seventh course) of graduate credit. This will be based on a review of the student's work to date, and will take into account not only information acquired but also those intellectual qualities and capacities that are essential for good work in philosophy: the capacity to think and write on philosophical issues with clarity, consistency and thoroughness; the ability to understand in detail what is involved in the meaning and justification of philosophical claims or positions; the ability to recognize and to draw out fine conceptual distinctions and to perceive their logical relationships; and strong intellectual curiosity and independence of thought.

Student Reviews

Graduate student progress is reviewed on a regular basis each term. In addition, apart from the screening procedure, there are more formal reviews conducted at the end of the 4th and 6th semesters of study, as described below.

In the fourth semester of study, normally the spring of the second year, each student shall submit two papers, approximately 8,000 words each, in different fields of philosophy (ordinarily two substantially revised papers previously submitted in seminars). The choice of papers should be made in consultation with the Graduate Adviser. The second year evaluation will be made on the basis of faculty review of the submitted papers and consideration of the student's total record.

For the review following the sixth semester of study, students are

to select one from a list of pre-designated areas in philosophy and master the material on a pre-assigned reading list of important works in that area. At the beginning of the sixth semester, each student will take a written examination, designed by the faculty of the School of Philosophy, on the materials covered in the relevant reading list followed by an oral examination exploring their knowledge of the field. This examination must be passed by the end of the sixth semester. The examining committee for each student will consist of faculty conversant with the field and appointed by the school.

Qualifying Examination

This examination consists of a written prospectus of the proposed dissertation and an in-depth oral examination on the form and subject matter of the proposed dissertation. All faculty members may inspect the prospectus and be present at the oral, but evaluation of the qualifying examination is the responsibility of the student's qualifying exam committee. The examination is not passed if two or more members of the qualifying exam committee find it unsatisfactory.

The qualifying examination is not offered in the summer. Those who intend to take this examination must meet all the conditions specified in the section on general requirements for the PhD Students are expected to pass the qualifying exam by the end of the seventh semester. Students who have not passed the qualifying exam by the end of the seventh semester will be subject to faculty review, and may not be allowed to continue in the program.

Doctoral Dissertation

When the student passes the qualifying examination, a dissertation committee (see Graduate Advisement), replacing the qualifying exam committee, is appointed by the director of the school in consultation with the student and the philosophy faculty. Normally, the qualifying exam committee simply becomes the dissertation committee. This committee and the candidate will then agree upon how the dissertation is to be developed and written. The dissertation must be an original contribution to some well-defined area in philosophy, and must give evidence of the student's ability to do respectable, large-scale research, thinking, and writing in the field. The school requires the defense oral when the research and writing of the dissertation is substantially complete. Attendance at this oral examination is open to all members of the university faculty, but the examination is conducted and evaluated by the candidate's dissertation committee. The faculty normally works with the dissertations only in the fall and spring semesters, and the student should plan accordingly.

Physical Education

The physical education program provides a variety of offerings in fitness and activities classes designed to promote health and general fitness based upon individual goals and needs. Fitness classes focus primarily on development of muscle strength, muscle endurance, cardiorespiratory endurance, flexibility, general wellness principles and nutritional guidelines. Activities classes stress fundamental techniques, tactics, rules, etiquette and the importance of leisure time activities to physical, mental and social well-being.

Physical Education Building 108
(213) 740-2488
Fax: (213) 821-1058
Email: phed@dornsife.usc.edu
dornsife.usc.edu/phed
Director: Steve VanKanegan, MS
Administrative Coordinator: Amber Harris, MPW
Equipment Manager: Victor Escobar

Faculty

Master Lecturer: Steve VanKanegan, MS
Senior Lecturer: Timothy L. Burton, MEd
Lecturers: Ian Culbertson, BA; Stephanie Eggert, MS; Andre Haralyi, MA; Sarah McGill, MS; Steve Hsu, MS; John Jessee, MS; Isabelle Pilliere Mazumdar, BA

General Requirements

No more than 4 units of physical education activity courses may be applied to a student's overall unit requirement, toward his or her USC degree.

Registration in courses PHED 102a, PHED 102b–PHED 163 is contingent upon assessment of students' knowledge and competence in performance during the first two class meetings. Students who wear glasses while participating in vigorous activities must secure departmental approval of provisions made for eye protection in courses PHED 140a and PHED 140b. Course PHED 165 is reserved for students who are reporting for regular freshman or varsity athletic squads.

To obtain a prerequisite waiver to take a b class before having taken the a section, the instructor's approval and signature are needed. Students should be aware that in the future they cannot take the prerequisite course in the activity for credit after having it waived.

Physics and Astronomy

The Department of Physics and Astronomy offers the Bachelor of Science in Physics, Bachelor of Science in Astronomy, Bachelor of Science in Physics/Computer Science, Bachelor of Arts in Physics, Bachelor of Arts in Astronomy, Bachelor of Science in Biophysics, Bachelor of Science in Physical Sciences, a minor in physics or astronomy, Master of Science in Physics, Master of Arts in Physics and Doctor of Philosophy in Physics.

Ahmanson Center for Biological Research (ACB) 439
Main: (213) 740-0848; Undergraduate: (213) 740-1140;
Graduate: (213) 740-8685
FAX: (213) 740-6653
Email: physics@dornsife.usc.edu
dornsife.usc.edu/physics
Chair: Stephan Haas, PhD

Faculty

Anna H. Bing Dean's Chair in the College of Letters, Arts and Sciences and Professor of Physics and Astronomy: Amber Miller, PhD
University Professor and Provost Emeritus and Professor of Physics and Education: Lloyd Armstrong, Jr.
Presidential Professor of Physics and Medicine: Murray Gell-Mann, PhD
William M. Keck Distinguished Professor of Engineering and Professor of Electrical Engineering and Physics and Astronomy: P. Daniel Dapkus, PhD *(Electrical Engineering)*
University Professor, George T. Pfleger Chair in Electrical Engineering, and Professor of Physics: Robert W. Hellwarth, PhD *(Electrical Engineering)*
Kenneth T. Norris Professor of Engineering Professor of Chemical Engineering and Material Science, Physics and Biomedical Engineering: Anupam Madhukar, PhD *(Material Science)*
Professors: Itzhak Bars, PhD; Gerd Bergmann, PhD; N. Eugene Bickers, PhD*; Hans M. Bozler, PhD; Werner Däppen, PhD*; Jack Feinberg, PhD*; Christopher M. Gould, PhD*; Martin A. Gundersen, PhD *(Electrical Engineering)*; Stephan Haas, PhD*; Clifford Johnson, PhD*; Rajiv Kalia, PhD; Vitaly Kresin, PhD; Joseph Kunc, PhD *(Aerospace Engineering)*; Anthony J. Levi, PhD *(Electrical Engineering)*; Daniel Lidar, PhD *(Chemical Engineering)*; Jia

Grace Lu, PhD;Aiichiro Nakano, PhD *(Computer Science)*; Dennis Nemeschansky, PhD; Elena Pierpaoli, PhD; Krzysztof Pilch, PhD; Edward J. Rhodes, Jr., PhD*; Hubert Saleur, PhD; Robin Shakeshaft, PhD; Armand Tanguay, PhD *(Electrical Engineering)*; Priya Vashishta, PhD *(Materials Science)*; Andrey Vilesov, PhD *(Chemistry)*; William G. Wagner, PhD; Nicholas P. Warner, PhD*; Paolo Zanardi, PhD
Associate Professors: Stephen Cronin, PhD *(Electrical Engineering)*; Mohamed El-Naggar, PhD*; Michelle Povinelli, PhD *(Electrical Engineering)*
Assistant Professors: James Boedicker, PhD; Christoph A. Haselwandter, PhD; Fabien Pinaud, PhD *(Biological Sciences)*; Remo Rohs, PhD *(Biological Sciences)*; Susumu Takahashi, PhD *(Chemistry)*
Professors (Research): Leonid Didkovsky, PhD; Geraldine J. Peters, PhD
Associate Professor (Research): Rosa Di Felice, PhD
Assistant Professors (Research): Lorenzo Campos Venuti, PhD; Loris Colombo, PhD
Assistant Professor (Teaching): Vahe Peroomian, PhD
Lecturer: Scott Macdonald, PhD
Adjunct Assistant Professor of the Practice: Kenneth Phillips, PhD
Emeritus Professors: Robert K. Cole, PhD; Melvin A. Daybell, PhD; Tu-Nan Chang, PhD
Emeritus Professor (Research): Chung-Yung (Robert) Wu, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Grade Point Average in Major Subject

A GPA of C (2.0) or higher is required in all upper-division courses taken in the department for all of the above major degree programs. A grade of C (2.0) or higher is required in all courses in the department specifically listed as subject requirements.

Advisement

Advisement is required for all BS and BA degree candidates in the department. Students should meet with their departmental academic adviser at least once a semester to review the direction of their academic programs. Students who have not met with an adviser should contact the director of undergraduate affairs. Students are also encouraged to seek the advisement of faculty members whose specializations are appropriate to their intended field of graduate study.

Undergraduate Research Opportunities

Students are encouraged to become familiar with the research programs of the faculty in the department. Students who intend to pursue a PhD and a career in research in physics or astronomy following graduation are strongly encouraged to become involved directly in one of the research programs, whether as summer research assistants or as part-time laboratory assistants during the academic year. Specific research opportunities will depend upon individual faculty research programs.

Graduate Degrees

The Department of Physics and Astronomy offers graduate study at the master's and doctoral degree levels. The graduate program prepares students for professional careers in research, teaching and developmental applications of physics.

Entering students spend time in intensive course work providing a broad background in advanced physics regardless of degree objective. Subsequent study involves a mix of course work, practical training and independent research (depending on degree objective). The doctoral program affords exceptionally close collaboration between students and faculty.

Research Areas: Experimental, Theoretical and Computational

Opportunities for research are offered in atomic, molecular and optical/laser physics, astrophysics, biological physics, elementary particle theory, string theory, quantum field theory, earthquake physics, helioseismology, condensed matter physics, quantum electronics/nonlinear optics, space physics and ultralow temperature physics.

Degree Requirements

Graduate degrees in the Department of Physics and Astronomy are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Graduate study in physics is divided into three degree objectives:

- Master of Science and Master of Arts in Physics
- Doctor of Philosophy in Physics

Bachelor's Degree

Astronomy (BA)

This program is intended for students with an interest in astronomy who may not intend to pursue a career in the field.

Required Lower-Division Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4, 2 years
- ASTR 450 Stellar Astrophysics Units: 4, 2 years
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 492L Senior Lab Units: 4

Total units: 57

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.

Astronomy (BS)

This program is intended primarily for students who are interested in a career in astronomy.

Required Lower-Division Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4, 2 years
- ASTR 450 Stellar Astrophysics Units: 4, 2 years
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4

- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 492L Senior Lab Units: 4

Total units: 73

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.

Biophysics (BS)

This program is intended for students with an interest in the interdisciplinary field of biophysics. The degree program provides the physics and biology background necessary for the field while simultaneously fulfilling medical school entrance requirements.

Required Lower-Division Courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 115aLg Advanced General Chemistry Units: 4 *
- CHEM 115bL Advanced General Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 **
- PHYS 162L Advanced Principles of Physics II Units: 4 **
- PHYS 163L Advanced Principles of Physics III Units: 4 **
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 444 Physical Biology: From Molecules to Cells Units: 4

Total units: 56

**PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*
***PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*

Physical Sciences (BS)

This program is intended for students with an interest in the physical sciences. The program is designed to allow students interested in teaching at the secondary level to enroll in courses required for the California Single Subject Teaching credential offered through the School of Education.

Required Lower-Division Courses

- CHEM 115aLg Advanced General Chemistry Units: 4 **
- CHEM 115bL Advanced General Chemistry Units: 4 **
- GEOL 105Lg Planet Earth Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Upper-Division Courses

- Astronomy elective* Units: 4
- Chemistry elective* Units: 4
- Earth Science elective* Units: 4
- Physics elective* Units: 4
- Three additional electives from these fields* Units: 12

Note:

**Upper-division courses must be applicable to majors in their respective departments.*
***CHEM 105aL, CHEM 105bL may be substituted for the sequence CHEM 115aL, CHEM 115bL.*

Other Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4

Total units: 64

Physics (BA)

This program is intended for students with an interest in physics who may not intend to pursue a career in physics.

Required Lower-Division Courses

- CHEM 105aLg General Chemistry Units: 4 **
- CHEM 105bL General Chemistry Units: 4 **
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 492L Senior Lab Units: 4

Choose one:

- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 440 Introduction to Condensed Matter Physics Units: 4
- PHYS 493L Advanced Experimental Techniques Units: 4

Total units: 65

**PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.*
**CHEM 115aL, CHEM 115bL may be substituted for the sequence CHEM105aL, CHEM105bL.

Physics (BS)

This program is intended primarily for students who are interested in a career in physics.

Required Lower-Division Courses

- CHEM 115aLg Advanced General Chemistry Units: 4 **
- CHEM 115bL Advanced General Chemistry Units: 4 **
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 163L Advanced Principles of Physics III Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4

- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 440 Introduction to Condensed Matter Physics Units: 4
- PHYS 492L Senior Lab Units: 4
- PHYS 493L Advanced Experimental Techniques Units: 4

Total units: 77

*PHYS 151L, PHYS 152L and PHYS 153L may be substituted for the sequence PHYS 161L, PHYS 162L and PHYS 163L.
**CHEM 105aL, CHEM 105bL may be substituted for the sequence CHEM 115aL, CHEM 115bL.

Physics/Computer Science (BS)

This program is intended for students with dual interests in physics and computer science who wish to complete the essential courses for both majors within their normal four-year career.

Required Lower-Division Courses

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 161Lg Advanced Principles of Physics I Units: 4 *
- PHYS 162L Advanced Principles of Physics II Units: 4 *
- PHYS 190 Physics Discovery Series Units: 1

Required Upper-Division Courses

- CSCI 350 Introduction to Operating Systems Units: 4
- EE 352L Computer Organization and Architecture Units: 3
- MATH 445 Mathematics of Physics and Engineering II Units: 4
- PHYS 304 Mechanics Units: 4
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 408b Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 438b Introduction to Quantum Mechanics and its Applications Units: 4
- PHYS 495 Senior Project Units: 2

Total units: 81

**PHYS 151L and 152L may be substituted for PHYS 161L and 162L respectively.

Minor

Astronomy Minor

The astronomy minor is open to all students. A minimum of three courses taken toward the minor must be unique to the minor.

Required Courses (24 Units)

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Elective - Choose 3 (12 Units)

- ASTR 400 The Solar System Units: 4, 2 years
- ASTR 422 Galaxies and Large-Scale Structures in the Universe Units: 4, 2 years
- ASTR 424 Cosmology Units: 4, 2 years
- ASTR 450 Stellar Astrophysics Units: 4, 2 years

Total units: 36

Physics Minor

The physics minor is open to all students. Engineering students must take a minimum of three upper-division courses unique to the minor.

Required Courses (28 Units)

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Electives - Choose 3 (12 Units)

- PHYS 304 Mechanics Units: 4
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- PHYS 408a Electricity and Magnetism Units: 4
- PHYS 438a Introduction to Quantum Mechanics and its Applications Units: 4

Total units: 40

Master's Degree

Physics (MA)

Admission Requirements

The prerequisite for admission for a master's degree in the Department of Physics and Astronomy is a bachelor's degree in physics or a related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted as a degree candidate at the beginning of fall or spring semester.

Residence

All MS and MA degree students normally take at least three courses for each of two semesters. A total of 24 units of credit is required for graduation. Admitted students may transfer a maximum of 4 units of credit to apply toward the degree requirements.

Foreign Language Requirement

There is no foreign language requirement for the MS or MA

Course Requirements

Option A MS in Physics: The MS degree requires satisfactory completion of seven courses (exclusive of PHYS 500 and PHYS 594), of which no more than one course may be PHYS 590 Directed Research. In addition, satisfactory completion of a thesis (and 4 units of PHYS 594) is required.

Option B MA in Physics: The MA degree requires satisfactory completion of eight courses (exclusive of PHYS 500 and PHYS 590) plus a high level of performance on the comprehensive examination.

The required courses for either option are PHYS 504, PHYS 508a and PHYS 558a. For either option at least five courses must be at the 500 level or higher and remaining courses at the 400 level or higher; at least five courses must be in physics. All required

physics courses must be passed with a grade of B- or better. No upper-division courses required for the BA in physics at USC may be counted for credit toward the MA or MS degree.

Comprehensive Examination

All master's degree candidates are required to take the departmental screening examination not later than during their second semester (excluding summer). This examination serves as the required comprehensive examination for the MA degree. A high level of performance is required for the MA degree, and a superior level is required for admission to (or continuation in) the PhD program.

Physics (MS)

Admission Requirements

The prerequisite for admission for a master's degree in the Department of Physics and Astronomy is a bachelor's degree in physics or a related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted as a degree candidate at the beginning of fall or spring semester.

Residence

All MS and MA degree students normally take at least three courses for each of two semesters. A total of 24 units of credit is required for graduation. Admitted students may transfer a maximum of 4 units of credit to apply toward the degree requirements.

Foreign Language Requirement

There is no foreign language requirement for the MS or MA

Course Requirements

Option A MS in Physics: The MS degree requires satisfactory completion of seven courses (exclusive of PHYS 500 and PHYS 594), of which no more than one course may be PHYS 590 Directed Research. In addition, satisfactory completion of a thesis (and 4 units of PHYS 594) is required.

Option B MA in Physics: The MA degree requires satisfactory completion of eight courses (exclusive of PHYS 500 and PHYS 590) plus a high level of performance on the comprehensive examination.

The required courses for either option are PHYS 504, PHYS 508a and PHYS 558a. For either option at least five courses must be at the 500 level or higher and remaining courses at the 400 level or higher; at least five courses must be in physics. All required physics courses must be passed with a grade of B- or better. No upper-division courses required for the BA in physics at USC may be counted for credit toward the MA or MS degree.

Comprehensive Examination

All master's degree candidates are required to take the departmental screening examination not later than during their second semester (excluding summer). This examination serves as the required comprehensive examination for the MA degree. A high level of performance is required for the MA degree, and a superior level is required for admission to (or continuation in) the PhD program.

Doctoral Degree

Physics (PhD)

Application deadline: January 1

Admission Requirements

The prerequisite for admission to the doctoral program in the Department of Physics and Astronomy is a bachelor's (or master's) degree in physics or related field. All applicants for admission must take the Graduate Record Examinations, including the Physics Subject Test. Transcripts of undergraduate records as well as transcripts of any graduate-level courses are required. The TOEFL or IELTS is required of international students applying for a teaching assistantship as well as for those applying for admission only. Applicants may be admitted to the program at the beginning of the fall or spring semester.

Residence

PhD students in physics normally enroll in three courses for each of the first four semesters in graduate school. A total of 60 units of credit is required for graduation. Students admitted to the PhD program may transfer a maximum of 30 units of credit to apply toward degree requirements. For students admitted with Advanced Standing (entry with an appropriate completed graduate degree from an accredited institution), a minimum of 36 units of course work beyond that graduate degree, exclusive of PHYS 794a and PHYS 794b, will be required.

Foreign Language Requirement

There is no foreign language requirement for the PhD.

Course Requirements

The student is expected to have prepared for understanding all branches of physics. The required courses for the PhD are (1) the following seven core courses: PHYS 504, PHYS 508a, PHYS 508b, PHYS 510, PHYS 518, PHYS 558a, and PHYS 558b; (2) a minimum of four elective graduate courses in Physics and Astronomy (or with departmental approval in related departments); (3) four units of PHYS 500; and (4) PHYS 794a and PHYS 794b. All required physics courses (except PHYS 500 and PHYS 794a, PHYS 794b, PHYS 794c, PHYS 794d, and PHYS 794z) must be passed with a grade of B- or better. After passing the qualifying examination the student must register for PHYS 794a, PHYS 794b, PHYS 794c, PHYS 794d, or PHYS 794z Doctoral Dissertation each fall and spring semester.

Screening Procedure

Any student proceeding toward the PhD in physics must pass the departmental screening examination at a superior level. The exam must be taken not later than during the second semester (excluding summers, but including time in the MA/MS program) in the department. New advanced students who have passed an equivalent comprehensive examination at a well-recognized research university with superior grades may apply to the departmental examination committee for an oral interview in order to be exempted from the written screening examination. A faculty member who supervises the research of such a student in the department must support this application.

Qualifying Exam Committee

The graduate adviser serves as adviser to incoming students and assists in the appointment of the qualifying exam committee, which is formed after the screening examination has been passed. After the student passes the qualifying examination and a dissertation topic is approved, the five-member qualifying exam committee becomes known as the dissertation committee and is responsible for monitoring the candidate's progress and for approving the final content and form of the dissertation.

Qualifying Examination

The qualifying examination must be attempted not later than during the seventh semester (or in the case of advanced students, the fifth semester) in the department (excluding summer). The PhD qualifying examination contains a written part and an oral part. The written part consists of a critical review by the student of a published work selected by the qualifying exam committee and of a research proposal prepared by the student on the area in which the student intends to do a doctoral dissertation. The oral part expands on the written part.

Dissertation

A doctoral dissertation in physics is expected to be an extensive description of original research carried out by the student. A complete discussion of reported research in relation to previous work by others is essential.

Defense of the Dissertation

The dissertation must be defended in a final oral examination. The candidate must be prepared to answer general questions in the field as well as specific questions regarding the dissertation.

Core Courses

- PHYS 504 Advanced Mechanics Units: 3
- PHYS 508a Advanced Electricity and Magnetism Units: 3
- PHYS 508b Advanced Electricity and Magnetism Units: 3
- PHYS 510 Methods of Theoretical Physics Units: 3
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3
- PHYS 558a Quantum Mechanics Units: 3
- PHYS 558b Quantum Mechanics Units: 3

Electives

A minimum of four elective graduate courses in Physics and Astronomy (or, with departmental approval, in related departments)

Colloquium

- PHYS 500 Graduate Colloquium Units: 1

Dissertation

- PHYS 794a Doctoral Dissertation Units: 2
- PHYS 794b Doctoral Dissertation Units: 2

Political Science

The Political Science major combines study of the foundations of political systems and institutions with examination of public attitudes, participation, and behavior. The major allows students to acquire an in-depth understanding of citizens' relationship to government while developing critical thinking and research skills.

The Department of Political Science offers courses in four broad fields: American politics, political thought, comparative politics, and law and public policy. Faculty provide regional specialization in Latin America, East Asia, Western Europe, Russia and Eastern Europe, the Middle East, and Africa.

The Political Science major also offers eight concentrations, allowing students to develop expertise in the areas of: Applied Politics; Cross National and Regional Politics; Environmental Politics; Law and Human Rights; Parties, Interest Groups, and Institutions; Political Thought and Philosophy; Public Opinion, Communication, and Decision-Making; and Race, Gender, and the Politics of Justice.

The Jesse M. Unruh Institute of Politics offers internship opportunities with governmental and nongovernmental organizations to students as part of the political science program of study.

The Department of Political Science offers: the BA; minors in political science; law and society; race, ethnicity and politics; human rights; and practical politics. The department also offers a PhD degree in Political Science and International Relations (See Political Science and International Relations), as well as a dual PhD in Political Science and International Relations/Juris Doctor with the USC Gould School of Law.

Von KleinSmid Center 327
(213) 740-6998
FAX: (213) 740-8893
Email: posc@dornsife.usc.edu
dornsife.usc.edu/politicalscience
Chair: Dennis Chong, PhD

Faculty

Blue Cross of California Chair in Health Care Finance and Professor of Policy, Planning and Development and Political Science: Glenn Melnick, PhD *(Public Policy)*
C. Erwin and Ione L. Piper Dean's Chair and Professor of Policy, Planning and Development and Political Science: Dan Mazmanian, PhD *(Public Policy)*
C. Erwin and Ione L. Piper Professor of Policy, Planning and Development and Political Science: Jack Knott, PhD
Robert C. Packard Trustee Chair in Law and Professor of Law, Economics and Political Science: Edward McCaffery, JD *(Law)*
Emery Evans Olson Chair in Non-Profit Entrepreneurship and Public Policy and Professor of Public Policy and Political Science: James Ferris, PhD *(Public Policy)*
Jeffrey J. Miller Chair in Government, Business and the Economy and Professor of Public Policy and Political Science: Elizabeth Graddy, PhD *(Public Policy)*
Maria B. Crutcher Professor of Citizenship and Democratic Values: Terry L. Cooper, PhD *(Public Policy)*
Robert Kingsley Professor in Law and Professor of Law and Political Science: Susan Estrich, JD *(Law)*
Walter Annenberg Chair in Communication and Professor of Political Science: Ernest J. Wilson III, PhD *(Communication)*
Carmen H. and Louis Warschaw Chair in Practical Politics and Professor of the Practice of Political Science: Robert M. Shrum, PhD
Professors: Ange-Marie Alfaro, PhD; Dennis Chong, PhD; Ann Crigler, PhD*; Philip Ethington, PhD *(History)*; Thomas Hollihan, PhD *(Communication)*; Jane Junn, PhD; Sharon Lloyd, PhD *(Philosophy)*; Nancy Lutkehaus, PhD *(Anthropology)*; John Matsusaka, PhD *(Finance and Business Economics)*; Alison D. Renteln, PhD*; Stanley Rosen, PhD*; Eliz Sanasarian, PhD*; Shui Yan Tang, PhD *(Public Policy)*
Associate Professors: John E. Barnes, PhD*; Christian Grose, PhD; Juliet Musso, PhD *(Public Policy)*; Jefferey M. Sellers, PhD
Assistant Professors: Morris Levy, PhD; James Lo, PhD; Bryn Rosenfeld, PhD
Associate Professors of the Practice: Arthur Auerbach, PhD; Anthony Kammas, PhD; Yael Wolinsky-Nahmias, PhD
Adjunct Assistant Professors: William Fahey, JD; George Newhouse Jr., JD; Olu K. Orange, JD; Darry Sragow, JD
Lecturers: Jinhee Choung, PhD; Fayez Hammad, PhD; Hooman Kazemi, JD; Mi Ri Song, JD
Emeritus Professors: Richard H. Dekmejian, PhD; Nora Hamilton, PhD; John R. Schmidhauser, PhD
Emeritus Associate Professor: Joseph L. Nyomarkay, PhD*
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Advisement

The department has faculty and staff advisers who provide academic advisement, career counseling and advisement to pre-law students and those wishing to go on to graduate studies. All majors are encouraged to see their adviser.

Bachelor of Arts, Philosophy, Politics and Law

This interdisciplinary program consists of nine courses chosen from PHIL, POSC, LAW and ANTH. See Philosophy.

Interdisciplinary Russian Area Studies Minor

See Department of Slavic Languages and Literatures.

Critical Approaches to Leadership Minor

See the Department of Interdisciplinary Studies.

Political Science Honors Program

The department offers an honors program for outstanding undergraduate students in the junior and senior years. The two semester program emphasizes a specialized topic (a different area each year) in political science. The organization of the course during the first semester follows the seminar model, emphasizing independent research, discussion, and oral and written reports. In the second semester, the student is required to write a thesis under the direction of a faculty member. Students are admitted to the program after careful screening on the basis of their academic record and a personal interview. Classes are limited to about 10 students.

The department also offers an honors sequence for freshmen and sophomores, POSC 190a, POSC 190b. The first semester is a small seminar of about 10 students. The second semester is a continuation

with a major research paper due as the final.

Political Science Honor Societies

There are two honor societies of special interest to political science majors. Pi Sigma Alpha stimulates scholarship and interest in the subject of government by providing tangible recognition to students who have excelled in the field. Political science majors are eligible to join after successful completion of at least three upper-division courses in political science. An overall grade point average of 3.5 or higher is required, with a minimum of 3.5 in all political science classes.

The second honor society is Blackstonians. This is a pre-law honor society for undergraduate students designed to recognize academic excellence, assist the student in his or her preparation for law school, and expand the knowledge of the legal profession. Membership is restricted to students who have completed at least 32 units (16 of which must be from USC), but not more than 118 units, and have maintained at least a 3.5 grade point average.

Mock Trial Team

The department hosts the USC Mock Trial Team. This trial advocacy training program is designed to develop students' knowledge of substantive areas of civil law, criminal law and evidence. Additionally, public speaking skills are honed and societal mores are explored. Legal concepts, sociocultural theory and presentational skills are then applied through participation in courtroom advocacy competitions nationwide and local public interest advocacy assignments. Academic credit is earned through POSC 398. Membership on the team is required to enroll.

Graduate Degrees

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

All graduate students are required to maintain regular contact with the graduate coordinator to assure compliance with departmental regulations.

Bachelor of Arts

Political Science (BA)

Department majors are required to take ten courses (40 units) in political science.

Introductory Courses Requirement

All students must take at least two of the following four 100-level core courses that introduce students to the major sub-fields of political science (American, Comparative, Law and Public Policy, Political Thought).

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4

Distribution (Field) Requirement

Students fulfill the distribution requirement by completing one upper division course (300 level or above) in three of the four major sub-fields (American, Comparative, Law and Public Policy, Political Thought).

American Politics
POSC 300, POSC 311, POSC 315, POSC 320, POSC 321, POSC 323, POSC 325, POSC 328, POSC 334, POSC 335, POSC 418, POSC 420, POSC 421, POSC 422, POSC 423, POSC 424m, POSC 425, POSC 427, POSC 428, POSC 437, POSC 439, POSC 449

Comparative Politics
POSC 350, POSC 351, POSC 352, POSC 354, POSC 355, POSC 356, POSC 358, POSC 360, POSC 363, POSC 365, POSC 366, POSC 430, POSC 431, POSC 450, POSC 451, POSC 453, POSC 456, POSC 463, POSC 464, POSC 469

Law and Public Policy
POSC 333, POSC 340, POSC 345, POSC 347, POSC 426, POSC 432, POSC 435, POSC 436, POSC 440, POSC 441m, POSC 442m, POSC 443, POSC 444, POSC 448a, POSC 448b, POSC 452

Political Thought
POSC 370, POSC 371, POSC 374, POSC 375, POSC 377, POSC 380, POSC 381, POSC 476, POSC 479

Concentration Requirement

Students fulfill the concentration requirement by taking three courses from one of eight Concentrations that focus on major topical interests in the study of politics. Students may take no more than one 200-level course per concentration. Students may not double-count any courses taken in the distribution (field) requirement and the concentration requirement. No more than a total of four units of POSC 395 and POSC 398L can count for the concentration requirement. Four units of the Honors Seminars POSC 391/POSC 392 can count toward a concentration if the topic of the honors thesis is in the area of the concentration. Critical Issues courses may count for a concentration area, but department approval must be received in advance.

The areas of concentration are:

Law and Human Rights (POSC 248gw, POSC 321, POSC 340, POSC 345, POSC 347, POSC 366, POSC 421, POSC 425, POSC 426, POSC 427, POSC 432, POSC 440, POSC 441m, POSC 442m, POSC 443, POSC 444, POSC 448a, POSC 448b, POSC 452)

Public Opinion, Communication, and Decision Making (POSC 311, POSC 334, POSC 335, POSC 422, POSC 423, POSC 426, POSC 435, POSC 437, POSC 449)

Parties, Interest Groups, and Institutions (POSC 300, POSC 311, POSC 315, POSC 325, POSC 334, POSC 335, POSC 360, POSC 420, POSC 423, POSC 425, POSC 428, POSC 435, POSC 436)

Political Thought and Philosophy (POSC 370, POSC 371, POSC 374, POSC 375, POSC 377, POSC 380, POSC 381, POSC 476, POSC 479)

Applied Politics (POSC 300, POSC 315, POSC 323, POSC 335, POSC 395, POSC 398L, POSC 418, POSC 420, POSC 425, POSC 437, POSC 449)

Cross-National and Regional Politics (POSC 350, POSC 351, POSC 352, POSC 354, POSC 355, POSC 356, POSC 358, POSC 360, POSC 363, POSC 365, POSC 366, POSC 430, POSC 431, POSC 450, POSC 451, POSC 453, POSC 456, POSC 463, POSC 464, POSC 469)

Race, Gender, and Politics of Justice (POSC 320, POSC 321, POSC 328, POSC 381, POSC 421, POSC 424m, POSC 427, POSC 428, POSC 432, POSC 441m, POSC 442m, POSC 444, POSC 448a, POSC 449)

Environmental Politics (POSC 265gw, POSC 270, POSC 321, POSC 347, POSC 363, POSC 418, POSC 436, POSC 451, POSC 456)

Elective Requirement

Students must complete two additional elective courses, both of which must be upper division (300 or 400 level courses). One course (or four units) of the following courses: POSC 395, POSC 398L or POSC 490x may be counted as an elective. In addition, one of the Honors Seminars (4 units of POSC 391/POSC 392) can count as an elective.

Students who have a double major in political science and in another department in the social sciences, may, with prior permission of the department undergraduate adviser, substitute one upper-division course from the second major for one upper-division political science course. In the development of an undergraduate program, students should consult periodically with the political science undergraduate adviser and/or with departmental faculty.

Juris Doctor/Doctor of Philosophy

Doctor of Philosophy in Political Science and International Relations/Juris Doctor (JD/PhD)

Application deadline (for PhD): December 1

The Political Science and International Relations program and the USC Gould School of Law jointly offer a dual degree program leading to the JD/PhD degree. Applicants must apply to the Political Science and International Relations program and the law school and meet the requirements for admission to both. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE).

In the first year students take their course work in the law school exclusively. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law honors programs. The second and third years include a total of 40 units of courses in political science and international relations and 40 units of law. Students must complete a five-course core theory and methodology sequence. They must include a classics-oriented, two-semester political, social, comparative and international theory sequence (currently POSC 530 and IR 500), a multivariate statistics course (such as IR 514 or POSC 600) and a philosophies/methodologies in social inquiry course (IR 513 or POSC 500). Finally in their second, third or fourth year, they must take an approved advanced research methods course.

To obtain a PhD in Political Science and International Relations, students must pass the screening process. After the completion of required field course work with a grade of B or better, a substantive paper or USC MA thesis relevant to the program, students must take a PhD qualifying examination in two of their three fields of concentration. The third field will be completed by taking at least three courses and passing each with a grade of B or better. The final requirement, following successful completion of the qualifying examination, is a doctoral dissertation.

Minor

Human Rights Minor

The protection of human rights has become a matter of international concern. Despite widespread media coverage of violations, flagrant abuses occur daily throughout the world. The human rights minor provides students with in-depth knowledge about various human rights issues.

Drawing together classes from a range of departments in and outside the USC Dornsife College of Letters, Arts and Sciences, this interdisciplinary minor will cover the theoretical foundations of human rights, historical and current developments, case studies and policies. Students will be required to take their learning outside the classroom through an internship or by teaching human rights in the community and will be encouraged to join relevant student organizations.

Total unit requirements for the minor are 18*. Students take one core course in human rights, POSC 448a The Politics of Peace. In addition, the minor requires two courses dealing with international human rights, one domestic human rights related course and a community involvement experience through the Department of Political Science.

Required Courses (16 units)

- POSC 448a The Politics of Peace Units: 4

Two international human rights courses selected from:

- ANTH 330m Culture, Gender and Politics in South Asia Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 365 The Second World War Units: 4, 2 years
- IR 310 Peace and Conflict Studies Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4
- IR 318 Violent Conflict Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 382 International Development Units: 4
- REL 335 Gender, Religion, and Sexuality Units: 4

One domestic human rights course selected from:

- AMST 348m Race and Environmentalism Units: 4
- COMM 412 Communication and Social Movements Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- POSC 333 Stigma and Society: Physical Disability in America Units: 4
- POSC 380 Political Theories and Social Reform Units: 2 or 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 342 Crime and Public Policy Units: 4
- PPD 439 Housing and Community Development Units: 4
- SOCI 356m Mexican Immigrants in Sociological Perspective Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4

Additional Requirements

Community Involvement (2 units)

Students are required to take their learning outside the classroom through an internship with a focus in human rights, teaching human rights in the community or an independent project. Students who choose the internship must enroll in POSC 395 and those who choose do an independent project must enroll in POSC 490x. Approval is needed to enroll in POSC 395 and POSC 490x. POSC majors must take four courses (16 units) outside of the Political Science Department for a total of 22 units.

Law and Society Minor

This interdisciplinary program focuses on the effect of law on society as well as the ways in which social forces influence the legal system. The idea is that students will understand the law if they look beyond "law on the books" to "law in action." Thus, it is important to study key legal institutions such as the legal profession, the judiciary, juries, the police, legislatures, and administrative agencies. In addition, the minor introduces students to legal policies like plea bargaining and the death penalty, and the constitutional principles that underlie political debates about them, e.g., equal protection, due process and privacy.

The requirements for the minor include seven courses (28 units). All students are required to take POSC 130 Law, Politics, and Public Policy.

Three component political science upper-division courses are required, one from each category:

1. Core

- POSC 130g Law, Politics and Public Policy Units: 4

2. Constitutional Law

- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

3. International Law

- POSC 345 International Law Units: 4
- POSC 448a The Politics of Peace Units: 4

4. Policy Analysis

- POSC 333 Stigma and Society: Physical Disability in America Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- POSC 432 Politics of Local Criminal Justice Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 436 Environmental Politics Units: 4

- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 443 Law in Film Units: 4
- POSC 448b The Politics of Peace Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

5. Humanistic/Historical

- PHIL 340 Ethics Units: 4
- PHIL 430 Philosophy of Law Units: 4

6. Sociology

- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4

7. Other

- ANTH 345 Politics, Social Organization, and Law Units: 4, 2 years
- COMM 421 Legal Communication Units: 4
- ECON 434 Economic Analysis of Law Units: 4
- LAW 200w Law and Society Units: 4
- PSYC 355 Social Psychology Units: 4

Additional Requirements

At least four classes must be unique to the minor. Political science majors must take upper-division courses only from categories 5, 6 and 7. Non-political science majors must take at least one upper-division course from 5, 6 or 7.

Political Organizing in the Digital Age Minor

The digital environment is changing the face of political organization, both in domestic American electoral politics and in the methods used by transnational social movements to call attention to problems around the globe. Howard Dean's use of the Internet to fund his 2004 presidential campaign has made other candidates aware of the political power of the Web in fundraising and grass-roots orchestration of local (and "global") events.

This minor should be of interest to students majoring in international relations, political science or other programs who plan to use technology to affect contemporary national and international affairs. As with all minors, students must choose four courses dedicated exclusively to this minor and four courses outside their major departments. These may, but need not be, the same four courses.

This minor is intended to help students engage in domestic and international political organizing by creating Websites, podcasting and using other new technologies. It should help students secure internships and jobs with political and international organizations, and generally improve their abilities to change the world.

Course Requirements

Choose one class from each of the following five lists:

I. Domestic Political Organizing:

- POSC 315 Regulation of Elections and Political Finance Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 422 Political Attitudes and Behavior Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 437 Mass Media and Politics Units: 4

II. Transnational Social Movements:

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4

III. New Technologies in Organizing:

IV. The Context of Political Organizing:

- COMM 321 Communication and Social Media Units: 4
- COMM 489 Campaign Communication Units: 4
- IR 308w Economic Globalization Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 330 Politics of the World Economy Units: 4
- IR 444w Theories of Global Society Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 345 International Law Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4

V. Capstone Class:

The capstone class allows students to engage more deeply in one of the contributing areas of study.

- COMM 487 Communication and Global Organizations Units: 4
- IR 327 International Negotiation Units: 4
- ITP 413x Interactive Web Development Units: 4
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8

Total: Five courses, 20 units

Political Science Minor

Students who minor in political science must take five courses, 20 units, in political science. Students can either pursue course work in a traditional subfield (American politics, comparative politics, law and public policy, or political theory) or in a specific issue area of concentration (civil liberties and human rights, race, ethnicity, and gender, urban political problems, Asian politics, etc.).

Those who focus their studies on a traditional subfield must take the lower-level introductory course in that subfield: POSC 100 Theory and Practice of American Democracy (American politics); POSC 110 Ideology and Political Conflict (political theory); POSC 120 Comparative Politics (comparative politics) or POSC 130 Law, Politics and Public Policy (law and public policy).

Students pursuing the minor must also take four upper-division courses, three of which must be in the chosen subfield. Students choose from a predetermined list of courses divided by subfield in consultation with and approval of the department's undergraduate student adviser.

Those who pursue a specific issue area of concentration are required to take the department's designated gateway course, POSC 120 Comparative Politics, and at least three upper-division courses in the issue area of concentration. A fourth upper-division course must be taken in the issue area of concentration or a complementary area. The upper-division courses are chosen in consultation with and approval of the department's undergraduate student adviser.

Practical Politics Minor

The Practical Politics Minor offers students a unique opportunity to study the theory and practice of American Democracy. The minor includes courses on campaigns, elections, political communications, legislative politics, and governing. Students will engage with faculty who possess a wealth of knowledge and experience in electoral politics and campaign strategy. The minor will help students develop a multitude of skills applicable to the job market, such as problem solving, polling, social media analytics, micro-targeting, research, writing and public speaking. Students will also complete an internship that will provide them with professional training and exposure to different careers. In addition, students can pursue courses through Maymester and the Dornsife in Washington D.C. program toward the minor.

The Practical Politics Minor complements many majors in the Dornsife College of Letters, Arts, and Sciences including economics; sociology; philosophy, politics, and law; and international relations, as well as majors outside of the college including communications; business and public policy.

Requirements

The Practical Politics minor requires students to take five courses (20 units) from the following three categories. The minor requires 16 units of upper-division courses. Only 4 units of the 20 units may be fulfilled with a 100- or 200-level course.

1. Two courses in American Politics from the following list (8 units):

- POSC 100g Theory and Practice of American Democracy Units: 4
- POSC 300 Principles, Institutions, and Great Issues of American Democracy Units: 4
- POSC 334 Interest Groups and Elite Behavior Units: 4
- POSC 335 Political Parties, Campaigns, and Elections Units: 4
- POSC 422 Political Attitudes and Behavior Units: 4
- POSC 423 Presidents and the Presidency Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 425 Legislative Process Units: 4
- POSC 435 Politics and the Economy Units: 4
- POSC 437 Mass Media and Politics Units: 4
- POSC 449 Political Psychology Units: 4

2. Two courses in Applied Politics from the following list (8 units):

- POSC 220g Critical Issues in American Politics: Presidential Election in Real Time Units: 4
- POSC 323 Applied Politics Units: 4 *
- POSC 325 State Politics Units: 4
- POSC 420 Practicum in the American Political Process Units: 4 *
- POSC 439 Critical Issues in American Politics Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

Note:

Multiple sections of Applied Politics (POSC 323) and Practicum in the American Political Process (POSC 420) may be offered and can be counted toward the minor.

3. One course in Practical Experience from the following list (4 units):

- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
  Internship in Washington DC (part of the Washington DC Program)
  Maymester in Washington DC

Race, Ethnicity and Politics Minor

The interdisciplinary minor in race, ethnicity and politics helps students analyze and critically evaluate contemporary race relations and how race matters in politics today.

Requirements: Five Courses (20 Units)*

All students are required to take POSC 421 Ethnic Politics. In addition, students must also take one course from each category: Race and Gender in a Global Context, Comparative Racial Politics, Social/Historical (Racial Perspective) and Racial Formation. The following is a list of courses that fulfill each category.

Core Requirement

- POSC 421 Ethnic Politics Units: 4

Political Science Upper-Division Courses

Choose one course from each of the groups below:

Race and Gender in a Global Context:

- POSC 350 Politics of Latin America Units: 4
- POSC 351 Middle East Politics Units: 4
- POSC 352 Politics of Southeast Asia Units: 4
- POSC 354 Japanese Politics Units: 4
- POSC 356 Politics in the People's Republic of China Units: 4
- POSC 358 Politics of Sub-Sahara Africa Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4
- POSC 456 Women in International Development Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

Comparative Racial Politics:

- POSC 320 Urban Politics Units: 4
- POSC 328 Asian American Politics Units: 4
- POSC 424m Political Participation and American Diversity Units: 4
- POSC 427 Black Politics in the American Political System Units: 4
- POSC 428 Latino Politics Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4

Electives

Choose one course from each of the groups below:

Social/Historical:

- HIST 265gw Racism, Sexism, and the Law Units: 4
- HIST 318 Early American Indian History Units: 4
- HIST 341 American Social History Units: 4
- HIST 347 Urbanization in the American Experience Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 155gm Immigrant America Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4

Racial Formation:

- AMST 301gp America, the Frontier, and the New West Units: 4
- AMST 320 Social Construction of Race and Citizenship Units: 4
- AMST 365 Leadership in the Community — Internship Units: 4
- AMST 385 African American Culture and Society Units: 4

Note:

**Political science majors are required to take seven courses (28 units).*

Political science majors must take four courses (at least three must be upper-division) from the Social/Historical and the Racial Formation categories. At least four classes must be unique to the minor and not taken for additional major, minor or general education credit.

Political Science and International Relations

Von KleinSmid Center 327
(213) 740-1695
FAX: (213) 740-0281
Email: cgrose@usc.edu
dornsife.usc.edu/poir
Director: Christian Grose, PhD

Master's Degree

Political Science and International Relations (MA)

The POIR program does not accept applicants for a Master of Arts degree in POIR. If a student admitted in the POIR doctoral program does not have a master's degree, the department strongly recommends the student completes the requirements for the MA in

POIR in his/her course of work toward the PhD degree. A student admitted to the doctoral program may also, at the recommendation of the department, earn a terminal MA degree.

A student may obtain an MA in POIR by fulfilling the following requirements: a minimum of 28 units in the POIR Program, including POIR 600, POIR 610 and POIR 611, and the approval of a substantive paper.

Doctoral Degree

Political Science and International Relations (PhD)

USC Graduate School Requirements

The PhD degree is awarded to students who have demonstrated in-depth knowledge of the disciplines of political science and international relations and the ability to make an original research contribution. The PhD in Political Science and International Relations requirements are fulfilled by successfully completing a minimum of 70 units beyond the BA, the PhD screening process, three fields of concentration, a substantive paper, a foreign language requirement (if applicable), qualifying examinations, a dissertation proposal, and a written dissertation and its oral defense.

Admission

The faculty of the Department of Political Science and the School of International Relations welcome talented candidates from a variety of backgrounds. Although a prior degree in political science or international relations is not necessary, it is strongly recommended that applicants have completed at least some course work in related fields, including political theory, statistics and social science research methods.

Admission decisions are based on consideration of applicants' prior academic performance, as reflected in course grades, the results of the Graduate Record Examination, letters of recommendation, and a statement of intent that demonstrates a seriousness of purpose, a high level of motivation and a desire to benefit from our faculty's areas of expertise or interest. Applicants also are required to submit a sample of their written work in English, preferably a research-oriented paper. Business, government and other practical experiences may also be taken into account. Applicants whose native language is not English must take the TOEFL or IELTS examination.

Screening Process

Before completion of 24 units, students will be reviewed by a screening committee made up of the program director, one teacher of one of the core courses and one professor nominated by the student. This committee will review the student's progress, including grades and written faculty evaluations of course work.

The committee will be responsible for deciding, at an early stage in the student's career, if the student is likely to finish the PhD program. After reviewing the student's record, the committee may decide to (1) continue the student, (2) not continue the student and admit the student into a terminal MA degree program, or (3) fail the student's performance in the screening process, i.e., not continue the student in either the MA or PhD programs.

Course Requirements

All doctoral candidates must complete an approved sequence of four courses in core theory and methodology, including a classics-oriented course in political theory, a multivariate statistics course, a philosophies/methodologies of social inquiry course, and a course in advanced research methods.

The selection of additional courses should be guided by the distribution requirements of the PhD program. The student will choose three fields of concentration, of which two will be examined fields. Each examined field of concentration requires completion of four graduate-level courses, including the core course in standard fields, with an average grade consistent with university and program requirements. The third non-examined field of concentration requires completion of three graduate-level courses with an average grade consistent with university and program requirements. Students are also advised to take an independent study course to work toward their substantive paper requirement. Additional courses necessary to complete the 70 units required by the *Guidelines for Graduate Study in Political Science and International Relations* should be taken in consultation with faculty advisers.

Fields of Concentration

The standing fields of concentration include: American politics; comparative politics; international political economy; and international security and foreign policy. The candidate must satisfy two of these four standing fields by passing a written field qualifying examination. The student may satisfy the third field by completing four courses in one of these four, or may propose another customized field of study to be approved by relevant faculty and the PhD program director and steering committee. For example, students can design a third field that cuts across disciplinary boundaries or focuses on specific areas of political science and international relations beyond the standing fields. The guidelines and program director can provide illustrations of this type of third field.

Foreign Language

The student is required to demonstrate intermediate proficiency in a language other than English if the student's primary field requires it. Students should consult the guidelines and the program director.

Substantive Paper

To show evidence of the capacity to conduct original research and before taking the qualifying exam, each student will submit a substantive paper. The student will submit the draft of his or her substantive paper to the chair of the qualifying exam committee one month prior to the qualifying examinations. After consultation with the chair and necessary revisions, the student is to distribute the paper to all members of the qualifying exam committee at least 14 days prior to the oral defense. The substantive paper should be presented and defended in the oral component of the qualifying examination as a viable journal submission to a peer-reviewed professional journal. It is strongly encouraged that the paper should be submitted to a professional journal approved by the student's adviser within one year of the defense.

Qualifying Examinations

Ordinarily, students will take the qualifying exams no later than the fifth semester in the PhD program. Students will be examined in two of their three fields of concentration. The third field will be completed by taking at least four courses and passing them with an average grade consistent with university and program requirements. The qualifying exam committee will evaluate the quality of these two written exams as evidence of the capacity to define and complete a PhD dissertation.

The written examinations are closed book and will be administered over two days at least once per academic year. Examination questions will be written by a committee of the tenure track faculty in each field. The director of POIR graduate studies (program director), in consultation with the chair of the Department of Political Science and the director of the School of International Relations, will appoint one faculty member from each field to coordinate the writing of the relevant field exam. The field exam coordinators will then seek assistance from other faculty in their field, including those with whom the student has studied, to compose the written examination questions.

The oral portion of the student's qualifying examination will be administered by his or her qualifying exam committee. The oral examination will be based on the student's two written field exams and the substantive paper. The qualifying exam committee will be made up of five members. In consultation with his or her principal adviser, the student will select two members, one from each standing field in which he or she will be examined, and the other two field examiners and the outside member of the qualifying exam committee. Final approval of the qualifying exam committee requires the signature of the program director.

Students will pass the qualifying examinations if no more than one member of the qualifying exam committee dissents after reviewing the student's record at USC and performance on the

written and oral parts of the qualifying exams. At the discretion of the qualifying exam committee, students who do not pass the exams may be allowed to retake the qualifying exams the next time they are offered. Students are admitted to candidacy for the PhD when they have completed the university residency requirement, passed the written and oral portions of the PhD qualifying examinations, and defended their dissertation proposal.

Dissertation

Upon completion of the qualifying examinations, the student, in consultation with the principal adviser, selects a dissertation committee in accordance with university rules. Within six months of completing the qualifying examinations, students should have a formal defense of the dissertation proposal before their dissertation committee. The PhD is earned upon the submission of the written dissertation and its successful defense before the dissertation committee.

Consult the Requirements for Graduation section and the Graduate School section of this catalogue regarding time limitations for completion of the degree and other Graduate School requirements.

All graduate students considering an academic career should generally have research, teaching and advisement experiences as part of their program of study.

Jesse M. Unruh Institute of Politics

The Jesse M. Unruh Institute of Politics works to provide students with opportunities that introduce them to the world of practical politics, government and public service. Each semester the institute facilitates internships with government, political and advocacy offices in the Los Angeles metropolitan area and beyond. The institute also offers a variety of programs and panels that provide students with access to government officials, policy and campaign experts, and industry leaders. The institute partners with a variety of student organizations to sponsor numerous panel discussions and programs that bring prominent political and governmental leaders to USC to speak to small groups of students in an informal setting. In the spring, the institute organizes the Cerrell Seminar in Political Leadership, and a trip to Sacramento where USC students meet with legislators, lobbyists, and members of the media to discuss important issues in state politics.

Von KleinSmid Center 263
(213) 740-8964
FAX: (213) 740-3167
Email: unruhins@usc.edu
dornsife.usc.edu/unruh
Director: Robert M. Shrum
Chief of Staff: Kerstyn Olson, MA

Programs

Political Student Assembly

The Unruh Institute of Politics works closely with the Political Student Assembly (PSA). PSA was formed in January 2006 as a division of the Student Affairs Program Board and seeks to actively involve students in campus, state and national political issues.

Directed Government and Political Leadership Internship

Students volunteer to work in one of over 500 political and governmental offices throughout the Los Angeles area, in Sacramento and in Washington, D.C., enabling them to gain firsthand political experience. As interns, students acquire basic political understanding and skills in government, campaign, media or advocacy organizations. Through their assignments, students have the opportunity to develop an understanding of the many ways in which people are important to politics and politics to people.

By gaining hands-on experience in government and politics, student interns develop real-world political and job skills to assist them in their future careers. Many talented interns are fortunate enough to secure full-time employment based upon their internship experience.

In addition to the traditional internship experience, the Unruh Institute offers a Research Internship and a Civic Engagement Internship. The Research Internship gives students an opportunity to do real-world, hands-on research for an organization. Students will conduct original fieldwork, interview policy experts, review academic and policy reports, and use other forms of primary and secondary research. The Civic Engagement Internship provides students with an opportunity to teach civics and the value of voting in an area high school over the course of the semester.

Students participating in the institute's internship programs enroll in POSC 395 Directed Governmental and Political Leadership Internship, for 2 to 8 units. Students can enroll in POSC 395 during the fall, spring or summer. In the summer, students can apply for institute-sponsored fellowships to help defray tuition and living expenses.

Professional Writing Program

Office of Advanced and Professional Programs
Mark Taper Hall 355
(213) 740-1384
FAX: (213) 740-5002
Email: mpw@dornsife.usc.edu

Director: Geoffrey Middlebrook, PhD
Professor of the Practice: Brighde Mullins, MFA
Assistant Professors (Teaching): Prince Gomolvilas, MFA; Dinah Lenney, MFA
Senior Lecturers: M.G. Lord; Timothy Kirkman
Lecturer: Gina B. Nahai, MPW

Master's Degree

Professional Writing (MPW)

The Master of Professional Writing Program develops students' mastery of craft across multiple genres and prepares students for writing careers. It is designed for students who want to explore a range of writerly possibilities, and aims to develop writing and writers across genre, including fiction, nonfiction, poetry, new media, and writing for stage and screen. Program faculty are working writers who bring their expertise to seminars, lectures and workshops.

The academic curriculum includes a range of courses that focus on all aspects of the writing life, as well as oneon-one tutorials geared to the completion of a professional quality final project. Although students will ultimately focus in one genre, the degree is specifically intended for writers interested in exploring the connections to be found in literature, entertainment and art. Program graduates include television writers, screenwriters, writers and teachers of literary fiction and poetry, Web content providers and designers, editors, publishers, and technical writers.

Degree Requirements

Thirty units of work are required to earn the MPW degree. MPW 500 Survey of Professional Writing (3 units) is required and should be taken in the first semester. Fifteen additional units must be earned in the student's major genre (fiction, nonfiction, poetry, or writing for stage and screen), including MPW 592a, MPW 592b, MPW 592z or MPW 594a, MPW 594b, MPW 594z Master's Thesis. While taking Professional Writing Project or Master's Thesis, with advisement

from their faculty mentors, students will generate their master's professional projects in their respective genres. These projects may be a full length novel, a collection of short stories, a nonfiction manuscript, a collection of essays, a collection of poems, or a full length screenplay or stageplay. The remaining 12 units consist of electives from the MPW curriculum, and students are encouraged to choose widely.

Progressive Degree Program in Master of Professional Writing

The progressive degree program permits exceptional undergraduate students to receive both a Bachelor of Arts and a Master of Professional Writing within five years. It is intended for students with extraordinary MPW preparation and performance who demonstrate a superior level of overall scholarship.

Awarding of Degrees

Progressive degree program students must fulfill all of the requirements for both the bachelor's degree and the master's degree, including a professional writing project or a master's thesis. The unit requirement for the master's degree can be reduced by as much as one-third. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree.

Time Limits

The time limit for completing a progressive degree program is 12 semesters.

Further details about progressive degrees can be found on the Requirements for Graduation page.

Psychology

The Department of Psychology has five topical areas: 1) Brain and Cognitive Science addresses fundamental questions about the brain and mind in humans and animals in areas such as creativity, decisions, emotion, learning and memory, linguistics, motivation and perception. 2) Clinical Science applies scientific theories and methods to understand adaptive and maladaptive functioning to alleviate human suffering, and to promote adjustment. Specialization is available in clinical-aging, child and family clinical, and adult clinical. 3) Developmental Psychology studies developmental changes in social behavior, cognition, language, neurological structure and emotions from childhood through early adulthood. 4) Quantitative Methods studies basic and advanced methodology used in psychometrics and measurement, longitudinal data analysis, behavior genetic methods, decision making, and robust statistical methods for analyzing multivariate data. 5) Social Psychology studies the thoughts, feeling and actions of individuals as they are influenced by other individuals and by groups.

The department also offers a joint major in Linguistics/ Psychology and participates in the Dornsife College's interdisciplinary program in Neuroscience.

Research is integral to psychology; it enables the faculty to make contributions in the field and to be more effective teachers. Undergraduate students are encouraged to work with members of the faculty on research projects. The most direct way for students to participate in research is to enroll in a directed research course (PSYC 290 or PSYC 490), but it is also possible to take part in ongoing research in less formal ways. Further options for research training also includes the honors program for psychology majors. The Department now offers two MS programs in Applied Psychology (MAPP) and Applied Behavior Analysis (ABA).

Seeley G. Mudd Building 501
(213) 740-2203
FAX: (213) 746-9082
dornsife.usc.edu/psyc
Chair: JoAnn M. Farver, PhD

Faculty

University Professor, Dana Dornsife Chair in Neuroscience and Professor of Psychology and Neurology: Hanna Damasio, MD
University Professor, David Dornsife Chair in Neuroscience and Professor of Psychology and Neurology: Antonio Damasio, MD, PhD
Harold Dornsife Chair in Neurosciences and Professor of Psychology and Computer Science: Irving Biederman, PhD
Provost Professor of Cell and Neurobiology, and Pharmacology and Pharmaceutical Sciences, and Psychology: Pat Levitt, PhD *(Cell and Neurobiology)*
Provost Professor of Psychology and Business: Wendy Wood, PhD
Provost Professor of Psychology and Marketing: Norbert Schwarz, PhD
Provost Professor of Social Work, Preventive Medicine, Psychiatry, Family Medicine and Gerontology and Psychology: William Vega, PhD
Dean's Professor of Psychology, and Professor of Psychology, Education, and Communication: Daphna Oyserman, PhD
Merle Bensinger Professor of Gerontology and Professor of Psychology: Bob G. Knight, PhD *(Gerontology)*
Niki and Max Nikias Chair in Engineering, Professor of Electrical Engineering, Computer Science, Linguistics and Psychology: Shrikanth (Shri) Narayanan, PhD *(Engineering)*
Orrin B. Evans Professor of Law and Professor of Law and Psychology: Elyn R. Saks, JD *(Law)*
University Professor, Fletcher Jones Chair in Computer Science, and Professor of Computer Science, Biological Sciences, and Psychology: Michael A. Arbib, PhD *(Computer Science)*
University Professor, ARCO/William F. Kieschnick Chair in the Neurobiology of Aging and Professor of Gerontology, Biological Sciences, Anthropology, and Psychology: Caleb E. Finch, PhD *(Gerontology)*
University Professor and Milo Don and Lucille Appleman Professor of Biological Sciences, Neurology and Psychology: Larry W. Swanson, PhD *(Biological Sciences)*
Professors: Laura A. Baker, PhD; Antoine Bechara, PhD; Sarah W. Bottjer, PhD *(Biological Sciences)*; Peter Carnevale, PhD *(Business)*; Gerald C. Davison, PhD*; Michael E. Dawson, PhD; JoAnn M. Farver, PhD*; Ernest Greene, PhD; Andrea Hollingshead, PhD *(Communication)*; Laurent Itti, PhD *(Computer Science)*; David G. Lavond, PhD; Steven Lopez, PhD; Thomas D. Lyon, JD, PhD *(Law)*; Franklin R. Manis, PhD*; Gayla Margolin, PhD*; Mara Mather, PhD *(Gerontology)*; John J. McArdle, PhD; Beth E. Meyerowitz, PhD*; Lynn Miller, PhD *(Communication)*; Carol A. Prescott, PhD; Stephen J. Read, PhD; Robert Rueda, PhD *(Education)*; Dan Simon, SJD *(Law)*; Gale Sinatra, PhD *(Education)*; Elizabeth Sowell, PhD *(Pediatrics)*; Arthur Stone, PhD; Steven Yale Sussman, PhD *(Institute for Prevention Research, Medicine)*; Penelope K. Trickett *(Social Work)*; Suzanne Wenzel *(Social Work)*; Rand Wilcox, PhD; Elizabeth Zelinski, PhD *(Gerontology)*
Associate Professors: Lisa Aziz-Zadeh, PhD *(Occupational Therapy)*; Giorgio Coricelli, PhD *(Economics)*; Jesse Graham, PhD; Stanley J. Huey, Jr., PhD; Mary Helen Immordino-Yang, PhD *(Education)*; Richard S. John, PhD; Adam Leventhal, PhD *(Preventive Medicine)*; Toben Mintz, PhD; John Monterosso, PhD*; Joseph Priester, PhD *(Business)*; David Schwartz, PhD; Brendesha Tynes, PhD *(Preventive Medicine)*; David A. Walsh, PhD; Justin Wood, PhD*; Jason D. Zevin, PhD
Assistant Professors: Christopher Beam, PhD; Morteza Dehghani, PhD; Genevieve Dunton, PhD *(Preventive Medicine)*; Tara Gruenewald, PhD *(Gerontology)*; Henrike Moll, PhD; Daniel Nation, PhD; Darby Saxbe, PhD; Scott Wiltermuth, PhD, *(Business)*; Ya Yang, PhD *(Pediatrics)*
Clinical Professor: Ernest R. Katz, PhD
Clinical Assistant Professor: Marian Williams, PhD
Professors (Research): Margaret Gatz, PhD; Jonathan Gratch, PhD *(Computer Science)*; Donna Spruijt-Metz, PhD
Associate Professors (Research): Susan Luczak, PhD; Stacy

Marsella, PhD *(Computer Science)*
Assistant Professors (Research): Assal Habibim PhD; Karen M. Hennigan, PhD; Jonas Kaplan, PhD
Professor of the Practice: Ellen Leggett, EdD
Associate Professor of the Practice: Robert Chernoff, PhD
Assistant Professor of the Practice: Samantha Broitman, PhD; Shannon Couture, PhD
Associate Professor (Teaching): Ann Renken, PhD
Assistant Professor (Teaching): C. Miranda Barone, PhD
Lecturers: William Breland, PhD; Sule Guney, PhD; Canan Ipek, PhD; Meredith Lepley, PhD; Francesca Puggelli, PhD; Steven Westberg, PhD
Adjunct Professors: Lynne Bernstein, PhD; Elizabeth Susman, PhD
Adjunct Professor (Research): Nancy Pedersen, PhD
Adjunct Associate Professor: Joanne Steuer, PhD
Adjunct Assistant Professor: Jasmine Tehrani, PhD
Adjunct Assistant Professor (Research): Kaspar Meyer, PhD
Adjunt Lecturers: Maura Roggero, PhD; Khatera Sahibzada, PhD; Luke Thelen, PhD
Professor Emeritus of Psychology and Mendel B. Silberberg Professor Emeritus of Social Psychology: Norman Miller, PhD
Emeritus Professors: Elaine Anderson, PhD; Kathleen Chambers, PhD; Norman Cliff, PhD; William W. Grings, PhD; Jerald Jellison, PhD; Albert R. Marston, PhD; Sarnoff A. Mednick, PhD
**Recipient of university-wide or college teaching award.*

Academic Program Staff

Clinical Associates: Barbara Cadow, PhD; Kenneth Cole, PhD; Vivian Fernandez-Credidio, PhD; Beth Leedham, PhD; Michael Maloney, PhD; Karen Meiselman, PhD; Pamella Oliver, PhD; Berta Ortiz, PhD; Cynthia G. Pearson, PhD; Charles Weinstein, PhD

Undergraduate Degrees

Requirements for the Bachelor of Arts with a Combined Major in Linguistics and Psychology

For the lower division: LING 210, PSYC 100 and PSYC 274Lg are required. For the upper division the following courses are required: LING 301 and LING 302; PSYC 314L; two courses selected from LING 380, LING 401, LING 402, LING 403, LING 405, LING 406, LING 407, LING 410, LING 415, LING 466 and LING 485; three additional courses selected from LING 406, PSYC 301L, PSYC 326, PSYC 336L, PSYC 337L, PSYC 424 and PSYC 433. See Department of Linguistics.

Minor in Critical Approaches to Leadership

See the Department of Interdisciplinary Studies.

Honors Program

The department offers an honors program for outstanding students in the BA, Psychology major who desire advanced research training in preparation for graduate work in the social sciences or in professional schools. The primary focus of the honors program is the completion of a research study under the guidance of a faculty adviser. Students are admitted to the program in the fall semester of their junior year and enter the program in the spring of their junior year by enrolling in PSYC 380. To be eligible for admission, a student must have an overall GPA of at least 3.5 at the time of application to the program. This program is not available to students majoring in Social Sciences with an emphasis in Psychology. Students in the honors program complete all major requirements, including PSYC 380 Junior Honors Seminar during the spring semester of their junior year and PSYC 480 Senior Honors Seminar during the spring semester of their senior year. Students complete an honors thesis proposal as part of the Junior Honors Seminar and must submit a completed senior honors thesis by April 1 of the senior year. Students are also expected to have an overall GPA of at least 3.5 at the time of graduation. For further information, contact the undergraduate adviser or the director of the program, Dr. JoAnn M. Farver.

Psi Chi

Psi Chi is the national honor society in psychology. Membership is open to graduate and undergraduates who meet the minimum qualifications. Psi Chi is a member of the Association of the College Honor Societies and is an affiliate of the American Psychological Association and the American Psychological Society.

Graduate Degrees

The Department of Psychology offers an MS in Applied Psychology, an MS in Applied Behavior Analysis and five programs of study that to the PhD degree: (1) clinical science, including specializations in adult clinical, clinical-aging and child and family; (2) developmental psychology, including child and adolescent development and adult development and aging; (3) brain and cognitive science, including cognitive neuroscience, behavioral neuroscience, clinical neuroscience and behavioral genetics; (4) quantitative methods; and (5) social psychology. All five specialty PhD areas provide training for careers in research, teaching and applied work.

Admission Requirements

Psychology courses required for admission to the PhD program include the following courses: Introduction to Psychology, Statistics, Research Methods, or Experimental Psychology; and at least one course from each of the following lists: (1) comparative psychology, physiological psychology, sensation and perception, learning and memory, motivation, and emotion; and (2) developmental psychology, social psychology, abnormal psychology, personality, and history of psychology. Additional courses are desirable, as is work in the biological, physical and social sciences, in mathematics and in philosophy. Students with less background in psychology but outstanding undergraduate records in related fields are also encouraged to apply.

Students are selected on the basis of their undergraduate records, scores on the Graduate Record Examinations General Test, course background, letters of evaluation, personal statement of interests and goals and evidence of research skills or interests (e.g., publications or participation in research projects).

The faculty of each specialty area select the students to be admitted to that area. Therefore, applicants should designate the specialty area to which they seek admission.

Application for admission in psychology is completed online and all materials must be submitted by December 1 for admission to the following fall semester.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Cognitive Science (BA)

Director: Toben Mintz, PhD

Cognitive science is an interdisciplinary major that focuses on the mind and cognition from a variety of perspectives and approaches. The core and electives sample from courses from computer science, human and evolutionary biology, linguistics, mathematics, philosophy and psychology.

The major consists of four fixed core courses, plus two tiers of flexible core courses. The first tier generally consists of more introductory courses and the second tier of more advanced courses, although there are exceptions, and some courses satisfy either tier. Students must take two courses from the first tier and three courses from the second. The purpose of the flexible tiers is to structurally implement interdisciplinary breadth with some degree of flexibility. The flexible core is a subset of the electives, from which students can choose in order to complete the required number of units.

Students may elect to focus their curriculum from one of three tracks, which are suggested courses of study for focusing on a particular theme in cognitive science. This may be accomplished through individual advisement: language, reasoning and decision-

making, and the computational mind.

Total required units for major: 43–48 units. Consisting of 16 core units, 18–20 flexible core units and 9–12 elective units.

Core Requirements (4 Courses)

- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4
- PSYC 301L Cognitive Processes Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

Total units: 16

Flexible Core Requirements (5 Courses)

Two courses from:

- CSCI 455x Introduction to Programming Systems Design Units: 4 *
- LING 210g Introduction to Linguistics Units: 4
- LING 301 Introduction to Phonetics and Phonology Units: 4 *
- LING 302 Introduction to Syntax and Semantics Units: 4 *
- PHIL 122ag Reasoning and Argument Units: 2
- PHIL 122bg Reasoning and Argument Units: 2
- PHIL 262g Mind and Self: Modern Conceptions Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 336L Developmental Psychology Units: 4

Three courses from:

- CSCI 360 Introduction to Artificial Intelligence Units: 4
- HBIO 306 Primate Social Behavior and Ecology Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- LING 385Lg Human Language as Computation Units: 4
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- PHIL 350 Symbolic Logic Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 433 Children's Learning and Cognitive Development Units: 4 *
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- PSYC 454 Social Cognition Units: 4

Total units: 18-20

Electives (3 Courses)

- BISC 421 Neurobiology Units: 4
- CSCI 103L Introduction to Programming Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 455x Introduction to Programming Systems Design Units: 4
- HBIO 200Lg The Human Animal Units: 4
- HBIO 306 Primate Social Behavior and Ecology Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- HBIO 406 Theory and Method in Human Evolutionary Biology Units: 4
- LING 210g Introduction to Linguistics Units: 4
- LING 275Lg Language and Mind Units: 4
- LING 301 Introduction to Phonetics and Phonology Units: 4 *
- LING 302 Introduction to Syntax and Semantics Units: 4 *
- LING 405 Child Language Acquisition Units: 4
- LING 406 Psycholinguistics Units: 4
- LING 407 Atypical Language Units: 4
- LING 412 Language and Law Units: 4
- PHIL 262g Mind and Self: Modern Conceptions Units: 4
- PHIL 350 Symbolic Logic Units: 4
- PHIL 422 British Empiricism Units: 4
- PHIL 423 The Critical Philosophy of Kant Units: 4
- PHIL 462 Philosophy of Mind Units: 4
- PHIL 463 Theories of Action Units: 4
- PHIL 465 Philosophy of Language Units: 4
- PHIL 486 Methodologies of the Sciences Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 314L Research Methods Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 420 Animal Behavior Units: 4
- PSYC 422 Human Judgment and Decision Making Units: 4 *
- PSYC 424 Neuropsychology Units: 4
- PSYC 425 Functional Imaging of the Human Brain Units: 4
- PSYC 433 Children's Learning and Cognitive Development Units: 4 *
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4
- PSYC 450 Neural Network Models of Social and Cognitive Processes Units: 4
- PSYC 454 Social Cognition Units: 4

Total units: 9-12

**Prerequisite required*

Total units: 43–48

Note: A course that is listed in both flexible core categories can be taken in either one. Students must choose a minimum of 16 upper-division units from the flexible core and electives lists.

Psychology (BA)

Grade Requirement

A grade of C- or higher is required to count a class toward major requirements.

Required Courses, Lower-Division

- MATH 114x Foundations of Statistics Units: 4 *
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 274Lg Statistics Units: 4 **

Note:

**At least one math course of 2.67 units or more is required. MATH 114x (or MATH 208x, MATH 218 , or MATH 265) is required. Students with a strong math background may profit from a more advanced class.*

Thirty-two upper-division psychology units are required, including:

Required Courses, Upper-Division

- PSYC 314L Research Methods Units: 4 **
- PSYC 316L Non-Experimental Research Methods Units: 4

Note:

***It is recommended that no more than two upper-division psychology courses be taken prior to the completion of PSYC 274L and PSYC 314.*

One course from each of four of the following five lists is also required:

Cognitive

- PSYC 301L Cognitive Processes Units: 4
- PSYC 305 Learning and Memory Units: 4
- PSYC 440 Introduction to Cognitive Neuroscience Units: 4

Developmental

- PSYC 336L Developmental Psychology Units: 4
- PSYC 337L Adult Development and Aging Units: 4
- PSYC 339Lg Origins of the Mind Units: 4

Clinical

- PSYC 360 Abnormal Psychology Units: 4
- PSYC 361 Introduction to Clinical Psychology Units: 4
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4

Biological

- PSYC 304L Sensation and Perception Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 404L Psychophysiology of Emotion Units: 4
- PSYC 420 Animal Behavior Units: 4

Social

- PSYC 355 Social Psychology Units: 4

Additional Requirements

Two 400-level psychology courses other than 490x totaling eight units are also required. PSYC 404L and PSYC 420 may not count toward this requirement if used to satisfy the biological category above.

An additional psychology course, either upper or lower-division of at least 2.67 units is required.

Social Sciences, with an Emphasis in Psychology (BA)

The required courses are: PSYC 100, MATH 114*, PSYC 274L and eight upper-division courses in departments in the social sciences, including five in the Department of Psychology and three outside the department but within the division. These may be any 300- or 400-numbered courses.

*MATH 208, MATH 218 or MATH 265 may substitute for MATH 114.

Minor

Consumer Behavior Interdisciplinary Minor

This interdisciplinary minor explores consumer thinking from the perspective of psychology, marketing, economics, anthropology, sociology and other departments interested in popular culture. Why do people form the attitudes and impressions they do? How do individual factors, culture, mass media, economics and social trends influence people's decisions? See USC Marshall School of Business.

Psychology and Law Minor

This interdisciplinary minor brings together courses in psychology that focus on the social, clinical, cognitive and societal aspects of psychology and how it relates to law. This knowledge is augmented with courses from the USC Gould School of Law that identify the relationship between mental health, social psychology and law.

Twenty-four units are required for the minor. A minimum of four courses (16 units) must be unique to the minor. A minimum of 16 upper division units must be completed. Psychology majors and students majoring in social sciences with an emphasis in psychology may "double count" up to two courses toward the major and minor; however, they must take a minimum of four courses that do not apply to the major.

Lower Division Requirements

Students must complete LAW 200w and PSYC 100Lg. (PSYC 100Lg is a prerequisite to upper-division PSYC courses.)

- LAW 200w Law and Society Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4

At least two upper-division Law courses from the following list (three minimum for PSYC majors):

- LAW 402 Psychology and Law Units: 4
- LAW 403 Mental Health Law Units: 4
- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- IR 349 International Law and Politics Units: 4
- LING 412 Language and Law Units: 4
- PHIL 431 Law, Society, and Politics Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

At least two upper-division Psychology courses from the following list:

- PSYC 301L Cognitive Processes Units: 4
- PSYC 304L Sensation and Perception Units: 4
- PSYC 355 Social Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4
- PSYC 363 Criminal Behavior Units: 4
- PSYC 365 Introduction to Forensic Psychology Units: 4
- PSYC 454 Social Cognition Units: 4

Psychology Minor

The minor requires six courses: PSYC 100 and five additional courses:

One course is required in each of three of the five topic areas listed under Major Requirements. PSYC 314L may be used to fulfill one of these topic areas.

Two elective PSYC courses. One must be upper-division, 300-level or higher.

Limitations:

1. Students must complete at least 16 upper-division PSYC units.
2. No more than four units of PSYC 490x is applicable to the minor.
3. Each of the six courses must be at least 2.67 units.

Master's Degree

Applied Behavior Analysis (MS)

The Master of Science in Applied Behavior Analysis (MABA) is designed for students who wish to pursue a career in Applied Behavior Analysis. The mission of the program is that all graduating students will become scientist-practitioners, who will be leaders in the provision of services that improve the quality of life of individuals with autism and other developmental disorders. The program satisfies all requirements of the Behavior Analyst Certification Board, including 270 instructional hours of course work in applied behavior analysis, and 1,500 hours of supervised practicum work. After graduating from the program, students will have completed all of the course work and fieldwork requirements to sit for the Board Certified Behavioral Analyst (BCBA) certification. A unique component of the program is the provision of two courses in developmental psychology that provide students with an up-to-date survey of theory and research in cognitive, social and emotional development of children and adolescents.

The program is especially appropriate for individuals who have majored in a behavioral science field, such as psychology and sociology, or who have a background in teaching or special education. Applicants must have received their baccalaureate degree by the semester in which they enter the program. Admission is competitive and based on grade point average, course work, GRE scores and practical experience with children. There are openings for approximately 24 students in each year of the program.

The program requires 42 units.

Applicants must apply for admission to the Graduate School, and satisfy all requirements for admission. Details on the method for applying, admission criteria and deadlines can be found at dornsife.usc.edu/aba.

Sample Student Curriculum

The following is a representative curriculum:

Fall, First Year

- PSYC 530 Concepts and Principles of Behavior Analysis Units: 3
- PSYC 531 Behavioral Assessment Units: 2
- PSYC 532 Ethics for Behavior Analysts Units: 3
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week – 15 weeks (270 hours)

Spring, First Year

- PSYC 533 Cognitive Development in Children Units: 4
- PSYC 535 Research Methods in Behavior Analysis Units: 3
- PSYC 536 Behavioral Interventions Units: 3
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week – 15 weeks (270 hours)

Summer, First Year

- PSYC 587 Practicum in Applied Behavior Analysis Units: 2

– 30 hours per week, 13 weeks (390 hours)

Fall, Second Year

- PSYC 534 Social and Emotional Development in Children Units: 4
- PSYC 537 Development and Supervision of Intervention Systems Units: 2
- PSYC 539 Behavioral Approaches to Skill Acquisition Units: 2
- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 18 hours per week, 15 weeks (270 hours)
- PSYC 594a Master's Thesis Units: 2
  OR
- PSYC 597a Capstone Project in Behavior Analysis Units: 2

Spring, Second Year

- PSYC 587 Practicum in Applied Behavior Analysis Units: 2 – 20 hours per week, 15 weeks (300 hours)
- PSYC 596 Advanced Behavioral Theory Units: 2
- PSYC 594b Master's Thesis Units: 2
  OR
- PSYC 597b Capstone Project in Behavior Analysis Units: 2

Applied Psychology (MS)

Seeley G. Mudd, Room 706
(213) 740-2282
Fax: (213) 746-9082
Email: appliedpsychology@usc.edu
dornsife.usc.edu/map
Program Director: Ellen L. Leggett, EdD

The Master of Science in Applied Psychology program (MAP) is designed for individuals who wish to pursue or advance a career in a non-academic field where knowledge of human behavior is essential to effective job performance. The program stresses practical applications of psychological principles related to social influence, human motivation, interpersonal dynamics, decision-making, and performance improvement.

The program is especially appropriate for those who have majored in a behavioral science field, e.g., psychology, sociology, political science or anthropology. These applicants must have received their baccalaureate degree by the semester in which they begin the program.

Applicants must apply for admission to the Graduate School, and satisfy all requirements for admission. Details on the method for applying, admission criteria and deadlines can be found at dornsife.usc.edu/map.

Thirty-four units of course credit is required for the MAP degree. These units are taken from an inventory of courses that are specified for the MAP program. All students are required to take PSYC 505, PSYC 550a, PSYC 550b, PSYC 552, PSYC 565, 4 to 8 units of PSYC 591, and 2 units of PSYC 592. The specific number of PSYC 591 units taken in a given semester will depend in part on what options are available from internship sponsors. In addition, students choose from the following courses to focus on either organizational psychology or on consumer psychology: PSYC 513, PSYC 517, PSYC 556, PSYC 622. MAP students may take up to 4 units of PSYC 590.

Based on the student's academic background, work experience and career goals, substitutions of up to two courses may be made from other courses eligible for graduate credit.

The program for a given cohort of students begins in the fall semester. The normal expectation is that full-time students will complete the program in two semesters plus the summer. Part-time students will generally take one or two courses per semester, and must complete the program within five years.

The Master of Science in Applied Psychology program is also available as a part-time, online degree. Students may enter this program in fall, spring or summer terms.

Psychology (MA)

The department does not admit students whose objective is this master's degree. However, if a student accepted in the doctoral program does not have a master's degree, the department strongly recommends completion of the requirements for the MA in Psychology in the course of work toward the PhD degree. This involves 24 units of course work and a thesis.

Dual Degree

Doctor of Philosophy in Psychology (Clinical) and Master of Public Health (Health Promotion) (PhD/MPH)

The PhD/MPH dual degree combines knowledge of clinical psychology research and practice with an understanding of health from a population perspective. The student enrolls primarily in the clinical science doctoral program, while taking additional course work for the MPH. During the second and subsequent years, course work is taken in both programs. The dissertation is undertaken through the Department of Psychology.

Doctoral Degree

Psychology (PhD)

Residency Requirement

A minimum of 24 graduate units at USC is required for the doctoral degree.

Course Requirements

Each student must take at least 36 substantive units in psychology at USC during the first three years. Students must complete one statistics and/or research methods course as well as a set of core courses that cover topics in brain and cognitive sciences and clinical, developmental and social areas, the specifics of which are provided in the department's handbook for graduate students. Additional course requirements vary according to specialty area.

Research Requirement

During the first and second year, students work on either a master's thesis or a research report of comparable scope and quality. A research project done at USC is required of all students (by the conclusion of the summer following the student's second year), regardless of prior graduate work.

Screening Procedure

The student's ability to master graduate-level course material is first evaluated after completion of no more than 24 units, and not later than the third semester of graduate work at USC. The final screening procedure is the successful completion of a second-year project requirement. This evaluation is based on the student's performance in courses taken and on an evaluation of the student's research competence as reflected in the second year research project. The project is evaluated by a committee of three faculty, including the student's primary adviser.

Additionally, students are evaluated each year based on adviser input, course work and research progress.

Qualifying Exam Committee

In preparation for the qualifying examination, each student assembles a five-person qualifying exam committee to direct the student's program of studies and evaluate research competence. The committee continues to serve until after the qualifying examination has been passed, the dissertation topic approved, and the student admitted to candidacy for the PhD. At that time the student assembles a dissertation committee of four or more members (usually consisting of members of the qualifying exam committee, one of whom must be a faculty member from outside the department), who advise on and evaluate the dissertation.

Qualifying Examination

The qualifying examination evaluates the student's ability to conduct independent scholarship and research. The student is evaluated based on oral and written presentation of two elements: a written review paper or written exam and the dissertation proposal. The qualifying examination is planned, administered and evaluated by the student's qualifying exam committee. It should be taken no later than during the fifth semester.

Doctoral Dissertation

A student is expected to engage in research activity throughout his or her graduate career, leading up to and culminating in the PhD dissertation. The dissertation is based on an original investigation, usually involving empirical data.

Defense of the Dissertation

The student's doctoral dissertation is defended at either a defense oral, based on an approved preliminary copy of the dissertation, or a final oral, based on the final version of the dissertation.

Advisement

Each student has a major adviser who is usually in the specialty area. The qualifying exam committee should be formed at least one semester before the student takes the qualifying examination. Advisement concerning graduate school requirements may also be sought from the staff graduate adviser and the faculty member serving as director of graduate studies.

Internship Requirement

Students in the clinical science PhD program need a minimum of three full-time in-residence academic years of graduate study plus one full year of internship at a facility approved by the clinical faculty.

Religion

The School of Religion offers undergraduate courses in biblical studies; ancient near eastern religion, east and south Asian religions, including Hinduism, Buddhism and Daoism; religions in Latin America; contemporary North American religions; the histories of Judaism, Christianity and Islam; the sociology of religion; religion and gender; and topics in religious ethics. Courses are designed to facilitate a critical and comparative understanding of religious traditions in the light of the most current scholarship. The School of Religion offers the Bachelor of Arts in Archaeology, the Bachelor of Arts in Jewish Studies, the Bachelor of Arts in Religion, the minor in Archaeology, the minor in Archaeology of California, the minor in Jewish Studies, the minor in Religion, a graduate certificate in Religious Stuides, and the Doctor of Philosophy in Religion. Students also have the opportunity to enroll in USC courses offered by faculty of the Louchheim School for Judaic Studies, and receive regular USC course credit.

Ahmanson Center 130
(213) 740-0270
FAX: (213) 740-7158
Email: religion@dornsife.usc.edu
dornsife.usc.edu/religion
Director: Duncan Williams, PhD

Faculty

King Faisal Chair in Islamic Thought and Culture and Professor of Religion and American Studies and Ethnicity: Sherman Jackson, PhD*
Knight Chair in Media and Religion: Diane Winston, PhD *(Communication and Religion)*
Carolyn Craig Franklin Professor of Law and Religion and Professor of Law: Ronald R. Garet, JD *(Law)*
John R. Tansey Chair in Christian Ethics and Professor of Religion: Rev. Cecil (Chip) Murray, RelD
Alton M. Brooks Professor of Religion: James Heft, PhD
Leonard K. Firestone Professor of Religion: Donald Miller, PhD
Ruth Ziegler Early Career Chair in Jewish Studies: Jessica Marglin, PhD
Professors: Lisa Marie Bitel, PhD *(History)*; Janet Hoskins, PhD *(Anthropology)*; Paul Lichterman, PhD *(Sociology)*; Bruce Zuckerman, PhD*
Associate Professors: David Albertson, PhD*; Sheila Briggs, MA; James McHugh, PhD; Sonya Lee, PhD *(East Asian Languages & Cultures)*; Lori Rachelle Meeks, PhD; Duncan Williams, PhD
Assistant Professors: Cavan W. Concannon, PhD; Gerard Godard, PhD *(History)*; (Lei Kwan) Rondgao Lai, PhD
Associate Professor of the Practice: Lynn Swartz Dodd, PhD
Lecturer: Christopher Daily, PhD
Adjunct Professors: Stephen Smith, PhD; Varun Soni, PhD
Emeriti Professors: Robert Ellwood, PhD; Ronald Hock, PhD; John B. Orr, PhD; J. Wesley Robb, PhD, LHD*
Emeriti Associate Professors: John P. Crossley, Jr., ThD*; William W. May, PhD; Alvin S. Rudisill, PhD
University Professor, Professor Emeritus of Religion, and Dean Emeritus, Rossier School of Education: John Orr
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Religion Major with Honors

Majors who wish to graduate from the university with honors in religion must achieve a minimum 3.5 grade point average in the major at the time of graduation. In addition to completing the required 32 units listed above, candidates for honors must register for REL 491 x Undergraduate Honors Research, in which they must complete an acceptable senior honors project in religion. The total unit requirement to graduate with honors is 36 upper-division units.

Honor Society

Theta Alpha Kappa is a national honor society for those involved in the study of religion at the undergraduate and graduate level. It is open to declared majors who have completed at least three semesters of college and at least 12 units of religion courses. Students must have a GPA of at least 3.5 in major courses and an overall GPA of at least 3.0.

Judaic Studies Minor

See Jewish Studies for a full description of the minor.

Critical Approaches to Leadership Minor

See the Department of Interdisciplinary Studies for a full description of the minor.

Graduate Degrees

The School of Religion offers graduate study at the doctoral degree level in the field of religion with three tracks: Asia Pacific Religions, Comparative Christianities and Global Islam. Graduate work in the field of religion is designed to develop competencies and critical apparatuses in the distinct tracks and religious traditions as well as in religions' interactions with society, culture and the major themes that transcend the boundaries of geography, history and tradition.
The three tracks include:

Track I: Asia Pacific Religions

Trains students in the foundational texts, histories, worldviews, socio-political and cultural impact of religions in the pre-modern and modern Asia Pacific. These religious traditions include Hinduism, Buddhism and other religious movements in the region as well as their global manifestations.

Track II: Comparative Christianities

Trains students in the vast global range of historical and contemporary Christian traditions often grouped together homogeneously as Christianity. Rather than focusing exclusively on textual and intellectual traditions, this track integrates the social, cultural and material dimensions of religion in its study of plural Christianities, and challenges students to frame their research in transnational and transhistorical terms as a matter of course.

Track III: Global Islam

Trains students in the "global" dimensions of the Islamic tradition, from the traditional confines of the Middle East, Africa and South and Southeast Asia to include Islam, Islamic thought, Muslim culture

and Muslim communities in the modern Western world. In addition to the acquisition of traditional skills for the study of religious texts, doctrine and spiritual life of believers, students will learn how Muslims negotiate concrete spaces and contexts they inhabit in the modern world.

Degree Requirements

The degree is conferred under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School. Decisions regarding the number of transfer credits to be awarded will be made on a case-by-case basis by the faculty of the School of Religion.

Bachelor's Degree

Archaeology (BA)

Director: Lynn Swartz Dodd, PhD

Archaeology deepens our understanding of peoples and societies across space and time, in all parts of the world, while expanding our knowledge of issues relevant in contemporary society. Archaeologists interpret material culture and action from our shared human past using a range of tools and approaches whether the discovery occurs with trowel in hand, or through laboratory analysis, artifact study, remote sensing or by documenting heritage.

Archaeology majors strengthen their skills in critical thinking, assessing evidence, and formulating clear and persuasive arguments, both oral and written. Students from a wide range of disciplines will gain perspective on their own intellectual and professional interests through the study of the past.

In addition to the general education requirements, the following courses are required:

Lower-Division Requirement (8 units)

Required Course (4 units)

- ANTH 202g Archaeology: Our Human Past Units: 4

Select either one 4-unit course or two 2-unit courses from the following list (4 units):

- AHIS 120gp Foundations of Western Art Units: 4
- AHIS 125gp Arts of Asia I: Antiquity to 1300 Units: 4
- AHIS 126g Arts of Asia II: 1300 to the Present Units: 4
- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AHIS 201g Digging into the Past Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ARCG 298aL Introduction to Scientific Diving Units: 2
- ARCG 298bL Introduction to Scientific Diving Units: 2
- CHEM 105bL General Chemistry Units: 4
- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CLAS 212 Archaeology: Interpreting the Past Units: 4
- CLAS 280gp Classical Mythology in Art and Literature Units: 4
- ENST 100g Introduction to Environmental Studies Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- HBIO 200Lg The Human Animal Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- LING 295g The Ancient Near East: Culture, Archaeology, Texts Units: 4
- MASC 110L Materials Science Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 265Lg The Water Planet Units: 4

Upper-Division Requirement (28 units)

Take Ethics and Heritage course (4 units)

- REL 304 Ethics and Global Heritage Units: 4

Select two courses from Theories and Methods (8 units):

- AHIS 325 Roman Archaeological Excavation: Methods and Practice Units: 4
- AHIS 415 Object-Worlds: Histories and Theories of Things Units: 4
- AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology Units: 4
- AHIS 427 Archaeological Theories, Methods, and Practice Units: 4
- ANTH 307 Trojan Archaeology: Excavating USC Units: 4
- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 440 History of Anthropological Theory Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4 *
- REL 303g Exploring Ancient Ways of Living: Experimental Archaeology Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4
- REL 495 Field Methods and Theories in Archaeology Units: 4

Select three courses from the following two areas (12 units):

Cultural/Historical

- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 330 Medieval Art Units: 4
- AHIS 381g Visual Cultures of Asia Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 420 Studies in Ancient Art Units: 4
- ANTH 304 Prehistoric Archaeology Units: 4
- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 311 Old World Archaeology Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 329 Archaeology and Global Cultural Heritage Units: 4
- ANTH 337 Anthropology of Warfare Units: 4
- ANTH 360 Symbolic Anthropology Units: 4
- ANTH 372 Interpretation of Myth and Narrative Units: 4
- ANTH 377 Archaeological Interpretation of Complex Societies Units: 4
- CLAS 323 Aegean Archaeology Units: 4
- CLAS 324 Late Antique Art and Archaeology Units: 4
- CLAS 328 Archaeology of Religion in the Greco- Roman World Units: 4
- CLAS 338 Warfare, State, and Society in the Ancient World Units: 4
- CLAS 339 Ancient Science Units: 4
- CLAS 349g Ancient Empires Units: 4
- CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion Units: 4
- JS 370 Digs and Dispute: Religion and Archaeology in Israel Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- MDES 316p The Great Muslim Empires of the Near East and India Units: 4
- REL 302 Religions of Ancient Egypt and the Near East Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 325 Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4

- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 475 Religion, Material Culture and the Senses Units: 4
- REL 493 Art and Archaeology of Religion Units: 4

Applied/Analytical

- ANTH 376 Scientific Analysis in Archaeology Units: 4
- ANTH 481L GIS for Investigating the Past Units: 4 *
- ARCG 305L Virtual and Digital Culture, Heritage and Archaeology Units: 4
- ARCG 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CHEM 300L Analytical Chemistry Units: 4
- ENST 320a Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- ENST 320b Water and Soil Sustainability; Energy and Air Sustainability Units: 4
- GEOL 305L Introduction to Engineering Geology Units: 4
- GEOL 320L Surficial Processes and Stratigraphic Systems Units: 4
- GEOL 412 Oceans, Climate, and the Environment Units: 4
- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 308 Origins and Evolution of Human Behavior Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Principles of Geographic Information Science Units: 4
- SSCI 483L Spatial Science Practicum Units: 4

Take Capstone Course (4 units):

- CLAS 465 Archaeology and Society Units: 4

Total Requirement: 9 courses (36 units)

Note:

*ANTH 481L *may not be double-counted toward the degree in Archaeology.*

Jewish Studies (BA)

The interdisciplinary major in Jewish Studies investigates the study of Jewish religion, history, culture and languages through a variety of academic perspectives. Students can work with scholars in the School of Religion in USC Dornsife College, the Louchheim School for Judaic Studies at Hebrew Union College-Jewish Institute of Religion and faculty across the USC campus trained in religious studies, Jewish thought, history, linguistics, literature, international relations, political science, music and sociology. The curriculum is designed to allow students options in combining courses that focus on Judaism as a religion with those that focus on history, literature and other forms of Jewish culture and civilization.

Major Requirements

Students choose among courses that focus on Judaism as a living religious system and those that focus on Jewish history, culture and society in its global setting.

Three core courses are required: REL 301 Introduction to the Study of Religion, REL 401 Seminar in Religious Studies, and either JS 100 Introduction to Jewish History or JS 180 Judaism.

Students must choose one course from the Judaism as a Religious Tradition track and one course from the Jewish History and Culture track which are listed below.

In addition, students must select three courses from either track. No more than two courses in total may come from the lower-division (100 and 200) levels. A total of eight courses are required for the degree (32 units.)

A. Core Courses

Three courses are required. Students must take REL 301 and REL 401 and select one course from either JS 100 or JS 180.

- JS 100gp Jewish History Units: 4
- JS 180gp Introduction to Judaism Units: 4
- REL 301 Introduction to the Study of Religion Units: 4
- REL 401 Seminar in Religious Studies Units: 4

B. Judaism as a Religious Tradition (at least one course required)

- JS 180gp Introduction to Judaism Units: 4
- JS 258gp Food, Faith and Conflict Units: 4
- JS 314gp Holy War And History: Jews, Christians, Muslims Units: 4
- JS 321 Gender and Judaism Units: 4
- JS 361 Scripture and Polemic in Judaism, Christianity and Islam Units: 4
- JS 374 Messiah: The History of an Idea Units: 4
- JS 378 Jewish Magic in the Ancient World Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 467 Modern Jewish Thought Units: 4
- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 312 Biblical Wisdom Literature Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 359g Culture in Diaspora: The Jews of Spain Units: 4
- REL 364 Religion and Ethics Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 473 Advanced Hebrew Bible Studies Units: 4

C. Jewish History and Culture (at least one course required)

- HEBR 315 Modern Hebrew Language (Hebrew IV) Units: 4
- HIST 305 From Goddesses to Witches: Women in Premodern Europe Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 383 The Modern Middle East Units: 4
- HIST 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- HIST 443 Race and Religious Riots in Modern World History Units: 4
- HIST 444 Mass Violence and Comparative Genocide in Modern World History Units: 4
- HIST 446 Resistance to Genocide Units: 4
- ITAL 352 The Holocaust in Italian Fiction and Film Units: 4
- JS 100gp Jewish History Units: 4
- JS 211gw The Holocaust Units: 4
- JS 214 Zionism, Israel, and the Modern World Units: 4
- JS 300 American Jewish History Units: 4
- JS 315g Anti-Semitism, Racism and Other Hatreds Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- JS 340 Modern Jewish History Units: 4
- JS 342 Reading in Two Directions: Connecting Law and Literature in Jewish Tradition Units: 4
- JS 360m Identity, Community, and Service: Jews and Other Americans Units: 4
- JS 362 Terror and Resistance in Literature and the Media Units: 4
- JS 370 Digs and Dispute: Religion and Archaeology in Israel Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- JS 381 The Jew in American Society Units: 4
- JS 383 Jews in American Popular Culture Units: 4
- JS 389 Culture and Society in Israel: Inventing the Dream Units: 4
- JS 390 Special Problems Units: 1, 2, 3, 4
- JS 415 The American Jewish Experience in Film Units: 4
- JS 428 Blacks and Jews: Conflicts and Alliances Units: 4
- JS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- JS 499 Special Topics Units: 4

- MSCR 475 Introduction to Jewish Music Units: 2
- REL 324g Sex and the Bible: Gender, Sexuality, and Scripture Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4

D. Major Electives (three courses required)

In addition to the three core courses in Area A and one required course in each of Areas B and C, students must complete three additional courses chosen from lists B and C. No more than two courses in total may come from the lower-division (100 and 200) levels.

Jewish Studies majors are encouraged to take HEBR 120, HEBR 150 and HEBR 220, which fulfill the Dornsife College foreign language requirement.

Religion (BA)

The department major requires REL 301 Introduction to the Study of Religion (preferably taken at the beginning of the student's major courses) and REL 401 Seminar in Religious Studies. Further, students must take six additional courses from the list below. The total unit requirement for the major is 32 units (at least 24 to 28 units must be upper-division).

Lower-division Options:

- REL 111g The World of the Hebrew Bible Units: 4
- REL 112g Religions of Ancient Egypt and the Near East Units: 4
- REL 114g The Mediterranean: A Religious History Units: 4
- REL 115g Jerusalem, City of Three Faiths Units: 4
- REL 121g The World of the New Testament Units: 4
- REL 125gp Introduction to Christianity Units: 4
- REL 132g Origins of Western Religions Units: 4
- REL 134g Introduction to Buddhism Units: 4
- REL 135g Chinese Religions and Culture Units: 4
- REL 136g Sense and Sensuality in Indian Religions and Culture Units: 4
- REL 137g Introduction to Islam Units: 4
- REL 138g Japanese Religions and Culture Units: 4
- REL 141g Global Religions in Los Angeles Units: 4
- REL 147g Religion, Media and Popular Culture Units: 4

Upper-division Options:

- CLAS 323 Aegean Archaeology Units: 4
- COMM 425 Communicating Religion Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- EALC 431 The Taoist Tradition Units: 4
- HIST 482 Jesus in American History and Culture Units: 4
- JS 321 Gender and Judaism Units: 4
- JS 361 Scripture and Polemic in Judaism, Christianity and Islam Units: 4
- JS 382 Judaism as an American Religion Units: 4
- JS 467 Modern Jewish Thought Units: 4
- REL 302 Religions of Ancient Egypt and the Near East Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 312 Biblical Wisdom Literature Units: 4
- REL 314 Introduction to Shiism Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 316 Women and the Islamic Tradition Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4
- REL 319 Religious and Ethical Issues in Death and Dying Units: 4
- REL 325 Religious Experience in the Greco-Roman World Units: 4
- REL 326gp Historical Jesus Units: 4
- REL 329 Themes in the Religions of China Units: 4
- REL 330 Introduction to the Religions of India Units: 4
- REL 331 Religions of East Asia Units: 4
- REL 332 Religions of Japan Units: 4
- REL 333 Religion in the Borderlands Units: 4
- REL 334 Religion and Colonial Encounter Units: 4
- REL 335 Gender, Religion, and Sexuality Units: 4
- REL 336 Re-viewing Religion in Asian America Units: 4
- REL 338 Mysticism and Religious Desire Units: 4
- REL 339 Studies in the History of Christianity Units: 4
- REL 340 Introduction to Indian Philosophy Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4
- REL 360 Ethical Issues in the New Medical Revolution Units: 4
- REL 364 Religion and Ethics Units: 4
- REL 366 Religion and Social Change Units: 4
- REL 370 Religion and Visuality Units: 4
- REL 394 Archaeology of Egypt and the Near East Units: 4
- REL 402 Cultural Heritage, Religion, and Politics in the Middle East Units: 4
- REL 414 History of Islamic Law Units: 4
- REL 415 Seminar in Buddhism Units: 4
- REL 417 Seminar in South Asian Religions Units: 4
- REL 435 Religious Thought After the Enlightenment Units: 4
- REL 440 Christian Thought in the 20th Century Units: 4
- REL 441 Origins of Modern Theology Units: 4
- REL 442 Religion and Science Units: 4
- REL 455 Philosophy of Religion: Bases of Belief and Disbelief Units: 4
- REL 460 Senior Seminar: Medical Ethics Units: 4
- REL 462 Religion and Violence Units: 4
- REL 468 Sociology of Religion Units: 4
- REL 469 Black Religion in America Units: 4
- REL 471 Jesus Units: 4
- REL 473 Advanced Hebrew Bible Studies Units: 4
- REL 474 Advanced New Testament Studies Units: 4
- REL 475 Religion, Material Culture and the Senses Units: 4
- REL 479 Seminar in Christian Thought Units: 4
- REL 481 History of Religion in America Units: 4
- REL 483 Religion and Popular Culture in the United States Units: 4
- REL 493 Art and Archaeology of Religion Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4
- REL 495 Field Methods and Theories in Archaeology Units: 4
- REL 499 Special Topics in Religion Units: 2, 3, 4

Additional Requirements

Students who intend to do graduate work in some area of religious studies are encouraged to concentrate their course selections in the area of their preference and to begin learning the languages that are essential for study in that area. This includes modern languages such as Arabic, Chinese, French, German or Japanese, and perhaps an ancient language.

Minor

Archaeology Minor

Students gain long-term perspectives by studying of the material traces of the past human activity and by joining in its discovery. The minor in Archaeology is available to students in all schools and departments.

Lower-Division Requirement (4 units)

Required Course (4 units)

- ANTH 202g Archaeology: Our Human Past Units: 4

Upper-Division Requirement (16 units)

Select one course from the Theories and Methods list of the Archaeology Major (4 units).

Additionally, select any one upper-division course from those listed under Archaeology Major (4 units):

Take Ethics and Heritage course (4 units)

- REL 304 Ethics and Global Heritage Units: 4

Take Capstone Course (4 units)

- CLAS 465 Archaeology and Society Units: 4

Total Requirement: 5 courses (20 units)

Archaeology of California Minor

Students gain diverse, long-term perspectives on Los Angeles, California state, the west, and the USA by joining in the discovery and study of the material traces of past human activity during an archaeological excavation and/or survey on USC's campus and/or elswhere in California. The minor in Archaeology of California is available to students in all schools and departments. Students complete this minor through the archaeology block semester program.

In a single semester, complete these three courses:

- ANTH 307 Trojan Archaeology: Excavating USC Units: 4
- REL 304 Ethics and Global Heritage Units: 4
- REL 494 Lab Methods and Theories in Archaeology Units: 4

and complete one of these courses:

- ANTH 377 Archaeological Interpretation of Complex Societies Units: 4
- CLAS 465 Archaeology and Society Units: 4

Jewish Studies Minor

Students taking the Jewish studies minor must enroll in either JS 100 or JS 180. In addition, they must complete four upper-division courses selected from the Judaism as a Religious Tradition track and the Jewish History and Culture track listed in the Jewish studies major description.

The total unit requirement for the minor is 20 units; 16 of those units must be upper-division.

Religion Minor

Students taking the religion minor must enroll in REL 301 Introduction to the Study of Religion. In addition, they must complete four additional religion courses, at least three of which must be upper-division courses.

The total unit requirement for the minor is 20 units; 16 of those units must be upper-division.

Students who wish to focus their minor in Jewish studies must minor in Judaic Studies.

Graduate Certificate

For Business

Religious Studies Certificate

Students admitted into the Graduate Certificate in Religious Studies (GCRS) program will be required to complete REL 500 (Methods and Theories in the Study of Religion) or REL 502 (Themes in the Study of Religion). In addition, they will need to take 12 units of elective courses from the pre-approved lists below. (Students may also take as an elective whichever of the REL 500, REL 502 series they did not take as a requirement). In addition to the courses listed below, others may also be considered for credit on a case-by-case basis at the discretion of the director of Graduate Studies. All GCRS courses must be at the 500-level or above, and at least 50 percent of their content must focus on the study of religion. REL 590 (Directed Research) may not count for more than 4 of these additional 12 units.

Students interested in pursuing the GCRS program should meet with the director of Graduate Studies to apply to the program and plan a course of study. Candidates should be planning to include the study of religion in their dissertation projects. Alternatively they may take a concluding qualifying oral exam based on three seminar or research papers written in conjunction with their religion course work.

Required Course (4 units)

Select one course.

- REL 500 Methods and Theories in the Study of Religion Units: 4
- REL 502 Themes in the Study of Religion Units: 4

Electives (12 units)

Select 12 units.

Pre-Approved Religion Courses

- REL 500 Methods and Theories in the Study of Religion Units: 4
- REL 502 Themes in the Study of Religion Units: 4
- REL 525 Colloquium in Global Islam Units: 4
- REL 535 Colloquium in Comparative Christianities Units: 4
- REL 545 Colloquium in Asia Pacific Religions Units: 4
- REL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- REL 625 Advanced Graduate Seminar in Global Islam Units: 4
- REL 635 Advanced Graduate Seminar in Comparative Christianities Units: 4
- REL 645 Advanced Graduate Seminar in Asia Pacific Religions Units: 4
- REL 650 Readings in Islamic Texts Units: 4
- REL 651 Readings in Christian Texts Units: 4
- REL 652 Readings in Buddhist Texts Units: 4
- REL 653 Readings in Indic Religious Texts Units: 4
- REL 654 Readings in Chinese Religious Texts Units: 4
- REL 655 Readings in Japanese Religious Texts Units: 4

Pre-Approved Cross-Listed Courses

- EALC 610 Seminar: Buddhism and the Literary Arts in Japan Units: 4
- IR 540 Seminar in International Politics — Religion and Conflict Units: 4
- JOUR 585 Specialized Reporting: Religion Units: 3
- JS 501a Bible Texts Units: 4
- JS 501b Bible Texts Units: 4
- JS 501c Bible Texts Units: 4
- MSCR 571 Music of the Great Liturgies Units: 2
- SOWK 682 Spirituality, Religion, and Faith in Clinical Practice Units: 3

Doctoral Degree

Religion (PhD)

Course Requirements

Sixty-four units of course work are required for the PhD degree, including units of previous graduate work for which credit is allowed. No more than two language courses at the 400-level and no more than two non-language courses at the 400-level (i.e., 16 units) may be applied to the total requirement of 64 units. Time of residency is contingent upon the background and preparation of the student.

Core requirements for all doctoral students regardless of track include REL 500, REL 502, REL 592, REL 593, and a maximum of 8 units of REL 794 Doctoral Dissertation to be applied toward the 64-unit total requirement.

Additionally, mandatory courses for students in the Asia Pacific Religions track include REL 545, REL 645, and a one course from the REL 652/REL 653/REL 654/REL 655 series. Mandatory courses for students in the Comparative Christianities track include REL 535, REL 635 and REL 651. Mandatory courses for students in the Global Islam track include REL 525, REL 625 and REL 650.

In addition to the mandatory courses, students are expected to take elective courses in areas that will support their dissertation work. Such courses may be offered in related departments in the university as well as in the School of Religion and should be selected in consultation with the primary adviser.

Each student entering the PhD program will select a primary academic adviser before classes begin. The adviser must be a member of one of the three tracks that the student envisions specializing in. In addition, at least one other faculty member from that track is selected to constitute, along with the primary adviser,

the student's "mentoring committee." The mentoring committee is responsible for overseeing the student's program of course work, course of language study, timing of qualifying exams and so on. The membership of the mentoring committee can be changed at any time with the agreement of the student, the student's primary adviser, and the School of Religion director of Graduate Studies. The dissertation Committee (see below) will replace the mentoring committee once candidacy is achieved. Students are expected to maintain a 3.5 GPA in course work.

The mentoring committee conducts an annual review of the student's academic performance and progress toward the degree in the spring of each year, before the end of the spring term. Should a student's performance be considered unsatisfactory, following consultation with the director of Graduate Studies, the student will be placed on probation for one year and given the opportunity to improve his or her performance. If a student's performance is still considered unsatisfactory at the end of the probationary year, the student will be dismissed from the program. Only after a successful annual review in the second year will the student be permitted to convene their qualifying examination committee.

Foreign Language Requirements

Language competencies vary by track and are determined in consultation with the mentoring committee. Here are some general guidelines:

Asia Pacific Religions Track: Advanced facility in at least one Asian language is considered essential to the Asia Pacific Religions Track. Each student selects a primary language area. The Mentoring Committee determines which possible additional languages are necessary for the student's course of study, and the procedures for the evaluation of proficiency in those languages. The following is provided as a guideline depending on the area of sub-specialization.

- *Chinese:* Classical and modern Chinese, as well as modern Japanese (as a research language) and a modern European research language.
- *Japanese:* Classical (Bungo) and modern Japanese, as well as Kanbun, and one modern research language (European, modern Chinese, or modern Korean)
- *Korean:* Advanced Korean, as well as either modern Japanese (as a research language) or a European modern research language.
- *Sanskrit and Hindi:* Advanced competency in two South Asian languages, classical or modern, plus a modern research language judged relevant to the student's research.

Comparative Christianities Track: Students are required to demonstrate advanced ability in two languages other than English in order to enable comparative research. Given the temporal and global span of Christian traditions, the specific languages will be determined on a case-by-case basis by the student's mentoring committee. Customarily the committee will select one or two ancient languages and one or two modern languages. The following are the languages most frequently studied in the Comparative Christianities Track, but the mentoring committee can select others as needed:

- Ancient: *Hebrew, Greek, Syriac, Latin,* as well as medieval vernaculars
- Modern: French, Spanish, Italian, German, Portuguese, Korean

Global Islam Track: Required to demonstrate advanced ability in the primary lingua franca of Islamic civilization to ensure the ability to conduct original research. Secondarily, students are generally encouraged to acquire facility in a secondary language within traditional Muslim religious and secular literature. Students are also encouraged to acquire facility in one European research language where deemed appropriate.

- *Arabic:* Classical and Modern Standard, as the primary research language.
- *Persian:* Classical and Modern, as a possible secondary research language.
- *French or Spanish:* (Elective) a reading knowledge to conduct research on or in specific modern communities.

Qualifying Examination and Dissertation Prospectus

The qualifying examination process consists of five stages: (1) constituting the qualifying examination committee (this would normally include the members of the mentoring committee), (2) determining the three exam areas by the student and the qualifying examination committee, (3) taking the written examinations, (4) submission of the dissertation prospectus, (5) the qualifying oral examination.

Preparation for these exams should begin early in the student's course work. In consultation with the mentoring committee the students will select their primary area and also take an exam in the other two cognate areas. Preparation for the qualifying exam continues with supplementary readings based on a bibliography prepared by the student in conjunction with the qualifying examination committee. This committee is responsible for setting the exam questions for the cognate written exams. The student is given 24 hours to write on a total of three questions for each exam. Each of the written exams is evaluated by all members of the examination committee.

The dissertation prospectus should begin with a general review of the scholarship in the field, and situate the thesis within that field. It should clearly articulate the thesis and program of research, identifying the available source material to be consulted. The prospectus must include a chapter outline, and a full bibliography of primary and secondary sources.

The oral examination will occur shortly after the submission of the dissertation prospectus. It will focus on the content of the written exams, the basic literature in the student's primary field, as well as the content and cogency of the prospectus.

Dissertation

The dissertation committee, consisting of three faculty members, is formed immediately following advancement to candidacy. The committee consists of at least two faculty members in the track of the student's specialization as well as one other School of Religion faculty member. Candidates may also add an additional faculty member external to the School of Religion if appropriate. This final stage of the program requires the submission of an acceptable dissertation based on original investigation. The dissertation must show technical mastery expected in each track, evidence of independent research, and the analytical and interpretive ability expected of a scholar.

Course Requirements

Slavic Languages and Literatures

The Department of Slavic Languages and Literatures offers a major in Russian at the undergraduate level and minors in Russian and Russian Area Studies. The major combines thorough preparation in the Russian language with the study of Russian literature, art and culture. Particular emphasis is placed on developments in contemporary Russia. Students are required to study four semesters of Russian language as a prerequisite to the major. The major itself requires an additional three semesters of language study, three semesters of an advanced seminar on Russian culture (with varying content), and two elective courses, either in Russian literature and culture (in translation or Russian, depending on course scheduling) or in Russian area studies. The department also administers, together with the School of International Relations, a major in Central European studies, which combines background in relevant languages (Russian plus either German or Polish, or more intensive study of Russian) with course work in international relations and the history, culture and politics of the region.

Taper Hall of Humanities 255

(213) 740-2735
FAX: (213) 740-8550
Email: slavic@dornsife.usc.edu
dornsife.usc.edu/sll
Chair: Thomas Seifrid, PhD

Faculty

Professors: Sharon Carnicke, PhD *(Dramatic Arts)*; Sarah Pratt, PhD*; Azade-Ayse Rorlich, PhD *(History)*; Thomas Seifrid, PhD*; Alexander Zholkovsky, PhD*
Associate Professors: Robert English, PhD *(International Relations)*; Roumyana Pancheva, PhD *(Linguistics)*
Assistant Professors: Anna Krakus, PhD; Greta Matzner-Gore, PhD; Kelsey Rubin-Detlev, PhD
Professor (Teaching) of Russian: Tatiana Akishina, PhD
Associate Professor (Teaching) of German: Britta Bothe, PhD
Assistant Professors (Teaching) of German: John W. Arensmeyer Jr., PhD; Eve Lee, PhD
Lecturer: John Adam Peters III
**Recipient of university-wide or college teaching award.*

Graduate Degrees

Doctor of Philosophy in Linguistics (Specialization in Slavic Linguistics)

Application deadline: January 1
See Linguistics in this catalogue.

Certificate in Foreign Language Teaching

The Certificate in Foreign Language Teaching provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs at accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Refer to the Department of Spanish and Portuguese for course work requirements.

Bachelor's Degree

Central European Studies (BA)

The major in Central European studies combines background in relevant languages (Russian plus either German or Polish, or more intensive study of Russian) with course work in international relations and the history, culture and politics of the region.

No longer an imperial backwater, Central Europe has risen from its Cold War stasis to become one of the world's most dynamic and important regions. Stretching from the Baltic Sea to the Balkan Peninsula, and from the Eastern lands of Germany to the Western regions of Russia, this onetime great-power battleground is now a vital trade and energy corridor, a mosaic of languages and cultures, a place of both successful state-building and persistent ethnic frictions, and a promising but still-precarious bridge between the former Soviet Union and the West. Central Europe rivals the Far East and Southwest Asia as one of the world's most strategically important regions — now, and over the coming decades. Those who master its history and politics, its economic, cultural and linguistic diversity, will be well positioned for fellowships, graduate work, business or analytical careers centered on this fascinating region.

The objectives of this interdisciplinary major are to provide students with: 1) the historical background and linguistic-cultural skills necessary for in-depth study of Central Europe; 2) knowledge of its main post-Cold War political, ethnic, and economic trends; and 3) understanding of current issues from nationalism and immigration to trade, military-diplomatic and alliance politics.

Requirements

The fundamental linguistic background of the major is Russian (12 units).

Required Courses

- SLL 120 Beginning Russian I Units: 4
- SLL 150 Beginning Russian II Units: 4
- SLL 220 Intermediate Russian I Units: 4

Courses

Beyond the second year of Russian, students may choose from among three options: further work on Russian; or a year of German; or a year of Polish (8 units).

Russian

- SLL 250 Intermediate Russian II Units: 4

- SLL 310 Advanced Russian in Popular Culture Units: 4 or
- SLL 340 Intercultural Communication in Russian Units: 4

German

- GERM 101 German I Units: 4
- GERM 102 German II Units: 4

Polish

- SLL 122 Elementary Polish I Units: 4
- SLL 152 Elementary Polish II Units: 4

Required Courses, Upper-Division

Required upper-division courses in international relations: two courses must be chosen from among the following (8 units):

- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 385 European Foreign Policy and Security Issues Units: 4

Elective Courses

In addition three electives are required from among the following. At least one course must be at the 400 level. With prior approval, IR 490x Directed Research (4 units) or SLL 490x Directed Research (4 units) may be substituted for one of these courses (12 units):

- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 365 The Second World War Units: 4, 2 years
- HIST 414 Contemporary Europe Units: 4
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present Units: 4
- HIST 427 The German Question: Nation and Identity in Modern Central Europe Units: 4
- IR 369 Post-War European Relations Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 468 European Integration Units: 4
- POSC 366 Terrorism and Genocide Units: 4
- POSC 371 European Political Thought II Units: 4
- POSC 463 European Politics Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4
- SLL 302g Modern Russian Literature Units: 4
- SLL 303 Contemporary Russian Literature Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 397 Literature and Film in Eastern European Historical Experience Units: 4
- SLL 465 Seminar in Russian Studies Units: 4

Russian (BA)

Required Courses, Lower-Division

- SLL 120 Beginning Russian I Units: 4
- SLL 150 Beginning Russian II Units: 4
- SLL 220 Intermediate Russian I Units: 4

- SLL 250 Intermediate Russian II Units: 4 or
- SLL 255 Business Russian Units: 4

Required Courses, Upper-Division

- SLL 310 Advanced Russian in Popular Culture Units: 4

- SLL 321 Russian Culture Units: 4 or
- SLL 330gp Russian Thought and Civilization Units: 4

- SLL 340 Intercultural Communication in Russian Units: 4
- SLL 465 Seminar in Russian Studies Units: 4 max 12 (taken three times, with varying content)
- And two elective courses approved by the undergraduate adviser

Minor

Russian Area Studies Minor

Lower-division Requirements

Four semesters of Russian language

- SLL 120 Beginning Russian I Units: 4
- SLL 150 Beginning Russian II Units: 4
- SLL 220 Intermediate Russian I Units: 4 and either

- SLL 250 Intermediate Russian II Units: 4 or
- SLL 255 Business Russian Units: 4
  or its equivalent

Upper-division Requirements

The core course

- SLL 330gp Russian Thought and Civilization Units: 4

One course outside the Slavic department, from among the following:

- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 415 Medieval and Early Modern Russia Units: 4, 2 years
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

And one elective, to be chosen from among: any upper-division SLL course in Russian literature, art or culture

- HIST 324g Islam in Russia, the USSR, and Independent States Units: 4
- HIST 415 Medieval and Early Modern Russia Units: 4, 2 years
- HIST 416 History of Imperial Russia: 1689–1917 Units: 4
- HIST 417 History of Soviet Russia: 1917–1991 Units: 4, 2 years
- HIST 424 Family, Work, and Leisure in Russian History Units: 4
- IR 345 Russian and Post-Soviet Foreign Policy Units: 4
- IR 346 Communism and Post-Communism: Eastern Europe and the Balkans Units: 4
- IR 439 Political Economy of Russia and Eurasia Units: 4
- IR 483 War and Diplomacy: The U.S. in World Affairs Units: 4
- POSC 464 Politics of Russia and Eastern Europe Units: 4

Note:

The course taken to fulfill the requirement outside the Slavic department cannot also count as an elective.

Russian Minor

Lower-division requirements for the major plus three upper-division elective courses chosen from the following (at least two of the areas must be represented): Russian language (SLL 310, SLL 340, SLL 420); Russian literature and culture taught in Russian (SLL 321, SLL 465); Russian literature, art and culture taught in translation (SLL 330, SLL 344, SLL 345, SLL 348, SLL 378).

Doctoral Degree

Slavic Languages and Literatures (PhD)

The doctorate in Slavic languages and literatures is designed to prepare students for a career of teaching and scholarship at the university level. It provides a thorough grounding in Russian literary and cultural history as well as in the theoretical perspectives current in the field. Elective course work, particularly at the upper level, allows students to take advantage of the department's expertise in such additional areas as Russian art, Russian theater, and eastern European cinema. The linguistic component of the curriculum together with the experience as a teaching assistant in Russian language courses that many students gain also serves as preparation for positions involving language teaching. Depending on departmental offerings, further study in a second Slavic language and culture may also be possible.

Admission Requirements

An undergraduate major in Russian or its equivalent is a prerequisite for graduate work.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation page and the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Master of Arts in Slavic Languages and Literatures

The department does not accept applicants for a Master of Arts degree in Slavic Languages and Literatures. The MA degree is intended only as a transitional degree in the process of completing requirements for the PhD in Slavic Languages and Literatures. The MA portion of the program comprises 30 units.

First-year Review

The program conducts a thorough review of all first-year students at the end of the second semester. To be permitted to continue doctoral work, students must receive a satisfactory evaluation in this review.

Language Requirements

Non-native speakers of Russian must successfully complete 8 units (4 semesters) of SLL 500 Topics in Advanced Russian and pass a proficiency exam in the language.

Field Examination

A written exam based on a reading list, followed by an oral exam, must be successfully passed before the MA can be awarded. It is normally taken at the end of the semester in which MA course work is completed.

Required M.A. - Level Courses

- SLL 500 Topics in Advanced Russian Units: 2
- SLL 501 Proseminar in Russian Literature Units: 3
- SLL 512 History of the Russian Language Units: 3
- SLL 532 18th Century Russian Literature Units: 3
- SLL 546 The Russian Novel Units: 3

Doctor of Philosophy in Slavic Languages and Literatures

Students pursuing the Ph.D. in Slavic Languages and Literatures are required to complete a minimum of 60 units of course work beyond the baccalaureate. In addition to the 30 units completed toward the M.A., students are required to complete the courses listed below; to demonstrate proficiency in spoken and written Russian; to demonstrate reading knowledge of French and German (in exceptional cases a second Slavic language may substitute for either French or German; instruction in Slavic languages other than

Russian is not scheduled on a regular basis); to pass the qualifying examination, which must be taken after all course work has been completed; to complete and successfully defend a dissertation.

Required PH.D. - Level Courses

- SLL 516 Structure of Modern Russian: Morphology Units: 3
- SLL 545 19th Century Russian Poetry Units: 3
- SLL 550 Russian Modernism Units: 3
- SLL 555 Soviet Literature I (1917–1953) Units: 3

Two of the following courses (6 units):

- SLL 650 Seminar in Russian Literature Units: 3
- SLL 660 Seminar on a Single Author or Work Units: 3
- SLL 665 Seminar in Russian Culture and the Arts Units: 3

Additional Requirements

Plus electives, from SLL or relevant offerings in CSLC, COLT, ENGL, FREN, SPAN etc. as approved by the department. At least 9 of these units must be completed in SLL.

Dissertation Defense

An oral defense of the dissertation must be satisfactorily completed before the dissertation can be filed with the Graduate School.

Awarding of Degree

The degree of Ph.D. in Slavic Languages and Literatures is conferred when all of the degree requirements have been completed satisfactorily.

Sociology

The Department of Sociology offers bachelor's degrees in sociology, health and the human sciences, and non-governmental organizations and social change. The Department of Sociology also offers a number of minors and the Doctor of Philosophy in Sociology. Students of sociology examine the patterns of social life, focusing on the relationship of individuals to society and the interaction of culture, economy and politics in shaping social life. The greater Los Angeles area provides a natural laboratory for students to explore such sociological themes as race relations, work and the workplace, immigration, the family in a changing society, population trends, globalization, religion, and the criminal justice system. Matching the special strengths of our faculty and cutting edge research in the discipline, USC's sociology program offers students the opportunity to learn about social issues locally, nationally, and internationally, as well as develop empirical research tools to conduct research, and analyze and interpret data in order to create social change. Many of our undergraduate courses include opportunities to engage actively with the community and to pursue multi-faceted independent research projects.

Hazel and Stanley Hall 314
(213) 740-3533
FAX: (213) 740-3535
Email: soci@dornsife.usc.edu
dornsife.usc.edu/soci/
Chair: Timothy Biblarz, PhD*

Faculty

University Professor, Wallis Annenberg Chair of Communication Technology and Society and Professor of Communication, Sociology, Planning and International Relations: Manuel Castells, PhD *(Communications)*
Turpanjian Chair in Civil Society and Social Change and Professor of Sociology and American Studies and Ethnicity: Manuel Pastor, PhD*
Professors: Lynne Casper, PhD; Nina Eliasoph, PhD; Pierrette Hondagneu-Sotelo, PhD*; Paul Lichterman, PhD; Michael Messner, PhD*; Dowell Myers, PhD *(Policy, Planning and Development)*; Rhacel Salazar Parreñas, PhD; Camille Rich, JD *(Law)*; Avelardo Valdez, PhD *(Social Work)*; John P. Wilson, PhD
Associate Professors: Timothy Biblarz, PhD*; Jennifer Hook, PhD; Elaine Bell Kaplan, PhD; Andrew Lakoff, PhD; Emily Ryo, PhD *(Law)*; Leland Saito, PhD; Jody Agius Vallejo, PhD*
Assistant Professors: Jennifer Ailshire, PhD *(Gerontology)*; Katie Hasson, PhD; Ann Owens, PhD; Daniel Schrage, PhD; Emily Smith-Greenaway, PhD; Hajar Yazdiha, PhD
Lecturers: Juliana McGene, PhD; Joseph Palacios, PhD
Professor (Research): Brian Finch, PhD
Professor (Teaching): Karen Sternheimer, PhD
Emeriti Professors: Constance Ahrons, PhD; Vern Bengtson, PhD *(Gerontology)*; Lamar T. Empey, PhD; Malcolm Klein; Jon Miller, PhD*; H. Edward Ransford, PhD; Maurice D. Van Arsdol Jr., PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

Honors Program

Seniors with 3.5 GPAs in the major and 3.25 overall are encouraged to participate in the sociology honors program consisting of two intensive senior honors seminars (SOCI 494 and SOCI 495). Under faculty guidance, honors students design and complete a significant piece of original sociological research.

Juniors and seniors who have made substantial progress toward completion of the program and have achieved a 3.3. GPA in sociology and a 3.0 GPA overall are eligible for the Alpha Kappa Delta International Sociology Honors Society.

University Requirements for All Minors

To satisfy the university's minor requirements, students must choose at least four courses (16 units) outside their major department and at least four courses (16 units) of upper-division course work. In addition, at least four courses (16 units) must be dedicated to the minor (not counting for credit toward a major, another minor or USC core requirements).

Interdisciplinary Minors

American Studies and Ethnicity (see American Studies and Ethnicity).

Law and Society (see Political Science).

Race, Ethnicity and Politics (see Political Science).

Graduate Degrees

The Department of Sociology offers programs of study leading to the Doctor of Philosophy degree. The PhD is directed toward the training of theoretically and methodologically sophisticated sociologists who have an enduring commitment to the practice and teaching of sociology.

Deadline

Applicants must complete their applications by December 1. Consideration for university fellowships is possible as early as November for students whose applications are complete.

Prerequisites

All applicants must have a bachelor's degree, a GPA of at least 3.0, and one or more courses in either undergraduate statistics or college algebra.

Criteria

Admission to regular graduate status ordinarily requires possession of a bachelor's degree, a GPA of at least 3.0, one or more courses in undergraduate statistics and/or college algebra, and three letters of recommendation. The GRE is also required. International applicants must also submit their score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Approximately 5–8 students enroll each year from the available pool of applicants. Each application receives careful attention and is judged in terms of the full set of criteria. A limited number of graduate course units taken elsewhere may be considered for transfer into the graduate program. These units are transferred in on a course-by-course basis.

Application Procedures

The following materials should be submitted to apply for graduate study:

1. an online USC application form (available at usc.edu/admission/graduate) plus a check for the admission fee;
2. official transcripts of all undergraduate and graduate work;
3. the official results of the general aptitude scores of the Graduate Record Examinations (verbal, quantitative, and analytical);
4. for international students, a TOEFL or IELTS score;
5. a completed Sociology Department Graduate Application form (please save and upload);
6. one example of written work (normally a paper written for a course) of no more than 20 pages;
7. three letters of recommendation from persons who can write about your academic performance and your potential as a social scientist;
8. a personal statement describing (1) your present sociological interest, (2) the books, articles or ideas that have had the greatest influence on your interests in sociology, and (3) what you hope to be doing in the field of sociology 10 years after you receive your degree. We welcome you to include other aspects of your experience that you think are important sources of your sociological interests. We stress, though, that an effective personal statement will illustrate your intellectual engagement and your interest in producing high-quality scholarship.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Residence

All graduate students must be in residence and must take at least eight units of graduate work each semester (except during Advanced and Qualifying Examinations), prior to work on the dissertation.

Master of Arts in Sociology

The department does not admit students whose objective is a master's degree. However, if a student accepted in the program does not have a master's degree, the department strongly recommends completion of the requirements for the MA in the course of work toward the PhD degree.

Bachelor's Degree

Health and Human Sciences (BA)

This degree is for individuals who desire the freedom and responsibility to design their own educational path. USC students, living in urban Los Angeles, have access to a myriad of research and volunteer experiences to complement their academic course work. The Health and Human Sciences major encourages the inquiry skills and knowledge needed to succeed in the evolving disciplines of health, science and medicine.

The field of health care, including medicine, pharmacy, dentistry and allied health providers, has changed so dramatically over the last 25 years that our traditional approach to training undergraduates has become obsolete. The traditional biology degree does not adequately provide the student with the knowledge to pursue a career in health. Preparing for a career in health requires an interdisciplinary approach with a foundation of science. As stated by the Association of American Medical Colleges (AAMC), doctors must be able to appreciate the diverse populations they work with and "have a clear understanding of the impact of behavior on health." This requires understanding how psychological, cultural, social, economic, ethical and biological factors influence our lives and most importantly, our health.

The Health and Human Sciences curriculum combines all of the necessary science, social science, humanities and critical thinking concepts, as well as field experience, in order to educate a broadly thinking and prepared student. The major is designed so that every student will be able to choose a semester abroad program as a component of this major.

This major is open to all students. Students are not required to pursue a pre-health track to declare this major.

Lower-Division Core Requirements (20 Units)

- BISC 150Lgx The Nature of Human Health and Disease Units: 4 or
- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4

- MATH 114x Foundations of Statistics Units: 4 or
- MATH 125g Calculus I Units: 4 or
- MATH 208x Elementary Probability and Statistics Units: 4

- PSYC 240gx Scientific Inquiry and Reasoning in Health Care Units: 4
- SOCI 242g Sociology, Demography, and Health Units: 4

Modules in the Human Sciences (16 Units)

Choose one module among the six below:

1. Health, Gender and Ethnicity

- ANTH 125g Social Issues in Human Sexuality and Reproduction Units: 4 or
- SWMS 225 Gender, Sex, and Science: A Gender Studies Approach Units: 4

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- PSYC 462m Culture and Mental Health Units: 4

- SWMS 336 Health, Gender and Ethnicity Units: 4

2. Health and the Mind

- PSYC 100Lg Introduction to Psychology Units: 4

- PSYC 336L Developmental Psychology Units: 4 or
- PSYC 367g Stress, Health, and the Mind-Body Connection Units: 4

- PSYC 360 Abnormal Psychology Units: 4

- PSYC 361 Introduction to Clinical Psychology Units: 4 or
- PSYC 462m Culture and Mental Health Units: 4

3. International Health

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4 or
- ANTH 105g Culture, Medicine and Politics Units: 4

- IR 339 Public Health and International Relations Units: 4

- IR 306 International Organizations Units: 4 or
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4

- IR 382w Order and Disorder in Global Affairs Units: 4 or
- SOCI 362 Global and Transnational Sociology Units: 4

4. Sociology of Health

- ANTH 336 Health, Gender and Ethnicity Units: 4 or
- IR 339 Public Health and International Relations Units: 4

- SOCI 200gm Introduction to Sociology Units: 4 or

- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4
- SOCI 475 Medical Sociology Units: 4

5. Health and Aging

- GERO 320g Psychology of Adult Development Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4 or
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 380m Diversity in Aging Units: 4 or
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- GERO 416 Health Issues in Adulthood Units: 4

6. Biology of Health

- HBIO 300 Evolution, Ecology, and Culture Units: 4
- HBIO 301L Human Anatomy Units: 4
- HBIO 302L Nutrition and Metabolism Units: 4 or
- BISC 450L Principles of Immunology Units: 4
- BISC 307L General Physiology Units: 4 or
- HBIO 420L Applied Human Physiology Units: 4

Experiential Learning Component (1-4 Units)

Choose one course from the list below:

- AMST 365 Leadership in the Community — Internship Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4
- MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice Units: 1, 2
- POSC 395 Directed Governmental and Political Leadership Internship Units: 2, 3, 4, 5, 6, 7, 8
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SWMS 311 Gender Studies and the Community: Internship Units: 4

Upper-Division Electives (8 Units)

Choose two courses from the list below, *or* one from this list and one upper-division elective from a different module option that you have not completed.

- BISC 312x Molecular Biochemistry Units: 4 or
- CHEM 350g Molecular Principles of Biochemistry Units: 4
- BISC 325 Genetics Units: 4
- BISC 406L Biotechnology Units: 4
- BISC 421 Neurobiology Units: 4
- BISC 440 Biodemography of Aging Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- HBIO 405 Evolutionary Medicine Units: 4
- HIST 330 Drugs, Disease, and Medicine in History Units: 4
- MDA 320 Global Ethics: Poverty, Health and the Human Condition Units: 4
- REL 460 Senior Seminar: Medical Ethics Units: 4
- PSYC 320 Principles of Psychobiology Units: 4
- PSYC 326 Behavioral Neuroscience Units: 4
- PSYC 337L Adult Development and Aging Units: 4
- PSYC 355 Social Psychology Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 331 Cities Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 369 The Family in a Changing Society Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SSCI 340 Community Health Scan Units: 4

Total units required for the BA in Health and Human Sciences: 45-48

(at least 20 upper-division)

Non-Governmental Organizations and Social Change (BA)

This interdisciplinary program focuses on the roots of social conflict, on theories and methods for understanding them, and on the non-governmental organizations (NGOs) and nonprofits that address them. To remedy social problems, we need to examine their economic, political and social roots, as well as the varied forms of organizations that aim to fix them. Students will engage in various methods of analysis, from investigations of everyday interactions to explorations of larger economic, political and social structures. In classrooms and internships, students will learn how people in NGOs and nonprofits promote new forms of citizenship and governance, aiming to protect the environment and to lessen the suffering of people around the world.

The major requires nine courses (36 units) chosen from the specific lists of requirements below. As with all interdisciplinary majors, students may double-count no more than three courses from this degree to satisfy any other major.

Course Requirements

A. Lower division requirement

Choose one course (4 units) from the following list:

- AMST 252gmw Black Social Movements in the U.S. Units: 4
- ECON 238xg Political Economy and Social Issues Units: 4
- ENST 150gx Environmental Issues in Society Units: 4
- ENST 255 American Environmentalism Units: 4
- ENST 270 Introduction to Environmental Law and Politics Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 101gxw International Relations Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- PHIL 141gp The Professions and the Public Interest in American Life Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 265gw Environmental Challenges Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 225gw Sociology of Health and the Body Units: 4
- SOCI 255g Sociology of Globalization Units: 4
- SWMS 210gmw Social Analysis of Gender Units: 4
- SWMS 215gp Gender Conflict across Cultural Contexts Units: 4

B. Core methods

Choose one course (4 units) from the following two:

- SOCI 313L Sociological Research Methods Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4

C. Core theory

Choose one course (4 units) from the following four:

- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- POSC 380 Political Theories and Social Reform Units: 2 or 4
- SOCI 370 Sociological Theory Units: 4

D. Perspectives on NGOs

Choose one course (4 units) from the following three:

- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4

- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Pol Units: 4

E. Analyzing and identifying roots of social conflict

Choose two courses (8 units):

- ANTH 355 Urban Anthropology Units: 4
- ANTH 316gmp North American Indians in American Public Life Units: 4
- ANTH 357g Cultures of Genocide Units: 4
- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- ANTH 380 Sex and Gender in Anthropological Perspective Units: 4
- BISC 427 The Global Environment Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4 *
- ECON 344 Economic Development of Sub-Saharan Africa Units: 4 *
- ECON 350 The World Economy Units: 4 *
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 483 Global Health and Aging Units: 4
- HIST 323 The Holocaust in 20th Century Europe Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 308w Economic Globalization Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 324 Multinational Enterprises and World Politics Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 349 International Law and Politics Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 367 Africa in International Affairs Units: 4
- PHIL 340 Ethics Units: 4
- POSC 320 Urban Politics Units: 4
- POSC 321 Urban Political Problems Units: 4
- POSC 345 International Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- POSC 436 Environmental Politics Units: 4
- SOCI 362 Global and Transnational Sociology Units: 4
- SOCI 402 Human Trafficking Units: 4
- SOCI 429 Immigration, Work and Labor Units: 4
- SOCI 430m Work and the Workplace Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 464 Sociology of Gender and Work Units: 4

Note:

**Prerequisite required*

F. Addressing social conflict and organizing advocacy

Choose two courses (8 units):

- AMST 357m Latino Social Movements Units: 4
- BAEP 491 Introduction to Social Entrepreneurship Units: 4
- BUCO 485 Business Communication Management for Nonprofits Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 366 Designing Media and Communication Projects for Social Change Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 413 Propaganda, Ideology and Public Controversy Units: 4
- COMM 487 Communication and Global Organizations Units: 4
- GERO 350 Administrative Problems in Aging Units: 2 or 4
- GERO 451 Policy and Program Development in Aging Units: 4
- IR 306 International Organizations Units: 4
- IR 318 Violent Conflict Units: 4
- IR 337 The Impact of Remittances on Development in Mexico Units: 4
- JS 360m Identity, Community, and Service: Jews and Other Americans Units: 4
- POSC 323 Applied Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 445 Political and Social Theory Units: 4 *
- SOCI 425 Crowds, Publics, and Social Movements Units: 4
- SOWK 350 Adolescent Gang Intervention Units: 4
- THTR 488mw Theatre in the Community Units: 4

Note:

**Prerequisite required*

G. Internship experience

One course (4 units) required

- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4

Total course requirements: 36 units

Sociology (BA)

Ten courses (40 units) are required to complete the major.
All sociology majors must complete the five core courses of sociology.

Core Courses

All sociology majors must complete five core courses of sociology.

- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 313L Sociological Research Methods Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 325 Applied Social Research Methods Units: 4 or
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SOCI 370 Sociological Theory Units: 4

300-level Electives

Three 300-level (or higher) courses are required for the major.
All students must achieve an overall average of C (2.0) or better in the 10 courses required for completion of the major.

- AMST 357m Latino Social Movements Units: 4
- JS 379gm Mixing and Matching: Intermarriage in the 21st Century Units: 4
- JS 382 Judaism as an American Religion Units: 4
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 331 Cities Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 345 Social Institutions Units: 4
- SOCI 350 Social Exclusion, Social Power, and Deviance Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4
- SOCI 355m Immigrants in the United States Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4
- SOCI 369 The Family in a Changing Society Units: 4
- SOCI 376m Contemporary Issues in Asian American Communities Units: 4
- SWMS 385m Men and Masculinity Units: 4

400-level Senior Seminars

Two 400-level (senior seminar) courses are required for the major.

All students must achieve an overall average of C (2.0) or better in the 10 courses required for completion of the major.

- REL 468 Sociology of Religion Units: 4
- SOCI 402 Human Trafficking Units: 4
- SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Pol Units: 4
- SOCI 425 Crowds, Publics, and Social Movements Units: 4
- SOCI 429 Immigration, Work and Labor Units: 4
- SOCI 435m Women in Society Units: 4
- SOCI 445 Political and Social Theory Units: 4
- SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 464 Sociology of Gender and Work Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4
- SOCI 480 The Sociology of Risk and Disaster Units: 4
- SOCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- SOCI 494 Sociology Honors Seminar I Units: 4
- SOCI 495 Sociology Honors Seminar II Units: 4
- SOCI 499 Special Topics Units: 2, 3, 4

Minor

Forensics and Criminality Minor

The interdisciplinary minor in forensics and criminality was designed for students interested in the study of law, deviant behavior or careers in the criminal justice system. In this program, students study psychological and/or ethical issues related to criminal behavior, consider criminality in the context of social class analysis, and learn about the American system of criminal justice. Twenty units are required, 4 at the lower-division and 16 at the upper-division level. Contact Dornsife College Advising for further details.

Students should choose a curriculum for their minor based on their academic interests. Those students interested in white collar crime, for example, might choose POSC 130 Law, Politics, and Public Policy at the lower-division level, REL 375 Conflict and Change and the Ethics of Business, SOCI 350 Social Exclusion, Social Power, and Deviance, PHIL 340 Philosophy of Law and PPD 342 Crime and Public Policy.

Those who are interested in the criminal justice system might choose LAW 200x Law and Society, REL 341 Ethics in a Technological Society, SOCI 351 Public Policy and Juvenile Justice, POSC 340 Constitutional Law and POSC 432 The Politics of Local Criminal Justice.

Those interested in individual and social determinants of deviancy might take PSYC 100 Introduction to Psychology, PSYC 360 Abnormal Psychology, or PSYC 363 Criminal Behavior, or PSYC 365 Introduction to Forensic Psychology; SOCI 360 Social Inequality: Class, Status, and Power, LAW 402 Psychology and Law and SOCI 353 Public Policy and Criminal Justice.

Lower-Division Requirement (4 Units)

- PHIL 340 Ethics Units: 4

Choose one course from:

- AMST 101gmw Race and Class in Los Angeles Units: 4
- LAW 200w Law and Society Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 165Lg Drugs, Behavior and Society Units: 4
- SOCI 142gm Diversity and Racial Conflict Units: 4
- SOCI 150gm Social Problems Units: 4
- SOCI 200gm Introduction to Sociology Units: 4

Upper-Division Requirements (16 Units)

Choose one course from each group below:

The Individual in Society

- LAW 404 Law and Psychology: Examining the Criminal Justice Process Units: 4
- LING 412 Language and Law Units: 4
- LING 450 New Horizons in Forensic Speaker Identification Units: 4

- PSYC 355 Social Psychology Units: 4 * or
- POSC 441m Cultural Diversity and the Law Units: 4
- PSYC 360 Abnormal Psychology Units: 4 *
- PSYC 363 Criminal Behavior Units: 4 *
- PSYC 365 Introduction to Forensic Psychology Units: 4 *
- REL 341 Technology, Culture, and Ethics Units: 4
- REL 375 Conflict and Change and the Ethics of Business Units: 4

Note:
**Prerequisite: PSYC 100*

Social Class and Criminality

- ANTH 371gm Cross-Cultural Research on Urban Gangs Units: 4
- SOCI 350 Social Exclusion, Social Power, and Deviance Units: 4
- SOCI 351 Public Policy and Juvenile Justice Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4
- SOWK 350 Adolescent Gang Intervention Units: 4

The System of Criminal Justice

- LAW 402 Psychology and Law Units: 4
- LAW 403 Mental Health Law Units: 4
- PHIL 430 Philosophy of Law Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- POSC 340 Constitutional Law Units: 4
- POSC 426 The United States Supreme Court Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 340 The American System of Justice Units: 4

Crime and Punishment

- POSC 432 Politics of Local Criminal Justice Units: 4
- PPD 342 Crime and Public Policy Units: 4
- SOCI 353 Public Policy and Criminal Justice Units: 4

Total requirements: five courses (20 units)

Managing Human Relations Minor

College Academic Services Building
(213) 740-2534

This interdisciplinary minor is intended for students in all schools with an interest in human relations as a subject of study or professional goal. In addition to course work in organizational behavior, social psychology and management, this minor includes attention to questions of ethics and leadership.

As with all minors, students must include at least four upper-division courses and four courses dedicated exclusively to this minor (not used for credit toward a major, another minor or general education requirements). Finally, students must select four courses outside their major department. Students seeking the Bachelor of Arts in Sociology must choose four courses outside of sociology; those seeking the Bachelor of Science in Business Administration must choose four courses outside the USC Marshall School of Business.

Requirements

Choose one course from the following (4 units):

- BUAD 304 Organizational Behavior and Leadership Units: 4
- PSYC 355 Social Psychology Units: 4 *

Choose one course from the following (4 units):

- MOR 431 Interpersonal Competence and Development Units: 4 *
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4
- SOCI 342m Race Relations Units: 4
- SOCI 345 Social Institutions Units: 4

Choose one course from the following list of classes on leadership (4 units):

- CLAS 370 Leaders and Communities: Classical Models Units: 4
- IR 303 Leadership and Diplomacy Units: 4
- MDA 325 Case Studies in Modern Leadership Units: 2 or 4
- MDA 365 The Art and Adventure of Leadership Units: 4
- MOR 470 Global Leadership Units: 4 *
- PHIL 335 Theoretical Models of Leadership Units: 4

Choose one course from the following list of classes on ethics (4 units):

- BUCO 425 Ethics and Professional Communication Units: 4 *
- MOR 421 Social and Ethical Issues in Business Units: 4 *
- PHIL 340 Ethics Units: 4
- REL 341 Technology, Culture, and Ethics Units: 4

Choose one of the following three capstone classes (4 units):

- ECON 332 Contracts, Organizations and Institutions Units: 4 *
- ECON 471 Economics of Labor Markets and Human Capital Units: 4 *
- MOR 471 Managing and Developing People Units: 4
- SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy Units: 4

Note:

**Course has prerequisite or corequisite*

Total requirements: five courses, 20 units

Photography and Social Change Minor

This minor explores the potential of photography as an instrument of social change that allows individuals to document their circumstances, share their stories and change their lives. Students have the opportunity to examine the impact of images and the power of storytelling both in the classroom and in the field and study the issues raised by this kind of social exploration and commentary.

Students learn techniques of digital photography and theories of culture to help them understand diverse cultural phenomena and navigate their own cultural biases. In the field, students apply these techniques and theories by developing their own body of work. In addition, students can mentor individuals in the community to use photography and digital media to share their personal narratives, thus empowering community members to reflect critically upon their circumstances and to participate in their visual representation.

This interdisciplinary minor brings together students from schools and majors across the USC campus, allowing them to interact with one another and with scholars, artists and professionals associated with key organizations such as the Institute for Photographic Empowerment and Venice Arts.

Lower-Division Requirement

Select one course, based on prior preparation (4 units):

- AHIS 255g Culture Wars: Art and Social Conflict in the Modern World Units: 4
- ANTH 240gm Representing 9/11 and Hurricane Katrina Units: 4
- ART 151 Digital Photography Units: 4
- SOCI 250gmw Grassroots Participation in Global Perspective Units: 4

Upper-Division Requirements

Select two courses in each category below, from different departments (16 units):

Understanding Culture and Change

(8 units, in 2 courses — each from a different department)

- AMST 348m Race and Environmentalism Units: 4
- AMST 357m Latino Social Movements Units: 4
- COLT 303 Globalization: Culture, Change, Resistance Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era Units: 4
- POSC 323 Applied Politics Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- REL 336 Re-viewing Religion in Asian America Units: 4
- REL 366 Religion and Social Change Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Media and Message

(8 units, in 2 courses — each from a different department)

- AHIS 373g History and Theory of Photography Units: 4
- AHIS 469 Critical Approaches to Photography Units: 4
- ANTH 472 Visual Techniques in Anthropology: Stills Units: 4
- COLT 487 Critical Image Units: 4
- COMM 366 Designing Media and Communication Projects for Social Change Units: 4
- COMM 451 Visual Communication and Social Change Units: 4
- JOUR 422 Advanced Visual Journalism Units: 4

Note:

Students in this program will also have opportunities for special access to USC Annenberg's Public Diplomacy classes.

Total requirements: 20 units

Sociology Minor

Five courses (20 units) are required to complete the minor in sociology.

All minors are required to take at least two of the core courses in sociology:

Core Courses

- SOCI 200gm Introduction to Sociology Units: 4
- SOCI 313L Sociological Research Methods Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 370 Sociological Theory Units: 4

Note:

The remaining three courses may be chosen from among the upper-division courses in the two theme areas — social inequality, and social change and public policy (see sociology theme areas listed above).

Doctoral Degree

Sociology (PhD)

Course Requirements

A minimum of 60 graduate units is necessary for the PhD, among which are the following required courses: SOCI 510, SOCI 520, SOCI 521, SOCI 525, SOCI 511, and SOCI 621 or 620. In addition, each student must specialize in two subareas of sociology and must take at least 8 units in each area such as: urban sociology, complex organizations, stratification, ethnic relations, sociology of aging, medical sociology, communication and culture, deviance, sociology of gender, demography, and so on.

Screening Procedure

Normally, students must complete the screening procedure during the third semester of enrollment. Students will have completed two full semesters of work by this point and, hence, will have taken no fewer than 16 and no more than 32 units, including at least the following: SOCI 510, SOCI 525, and SOCI 511. Students are evaluated on subject matter competence and satisfactory progress. When the screening procedure is successfully completed, the student has one semester in which to form a qualifying exam committee.

Empirical Paper

Each student is required to complete an independent empirical research project which is approved by two members of his or her

qualifying exam committee. In some instances, this requirement may be met by acceptance of a satisfactory master's thesis from some other university.

Foreign Language Requirement

The department does not generally require proficiency in a foreign language; however, as with other courses outside the department, a student's qualifying exam committee may in some cases require proficiency in a foreign language.

Qualifying Examinations

Following the completion of their empirical papers and most of their course work, students are required to take a written and oral examination in their two standard areas. If the written examination is passed, the oral part of the examination can be devoted to a preliminary discussion of dissertation plans. When these are completed successfully, the student is advanced to PhD candidacy.

Dissertation

After the dissertation is completed, the student and the dissertation committee, in conjunction with the department chair, may elect either a defense oral or a final oral examination in defense of the dissertation. The defense oral is normally chosen in sociology.

Sophomore Seminars

Sophomore Seminars focus on topics of current interest in research and scholarship. They are small classes that encourage close interaction between faculty and students.

During the fall and spring semesters, sophomores earn 2 units of credit through participation in these weekly seminars. During intensive special sessions, sophomores earn 1 unit of credit. These courses emphasize active exploration of the life of the mind through a variety of classroom activities and assignments.

To encourage a relaxed interchange of information and ideas, each seminar is graded credit/no credit and limited in enrollment to 18 students.

Sophomore Seminars will be offered for the fall and spring semesters in a variety of subjects. They will also be offered during intensive special sessions. Individual topics will be indicated in the *Schedule of Classes* under the SSEM designation.

Spanish and Portuguese

The Department of Spanish and Portuguese offers two majors (Spanish, and Iberian and Latin American Cultures, Media and Politics) and three minors (Spanish, Luso-Brazilian Studies and Latin American Studies). Our programs emphasize the languages and cultures of Latin America and the Iberian Peninsula.

With an intellectual and pedagogical commitment to cultural differences and interdisciplinarity, the undergraduate program actively explores various social, theoretical, political or historical aspects of Latin American and Iberian cultures, including literature, folklore, cinema, art, music, food and architecture. Students are critically challenged and encouraged to consider and reconsider a number of important issues including: the growing importance of popular culture in the Iberian Peninsula and Latin America; the role of race, ethnicity, class, gender, and sexuality within Iberian and Latin American societies.

The department encourages students with a wide range of interests to combine a Spanish major with a double major or minor in another discipline either within the USC Dornsife College of Letters, Arts and Sciences or other schools at USC. Students will work closely with a group of engaged scholars who are committed to bringing their cutting-edge research to the classroom and to preparing students as global citizens. Faculty undergraduate advisers are available to help provide information and assistance to students wishing to explore these various options.

The department also offers basic language instruction in both Spanish and Portuguese through which students can satisfy their foreign language requirement.

Taper Hall of Humanities 156
(213) 740-1258
FAX: (213) 740-9463
Email: spanish@dornsife.usc.edu
dornsife.usc.edu/spanish
Chair: Julian Gutierrez-Albilla, PhD

Faculty

Professors: Erin Graff Zivin, PhD; Sherry Marie Velasco, PhD*
Associate Professors: Roberto Ignacio Díaz, PhD*; Julián Daniel Gutiérrez-Albilla, PhD; Samuel Steinberg, PhD
Assistant Professors: Brenno Kenji Kaneyasu-Maranhao, PhD; Natalia Perez, PhD
Associate Professors (Teaching): Marianna Chodorowska, PdD; Andrea Parra, PhD; Consuelo Siguenza-Ortiz, PhD; Liana Stepanyan, PhD
Assistant Professors (Teaching): Goretti Prietto Botana, PhD; Vianey Cano Brito Cabrera, PhD; Carolina Castillo Larrea, MA; Maura Crowley, PhD; Gayle Fiedler Vierma, PhD; Ivette M. Gómez, PhD; Anahit Hakoupian, PhD; Leah Kemp, PhD; Ellen Oliveira, PhD; Charles Paus, PhD; Sarah Portnoy, PhD; David Zarazúa, PhD
Master Lecturer: Lorena Gallego, MA
Senior Lecturer: Maria Fages Agudo
Lecturers: Jaclyn Cohen-Steinberg, PhD; Marie Enright, PhD; Jamie Fudacz, PhD; Lori Mesrobian, PhD; Martin Ocon-Gamarra, PhD; Karen Perez, PhD; Natalie Thurman, PhD; Maria Del Mar Windeler, PhD
Emeritus Professors: Paul Ilie, PhD; Carmen Silva-Corvalán, PhD*
Emeritus Associate Professor: J. Ramón Araluce, PhD
Assistant Professor (Teaching) Emerita: Ana Teresa Martinez-Sequeira, PhD
**Recipient of university-wide or college teaching award.*

Undergraduate Degrees

General Information

Spanish Language Proficiency Examination

Students with previous exposure to Spanish are required to take a placement test, administered by the Dornsife Language Center. Students with no record of previous exposure to Spanish are not required to take the placement examination and should contact the department for assistance.

Courses in Spanish

All courses at the 200, 300 and 400 levels are conducted in Spanish unless otherwise noted in the course descriptions that follow. Courses are kept small to allow for maximum interaction between students and professors.

Advisement

A college undergraduate adviser is assigned to provide academic advisement prior to registration and throughout the academic year.

Honors Program

The BA in Spanish with Honors is available to students who have a GPA of at least 3.5 in courses counted for major credit and an overall GPA of 3.0 (by the time of graduation). Desire to complete the major with honors typically should be approved by a department faculty member no later than the second semester of the junior year. To complete the honors program the student must write an honors thesis in Spanish in conjunction with a 400-level course. The thesis, in the range of 25–30 pages (6,250–7,500 words), must be endorsed by a departmental honors committee by April 1 of the senior year.

Spanish Undergraduate Students Association (SUSA)

Students majoring or minoring in Spanish are eligible to join SUSA, the Spanish Undergraduate Students Association. Each year SUSA sponsors a variety of activities which enrich the cultural, intellectual and academic experience of the undergraduate student.

Graduate Degrees

The PhD in Linguistics (Hispanic Linguistics) is offered through the Linguistics Department. See here for degree requirements.
The MA and PhD, Comparative Studies in Literature and Culture (Spanish and Latin American Studies) are offered through the Comparative Studies in Literature and Culture program. See here for degree requirements.

Certificate in Foreign Language Teaching

The Certificate in Foreign Language Teaching provides certification in the theory and practice of second or foreign language teaching for student language teachers concurrently enrolled in graduate degree programs in foreign languages or related graduate programs at USC; for graduates of such programs who are teaching languages; for external candidates concurrently enrolled in similar programs in accredited colleges or universities; or for graduates of such programs who are teaching languages. The certificate is meant to supplement graduate study in the literature or linguistics of foreign languages. It is also meant to supplement classroom teaching. Therefore all candidates for this certificate are required to have taught a second or foreign language for at least one academic year at USC or elsewhere. At USC, this requirement and the course work requirements can be fulfilled concurrently, but external candidates are required to show proof of such teaching experience as a condition of admission.

In addition to teaching, certificate candidates must complete a minimum of four courses (minimum of 12 units) in four areas of study — linguistics, language acquisition, language teaching methodology, and the teaching of literacy or the literature or culture of a second or foreign language.

Requirements for Completion

The program consists of a practicum and a minimum of four courses: one each in linguistics, language acquisition, language teaching methods, and the teaching of literacy, literature or culture.

Linguistics: (minimum of 3 units) LING 411 x Linguistics and Education or, with permission of instructor, an appropriate course in the linguistics of a particular language

Language Acquisition: (minimum of 3 units) LING 527 Second Language Acquisition or an appropriate alternative course

Language Teaching Methods: (minimum of 3 units) MDA 593 Practicum in Teaching the Liberal Arts or EALC 562 Teaching of the East Asian Languages or SPAN 511 Techniques and Procedures of Teaching Spanish as a Second Language or an appropriate alternative course

Literacy/Literature/Culture: (minimum of 3 units) An appropriate course in teaching of the literature or culture of a particular language

Bachelor's Degree

Latin American and Iberian Cultures, Media and Politics

The major in Latin American and Iberian Cultures, Media and Politics underscores the global reach and import of the nations in the Americas, Europe and Africa in which Spanish and Portuguese are spoken. By focusing on the study of language, literature and cinema as well other disciplines in the humanities and social sciences, students learn to think critically about the cultural, political, and historical questions involved in the study of Latin American and Iberian societies.

Lower Division Courses

Majors and minors may request a waiver of SPAN 260 if they meet one of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam; b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL); c) a score of 800 in the Spanish SAT subject exam; or d) they can demonstrate advanced proficiency in spoken and written Spanish. Departmental approval is required in every case. Majors and minors to whom a waiver of SPAN 260 has been granted take five upper division courses (see below).

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4
- SPAN 290gp Introduction to Latin American and Iberian Studies Units: 4

Upper Division Spanish and Portuguese Courses

Choose four of the following courses, including at least one 400-level course. Majors and minors to whom a waiver of SPAN 260 has been granted (see above) must take five upper division courses.

- PORT 300 Introduction to Social and Literary Studies Units: 4
- PORT 302 Introduction to Brazilian Literature Units: 4
- PORT 342 Brazilian Cinema Units: 4
- PORT 390 Special Problems Units: 1, 2, 3, 4 *
- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 302 Screen Cultures: From Film to the Internet Units: 4
- SPAN 304 The Art of Fiction Units: 4
- SPAN 306 Performance from Street to Stage Units: 4
- SPAN 308 The Art of Poetry Units: 4
- SPAN 311 Advanced Spanish Through Contemporary Issues: Oral Emphasis Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 341 Advanced Conversation and Culture Units: 4
- SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages Units: 4
- SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 373 Modern and Postmodern Spanish Fiction Units: 4
- SPAN 375 Latin American Cultural and Literary Theory Units: 4
- SPAN 380g Literature of Mexico Units: 4
- SPAN 381 Narco-World Units: 4
- SPAN 382 The Aesthetics of Violence in Latin America Units: 4
- SPAN 385 The Culture of Food in Hispanic Los Angeles Units: 4
- SPAN 390 Special Problems Units: 1, 2, 3, 4 *
- SPAN 391 Introduction to Contemporary Spanish Literature (USC Madrid Center) Units: 4
- SPAN 405 History of the Spanish and Portuguese Languages Units: 4
- SPAN 413m Social and Geographic Varieties of Spanish Units: 4
- SPAN 455 Picaresque Itineraries: Empire and Its Discontents Units: 4
- SPAN 460 Don Quijote: Text and Film Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 464 Introduction to Contemporary Spanish Theatre Units: 4
- SPAN 465 Cultural Perspectives of the Iberian Peninsula Units: 4
- SPAN 466 Argentina, Society and the Arts Units: 4
- SPAN 469 Immigration in Spain Units: 4
- SPAN 470 Literature and Media in Latin America Units: 4
- SPAN 471 Postdictatorship Spanish and Latin American Cinema Units: 4
- SPAN 472 The Sixties in Latin America Units: 4
- SPAN 481 Literature and Popular Culture Units: 4
- SPAN 482 Literature and the City Units: 4
- SPAN 483 Gender and Sexuality Units: 4
- SPAN 484 Studies in Visual and Material Culture Units: 4
- SPAN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 *

- SPAN 495 Seminar for Majors and Minors Units: 4
- SPAN 499 Special Topics Units: 2, 3, 4 *

Note:
*Four units required.

Elective Courses

Choose three of the following courses, including at least two 300- or 400-level courses. Other courses, including courses in other departments, may be chosen in consultation with faculty adviser.

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 328 Colonial Latin American Art Units: 4
- AHIS 428 Studies in Colonial Latin American Art Units: 4
- AHIS 496 Paintings in the Prado Museum Units: 4
- AMST 133g Religions of Latin America Units: 4
- AMST 135gmw Peoples and Cultures of the Americas Units: 4
- AMST 305 Art and Performance in the Americas Units: 4
- ANTH 140g Mesoamerican Cosmovision and Culture Units: 4
- ANTH 310 Archaeology of the Americas Units: 4
- ANTH 314g The Nature of Maya Civilization Units: 4
- ANTH 328m Culture Change and the Mexican People Units: 4
- ANTH 400 Maya Resilience: Constructing Past and Present Identities Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- ANTH 450 Field Research in Maya Archaeology Units: 4
- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- HIST 353m Race and Racism in the Americas Units: 4
- HIST 369 Aztecs, Mayas, and other Indigenous Peoples of the Americas Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 371 Culture in Diaspora: The Jews of Spain Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 473 Colonial Latin America Seminar Units: 4
- HIST 474 Sex, Gender, and Colonialism in Latin America, 1492 to 1820 Units: 4, 2 years
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 366 Mexico and its Relations with the United States Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- PORT 250g Cultures of Brazil and Lusophone Africa Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- REL 334 Religion and Colonial Encounter Units: 4

Spanish (BA)

Required Course - Lower Division (4 Units)*

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4

Required Courses - Upper Division

Four of the following courses (16 Units):

- SPAN 301 Introduction to Literature and Film Units: 4
- SPAN 310 Structure of Spanish Units: 4
- One other SPAN literature, culture, film course Units: 4
- One 400-level SPAN course Units: 4

Electives (16 units):

Four other upper-division SPAN courses.

Note:
** Majors and minors may request a waiver of SPAN 260 if they meet one or more of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam; b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL); c) a score of 800 in the Spanish SAT subject exam; or d) demonstrate advanced proficiency in spoken and written Spanish. Departmental approval is required in every case.*

Minor

Latin American Studies Minor

The Latin American Studies minor recognizes the lasting importance of U.S.-Latin American relations. The overriding goal is to encourage students to learn more about Latin America by combining conceptual, area and language studies during their time at USC. The purpose of this 20-unit minor is to deepen students' knowledge of Latin America by offering courses from multiple disciplines within a context of close faculty guidance. The gateway requirement of one 4-unit course provides the student with options in both humanities and the social sciences, and the designated electives are similarly meant to allow students to blend these specialties.

For fulfillment of the requirements for the minor a student must choose four classes outside of his or her major department dedicated exclusively to the minor (which may be the same four classes). After the gateway course, these elective courses must be spread across at least two disciplines and/or departments.

Required Courses

One of the following 4-unit gateway introductory courses:

- COLT 250g Cultures of Latin America Units: 4
- HIST 273g Colonial Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- POSC 350 Politics of Latin America Units: 4

Note:
If the student has chosen a lower-division (100- or 200-level) course among the introductory choices, all area electives must be at the upper-division (300- or 400-) level.

Elective Requirements

Four courses (16 units) from the following list:

- AHIS 127g Arts of the Ancient Americas Units: 4
- AHIS 128g Arts of Latin America Units: 4
- AHIS 318 Arts of the Ancient Andes Units: 4
- AHIS 319 Mesoamerican Art and Culture Units: 4
- AMST 448m Chicano and Latino Literature Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- COLT 250g Cultures of Latin America Units: 4
- ECON 340 Economics of Less Developed Countries Units: 4
- HIST 370 Spanish America, 1492–1821 Units: 4
- HIST 371 Culture in Diaspora: The Jews of Spain Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 374 History of Mexico Units: 4
- HIST 451 The Mexican Revolution Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- HIST 470 The Spanish Inquisition in the Early Modern Hispanic World Units: 4, 2 years
- HIST 473 Colonial Latin America Seminar Units: 4
- HIST 474 Sex, Gender, and Colonialism in Latin America, 1492 to 1820 Units: 4, 2 years
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 408 Global Democratization Units: 4
- IR 426 Trade Politics in the Western Hemisphere Units: 4

- IR 454 The International Political Economy of Development Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- PORT 250g Cultures of Brazil and Lusophone Africa Units: 4
- POSC 350 Politics of Latin America Units: 4
- POSC 430 Political Economy of Mexico Units: 4
- POSC 431 Political Economy of Central America Units: 4
- SPAN 320 Politics, Thought, Society Units: 4
- SPAN 321 Sounds, Images, Objects Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898 Units: 4
- SPAN 495 Seminar for Majors and Minors Units: 4

Luso-Brazilian Studies Minor

The Luso-Brazilian Studies minor offers students the opportunity to further the study of the Portuguese language and take significant steps toward its mastery both as a richly layered expressive tool in the contexts of literary and cultural analysis and in the interpretation and articulation of critical thinking, as well as a highly effective instrument tailored to the practical needs of business interactions in a world that is increasingly more diverse and globalized.

Building on a solid basis of four semesters of Portuguese language (or equivalent), which serves as a prerequisite for the Luso-Brazilian Studies minor, students will have the opportunity to choose from a rich selection of core courses spanning cultural, literary and social aspects of the Portuguese-speaking world, as well as Portuguese applied to the context of professions. In addition to the core offerings, students will be able to choose from a wide array of electives in order to fulfill the required number of units for the Luso-Brazilian Studies minor, as well as have the opportunity to fulfill some of the requirements in one of the exciting Study Abroad options in Brazil.

The Luso-Brazilian Studies minor will require 20 units beyond the basic language requirements.

Required Courses (8-units): select two of the following three courses

- PORT 300 Introduction to Social and Literary Studies Units: 4
- PORT 302 Introduction to Brazilian Literature Units: 4
- PORT 316 Portuguese for Business and the Professions Units: 4

Elective Courses (12-units): select three from the following list

A total of 12-units of courses should be selected with the guidance of the director of the Luso-Brazilian Studies program. The following courses are among the elective options:

- PORT 342 Brazilian Cinema Units: 4
- SPAN 372 Modern and Contemporary Latin American Fiction Units: 4
- SPAN 405 History of the Spanish and Portuguese Languages Units: 4
- SPAN 482 Literature and the City Units: 4

Note:

Study Abroad courses and courses offered by other departments at USC may also count as elective options, as long as a Portuguese-speaking country and/or the Lusophone world is among the objects of study. (The following list of courses is subject to change, according to course availability.)

- AMST 353m Race and Racism in the Americas Units: 4
- ANTH 425 Peoples and Cultures of Latin America Units: 4
- HIST 372 Modern Latin America Units: 4
- HIST 456 Race, Slavery, and the Making of the Atlantic World Units: 4
- IR 364 The Political Economy of Latin American Development Units: 4
- IR 365 Politics and Democracy in Latin America Units: 4
- IR 425 The New Triangle: China, the U.S. and Latin America Units: 4
- IR 465 Contemporary Issues in United States-Latin America Relations Units: 4
- IR 466 Contemporary Issues in Latin American Politics Units: 4
- POSC 350 Politics of Latin America Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Spanish Minor

Required Courses

Lower-Division (4 Units)

- SPAN 260 Advanced Spanish: Arts and Sciences Units: 4

Upper-Division (20 Units)

- Any five courses at the 300 or 400 level.
- Only one section of SPAN 316x may be taken for minor credit.

Note:

Minors may request a waiver of SPAN 260 if they meet one or more of the following prerequisites: a) a score of 5 on the Spanish language or literature advanced placement (AP) exam, b) a score of 6 or 7 on the Spanish International Baccalaureate Higher-Level exam (IBHL), c) a score of 800 in the Spanish SAT subject exam or d) demonstration of advanced proficiency in spoken and written Spanish. Departmental approval is required in every case.

Spatial Sciences Institute

Since its founding in 2010, the USC Spatial Sciences Institute has been using the power of spatial thinking and literacy – the ability to connect place and space – to help address global challenges. Through its innovative academic programs and research enterprise, the Spatial Sciences Institute educates and cross-trains scholars at every higher-educational level to expand our ability to collect, analyze, model, present and share location-based data and information in support of policies and decisions that help sustain our planet, promote public health and ensure human security.

Spatial Sciences Institute students work in the field, studio and lab with an internationally-recognized faculty who are contributing to the rapidly-evolving body of geospatial knowledge. Student researchers in the Spatial Sciences Institute join its interdisciplinary faculty on their funded research with agencies, businesses, non-profits, NGOs and other entities to produce actionable impact. The Spatial Sciences Institute provides numerous opportunities for internships, conference paper and poster presentations and networking, so its students are poised for geospatial careers, which are among the fastest-growing in the United States and world today, and other endeavors.

The Spatial Sciences Institute has been designated by the National Geospatial-Intelligence Agency and the United States Geological Survey as a Center of Academic Excellence in Geospatial Sciences, is a founding member of the UNIGIS International Association, a network of universities around the world that lead and share in the development of online GIS education program, and is an Esri Education Development Center.

Allen Hancock Foundation Building B55
(213) 740-5910
FAX: (213) 740-9687
Email: spatialsciences@dornsife.usc.edu
Director: John P. Wilson, PhD
Managing Director: Susan Kamei, JD

Faculty

Professors: Francois Bar, PhD *(Communication)*; Myles Cockburn, PhD (*Preventive Medicine*); Elizabeth Currid-Halkett, PhD *(Public Policy)*; Maged Dessouky, PhD *(Industrial and Systems Engineering)*; Philip Ethington, PhD *(History)*; Sofia Gruskin *(Preventive Medicine)*; Matthew E. Kahn, PhD (*Economics*); Cyrus Shahabi *(Computer Science)*; Kelly Shannon, PhD (*Architecture*); John P. Wilson, PhD *(Sociology)**
Associate Professors: Jennifer Hook, PhD (*Sociology*); Lon Kurashige (*History*); Mansour Rahimi, PhD *(Industrial and Systems Engineering)*
Assistant Professors: Jennifer Ailshire, PhD *(Gerontology)*; George Ban-Weiss, PhD *(Civil & Environmental Engineering)*; Laura Ferguson *(Preventive Medicine)*; Meredith Franklin, PhD *(Preventive Medicine)*; Travis R. Longcore, PhD (*Architecture*); Ann Owens, PhD *(Sociology)*; Nathan Perl-Rosenthal, PhD (*History*); Alexander Robinson, PhD *(Architecture)*; Kelly Sanders, PhD *(Civil & Environmental Engineering);* Emily Smith-Greenaway, PhD *(Sociology)*
Professors of the Practice of Spatial Science: Steven D. Fleming, PhD; Karen K. Kemp, PhD
Professors (Research): Brian Finch, PhD *(Sociology)*; Yolanda Gil, PhD *(Computer Science)*; Craig Knoblock, PhD *(Computer Science)*
Associate Professors (Research): Yao-Yi Chiang, PhD; Tatiana Tatarinova, PhD (*Pediatrics*)
Associate Professors (Teaching): Darren M. Ruddell, PhD; Jennifer N. Swift, PhD
Assistant Professors (Teaching): Thomas Garrison, PhD (*Anthropology*); Katsuhiko Oda, PhD; Robert O. Vos, PhD
Lecturers: Su Jin Lee, PhD; Laura Loyola, PhD; Elisabeth Sedano, PhD; An-Min Wu, PhD
**Recipient of university-wide or college teaching award.*

Degree Programs

The Spatial Sciences Institute offers a Bachelor of Science in GeoDesign (with the USC School of Architecture and USC Price School of Public Policy), minors in Human Security and Geospatial Intelligence and in Spatial Studies, an online Master of Science and a Graduate Certificate in Geographic Information Science and Technology as well as online Graduate Certificates in Geospatial Intelligence and Geospatial Leadership, a Master of Science in Spatial Informatics (with the Department of Computer Science), a Doctor of Philosophy in Population, Health and Place (with the Departments of Preventive Medicine and Sociology), and a Graduate Certificate in Spatial Analytics.

All of the programs and courses offered by the Spatial Sciences Institute explore the various ways in which space is used to acquire, represent, organize, analyze, model and visualize information. They seek to engage students enrolled in a range of academic programs in the natural and social sciences, the humanities and the professional schools.

Undergraduate Degrees

The BS in GeoDesign is an interdisciplinary major that includes curriculum from the Dornsife College of Letters, Arts and Sciences, the USC School of Architecture and the USC Price School of Public Policy. This degree treats planning as a globally relevant framework for collective action, the spatial sciences as a platform for supporting science-based decision-making, and design as a vehicle for solving the world's wicked problems. With a broad base of knowledge from these disciplines around a liberal arts core, GeoDesign majors are poised for graduate studies and professional opportunities in the public, private and not-for-profits sectors, including urban planning, geographic information science and technology, real estate development, community health and preventive medicine. GeoDesign majors may take advantage of USC's progressive degree path to obtain a BS in GeoDesign with an MA in Environmental Studies, a Master of Planning, or an MS in Geographic Information Science and Technology in as few as five years.

Honors Program

Candidates for the BS in GeoDesign can qualify for graduation with departmental honors by meeting these requirements: a 3.7 GPA in the courses counted toward the major at the time of graduation and completion of a research project or thesis under the guidance of a faculty member teaching the capstone course SSCI 412. In addition, students must receive an A or A- in the capstone SSCI 412 course. Departmental honors are noted on academic transcripts but not on the diploma.

Minors

The undergraduate minor in Spatial Studies can be combined with any major and provides the scientific understanding and technical skills in geographic information science, mapping and geospatial interpretation. Graduates with competencies in spatial sciences have competitive edges in sectors such as finance, healthcare, retail, logistics, communications, manufacturing and conservation.
The undergraduate minor in Human Security and Geospatial Intelligence educates future leaders in location-based analytics to gather, interpret and implement actionable intelligence to promote human security. In combination with any major, this minor helps position graduates for career paths and/or graduate education in areas such as humanitarian relief, law enforcement, national security and defense.

Graduate Degrees

The online Graduate Certificate in Geographic Information Science and Technology provides the foundation for professional advancement utilizing geographic information science and the latest geospatial technologies. The online Graduate Certificate in Geospatial Intelligence is accredited by the U.S. Geospatial Intelligence Foundation, and develops career readiness for those interested in the human security applications of geographic information science and technology. The online Graduate Certificate in Geospatial Leadership is for individuals with some training and experience looking to increase their potential for advancement in the geospatial field. In addition, all three of these online graduate certificates may be taken by USC master's and doctoral students in other disciplines.

The online MS in Geographic Information Science and Technology provides state-of-the-art education in core geographic information science and accompanying applications. Students may choose among four tracks: Spatial Data Acquisition and Integration; Spatial Data Analysis and Visualization; Spatial Application Development; and Spatial Thinking.

The courses in the online Graduate Programs in Geographic Information Science and Technology are offered year-round and students can start these programs in the fall, spring or summer semesters. Students in the online Master of Public Health program offered by the Keck School of Medicine of USC can complete a GeoHealth track by completing four spatial sciences concentration courses offered by the Spatial Sciences Institute. Students interested in this GeoHealth track should contact the Master of Public Health program in the Department of Preventive Medicine.

In the Spatial Informatics (MS), offered jointly with the USC Viterbi School of Engineering Department of Computer Science, individuals with either a computer science or social sciences background can learn about spatial data and analytics across many domains in which informatics skills can be applied to critical organization missions and real-world challenges. Those interested in the MS in Spatial Informatics should contact the Department of Computer Science.

The Graduate Certificate in Spatial Analytics provides USC doctoral students with customized opportunities to learn about the fundamental geographic information science principles and a series of rapidly evolving geospatial technologies that take advantage of the Cloud and the Web along with advances in analytical techniques, modeling tools and online geographic data sources. The learning goals and outcomes in the courses that contribute to this certificate

can be customized to match the student's disciplinary interests and research objectives.

In the interdisciplinary Population, Health and Place PhD program, faculty from the USC Dornsife Department of Sociology, the Department of Preventive Medicine of the Keck School of Medicine of USC, and the USC Dornsife Spatial Sciences Institute provide training for careers in research, teaching and applied work with large data sets and varied modeling and computation approaches in epidemiology, demography, biostatistics, sociology, medical geography, spatial sciences and other fields.

PhD Admission Requirements

The courses required for admission are an introductory geography or sociology course, a course in statistics, a course in research methods or experimental design and at least one course from each of the following lists: (1) one or more of social demography, society and population, medical sociology; (2) one or more of cartography, human geography, medical geography, spatial analysis.; and (3) one or more of climatology, hydrology, environment and health. Additional courses are desirable, as is work in the biological, physical and social sciences, in mathematics and in philosophy. Students with less background in public health, sociology or the spatial sciences, but outstanding undergraduate records in related fields are also encouraged to apply.

Students are selected on the basis of undergraduate records, scores on the Graduate Record Examinations' General Test, course background, three letters of evaluation, personal statement of interests and goals, and evidence of research skills or interests (e.g., publications or participation in research projects).

Application for admission to the PhD Program in Population, Health and Place requires submission of two sets of material: special program forms and university application forms. Students are admitted only for study beginning in the fall semester; both sets of completed application forms must be submitted by December 1 for admission the following fall.

Degree Requirements

These degrees are under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

GeoDesign (BS)

The Bachelor of Science in GeoDesign is an interdisciplinary major offered by the Dornsife College of Letters, Arts and Sciences, the USC School of Architecture, and the USC Price School of Public Policy. This degree prepares students for professional careers and/or graduate study by engaging them in the acquisition, representation, analysis, modeling and visualization of spatial information set in the context of the built environment and policy. The underlying spatial principles, methods and tools can be used to support sustainable planning, facility and infrastructure management, the design of livable and healthy communities, and a series of regional planning applications to address pollution, water and energy needs, and the impact of population growth on the environment. The major electives provide students with opportunities to explore one or more facets of the built environment and a series of complementary analytical and visualization tools in more detail. Finally, the major is structured to provide students with sufficient elective credits to explore minors or other programs at USC so they can broaden their education to better prepare themselves for the next stage of their lives.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires six courses in different categories, plus writing and diversity requirements, which together comprise the USC Core.

Major Requirements

A minimum grade of C, 2.0 (A = 4.0) must be earned in each of the core courses and the capstone course. In addition, a minimum grade point average of C (2.0) or higher must be achieved in the major to earn the geodesign degree. No more than 16 units of core courses may be taken prior to the successful completion of the geodesign pre-major requirements.

Pre-major Requirements

Both pre-major requirements must be taken for a letter grade and a minimum grade of C, 2.0 (A = 4.0), must be earned in each of the pre-major courses.

Pre-Major Courses (8 Units)

- ECON 203g Principles of Microeconomics Units: 4
- MATH 114x Foundations of Statistics Units: 4

Core Courses + Capstone Course (48 Units)

- ARCH 203 Visualizing and Experiencing the Built Environment Units: 4
- ARCH 303 Principles of Spatial Design I Units: 4
- ARCH 403 Principles of Spatial Design II Units: 4
- PPD 227 Urban Planning and Development Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SSCI 201 Principles of GeoDesign Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Principles of Geographic Information Science Units: 4
- SSCI 412L GeoDesign Practicum Units: 4 (capstone course)
- SSCI 483L Spatial Science Practicum Units: 4

Additional Requirements

Capstone Course

All students will take four units of a capstone experience during their senior year. This may be fulfilled by taking SSCI 412L GeoDesign Practicum (4 units) which may be offered by any of the three units cross-listed (SSCI, ARCH, PPD) and will require students to use their knowledge and skills on a real project with a real client.

Major Electives (24 Units)

A suite of courses that further the development of practical, theoretical, and field knowledge and skills, including computer graphics, drawing, policy analysis, public finance, and statistics. Choose additional electives from the two lists equal to at least six courses (24 units) in all. At least two courses must come from Group A and two courses from Group B.

Group A: Built Environment

- ARCH 306m Shelter Units: 4
- ARCH 447 Ecological Factors in Design Units: 3
- ENST 323 Politics of Global Environment Units: 4
- ENST 345 Conservation of Natural Resources Units: 4
- HIST 458 History of California Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 410 Comparative Urban Development Units: 4
- SOCI 335 Society and Population Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 265Lg The Water Planet Units: 4
- SSCI 350 International GeoDesign Units: 4

Group B: Design, Analysis And Computation

- ANTH 481L GIS for Investigating the Past Units: 4
- ARCH 307 Digital Tools for Architecture Units: 3
- DES 102 Design Fundamentals Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4
- HIST 393g Quantitative Historical Analysis Units: 4

- IR 323 Politics of Global Environment Units: 4
- POSC 265gw Environmental Challenges Units: 4
- POSC 363 Cities and Regions in World Politics Units: 4
- POSC 436 Environmental Politics Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- SOCI 365 Visual Sociology of the City and Its Residents Units: 4
- SSCI 135Lg Maps in the Digital World Units: 4

Additional Requirements

Honors

Candidates for the BS in GeoDesign can receive an honors degree by meeting these requirements: a 3.7 GPA in department courses at the time of graduation; completion of an honors research project or thesis under the guidance of a faculty member (SSCI 412L). Admission to the program is granted by the departmental undergraduate adviser in the semester preceding enrollment in SSCI 412L; students should have a 3.7 GPA in the major at this time.

Minor

Human Security and Geospatial Intelligence Minor

The interdisciplinary minor in Human Security and Geospatial Intelligence aims to educate future leaders in location-based analytics to gather, interpret, and implement actionable intelligence to promote human security and serves to connect many collaborative and interrelated disciplines to provide a framework for students interested in learning how to develop and deliver analytical and spatial solutions.

Lower-Division Elective (4 units)

- ENST 100g Introduction to Environmental Studies Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- IR 100gx The United States and World Affairs Units: 4
- IR 101gxw International Relations Units: 4
- IR 210gw International Relations: Introductory Analysis Units: 4
- POSC 110g Ideology and Political Conflict Units: 4
- POSC 120 Comparative Politics Units: 4
- POSC 130g Law, Politics and Public Policy Units: 4
- POSC 248gw Human Rights Units: 4
- POSC 255g Cultures, Civilizations and Ethnicities in World Politics Units: 4
- POSC 260 Global Ethnic Politics Units: 4
- SSCI 135Lg Maps in the Digital World Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4
- SSCI 214g Human Populations and Natural Hazards Units: 4
- SSCI 265Lg The Water Planet Units: 4

Required Core (12 units)

- IR 381 Introduction to International Security Units: 4
- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 401L Geospatial Intelligence Units: 4

Upper-Division Elective (4 units)

- AEST 400a Aerospace Studies IV: National Security Forces in Contemporary American Society Units: 3
- AEST 400b Aerospace Studies IV: National Security Forces in Contemporary American Society Units: 3
- IR 304 Espionage and Intelligence Units: 4
- IR 319 Human Security and Humanitarian Intervention Units: 4
- IR 386 Terrorism and Counterterrorism Units: 4
- MDES 314p Political Thought in the Middle East Units: 4
- MS 401 Leadership and Management I Units: 3
- MS 402 Leadership and Management II Units: 3
- NSC 453 Leadership and Management I Units: 2
- NSC 454 Leadership and Management II Units: 2
- POSC 351 Middle East Politics Units: 4
- SSCI 382L Principles of Geographic Information Science Units: 4

Note:

ROTC courses (AEST, MS, NSC) are not open to non-ROTC students.

Spatial Studies Minor

The spatial studies minor requires a minimum of 20 units, consisting of one lower-division elective, three required courses and an upper-division elective. The minor offers students an opportunity to examine some of the major challenges of the 21st century (climate change, human health and sustainability, urbanization and cultural homogenization, among others) through a spatial lens.

Required Courses (12 Units)

- SSCI 301L Maps and Spatial Reasoning Units: 4
- SSCI 382L Principles of Geographic Information Science Units: 4
- SSCI 483L Spatial Science Practicum Units: 4

Lower-Division Electives (4 Units)

- ANTH 201g Principles of Human Organization Units: 4
- ANTH 202g Archaeology: Our Human Past Units: 4
- ARCH 105L Fundamentals of Design Communication Units: 2
- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 220 The Architect's Sketchbook Units: 2
- BISC 102Lgx Humans and Their Environment Units: 4
- BISC 140 Our Blue Planet in a Changing Climate Units: 4
- CLAS 212 Archaeology: Interpreting the Past Units: 4
- GEOL 108Lg Crises of a Planet Units: 4
- GEOL 150Lg Climate Change Units: 4
- HIST 240gp The History of California Units: 4
- POSC 265gw Environmental Challenges Units: 4
- PPD 245g The Urban Context for Policy and Planning Units: 4
- SOCI 100gm Los Angeles and the American Dream Units: 4
- SOCI 200gm Introduction to Sociology Units: 4
- SSCI 265Lg The Water Planet Units: 4
- SSCI 135Lg Maps in the Digital World Units: 4
- SSCI 165Lgw Sustainability Science in the City Units: 4

Upper-Division Electives (4 Units)

- ANTH 481L GIS for Investigating the Past Units: 4
- ARCH 432 People, Places and Culture: Architecture of the Public Realm Units: 4
- IR 319 Human Security and Humanitarian Intervention Units: 4
- JOUR 422 Advanced Visual Journalism Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- SOCI 314Lg Analyzing Social Statistics Units: 4
- SOCI 365 Visual Sociology of the City and Its Residents Units: 4
- SSCI 397 Spatial Sciences Internship Units: 2, 3, 4

Master's Degree

Geographic Information Science and Technology (MS)

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online MS in Geographic Information Science and Technology requires 28 units of graduate work and provides state-of-the-art training in the core geographic information technologies (geographic information systems, global positioning systems and remote sensing, among others) and the underlying scientific principles and concepts that guide their design and use. The individual courses incorporate multiple curricular pathways

tailored to the increasingly diverse backgrounds, occupations and applications that rely on geospatial data, analysis and visualization.

Course Requirements

Twenty-eight units of graduate work are required.

Core Courses (16 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 594a Master's Thesis Units: 2
- SSCI 594b Master's Thesis Units: 2

Electives (12 Units)

- SSCI 583 Spatial Analysis Units: 4
- SSCI 584 Spatial Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web GIS Units: 4
- SSCI 592 Mobile GIS Units: 4
- SSCI 593 Geospatial Data Integration Units: 4

Additional Requirements

All electives are chosen in direct consultation with the student's academic adviser based on background, academic interests, etc.

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The master's program can be completed in two to three years as long as students take one or two courses in each of the fall, spring and summer semesters. Continuous enrollment in the fall, spring and summer terms is required in this program, including SSCI 594a, SSCI 594b and SSCI 594z summer registration.

Admission Requirements

Four groups of students are served by this program:

1. New students who wish to apply directly to the geographic information science and technology master's program.
2. Students currently enrolled in the geographic information science and technology graduate certificate program since this certificate program may serve as a possible "stepping stone" toward the master's program.
3. Students currently matriculated in a USC master's or doctoral degree program.
4. USC undergraduate students who want to stay for a fifth year and earn both bachelor's and master's degrees.

Candidates for admission among the first two groups of students must have: (1) a BA or BS degree or its international equivalent; (2) a minimum 3.0 GPA (A = 4.0). All course work taken at the undergraduate level is used to calculate the GPA. Exceptions will be made in cases of very high GRE scores or some other compelling evidence of potential to excel in graduate studies (e.g., outstanding letters of recommendation). Preference will be given to candidates with significant professional experience working with geographic information systems and related geospatial technologies.

Application Procedures

Applicants are required to submit the following documents: (1) completed application for admission, which can be found online at usc.edu/admission/graduate; (2) statement of purpose; (3) a writing sample; (4) official transcripts from all schools previously attended; (5) two letters of recommendation; and (6) results of the GRE General Test. International students must submit TOEFL scores with a minimum score of 100 on the Internetbased examination, or an IELTS score of 7.

The statement of purpose should be uploaded into the online application. This statement should: (1) describe the student's motivation, field of interest and career goals; and (2) identify potential projects that the student might pursue for the master's thesis project.

The master's program utilizes rolling admissions and enrollment based on the standard academic calendar. This means that students may start the program in either the fall, spring or summer semesters.

Those interested in learning more about this program should contact Ken Watson, University of Southern California, 3616 Trousdale Parkway, AHF B55B, Los Angeles, CA 90089-0374.

University Certificate

Geographic Information Science and Technology Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geographic Information Science and Technology requires 16 units of graduate work and provides state-of-the-art training in some of the core geographic information science technologies and the underlying scientific principles and concepts that guide their design and use.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (12 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4

Electives (4 Units)

- SSCI 583 Spatial Analysis Units: 4
- SSCI 584 Spatial Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web GIS Units: 4
- SSCI 592 Mobile GIS Units: 4
- SSCI 593 Geospatial Data Integration Units: 4

Note:

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in one to two years as long as students take one or two courses in each of the fall, spring and summer semesters. The graduate certificate program can serve as a possible "stepping stone" toward the geographic information science and technology master's degree program. Continuous enrollment in the fall, spring and summer terms is required in this program.

Geospatial Intelligence Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geospatial Intelligence requires 16 units of graduate work and provides state-of-the-art training in some of the core geospatial technologies and the underlying scientific concepts and analytical methods that guide their design and use to solve a variety of human security problems and challenges.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (8 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4

Electives (4 Units)

- SSCI 583 Spatial Analysis Units: 4
- SSCI 584 Spatial Modeling Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Capstone Course (4 units)

- SSCI 579 Geospatial Intelligence Tradecraft Units: 4

Note:

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in as few as two and no more than four semesters depending on the numbers of courses taken in each of the fall, spring and summer semesters. The graduate certificate program can serve as a possible "stepping stone" toward the geographic information science and technology master's degree program. Continuous enrollment, including summer, is required.

Geospatial Leadership Graduate Certificate

AHF B55B
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The online Graduate Certificate in Geospatial Leadership requires 16 units of graduate work. The capstone course focuses on the cultivation of leadership skills and practices, and the electives afford students the opportunity to strengthen their knowledge of selected geospatial technologies, the underlying scientific concepts and analytical methods, and the ways they can be used in decision-making.

Course Requirements

Sixteen units of graduate work are required.

Core Courses (4 Units)

- SSCI 578 The Practice of Geospatial Leadership Units: 4

Electives (12 Units)

- SSCI 579 Geospatial Intelligence Tradecraft Units: 4
- SSCI 583 Spatial Analysis Units: 4
- SSCI 584 Spatial Modeling Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web GIS Units: 4
- SSCI 592 Mobile GIS Units: 4
- SSCI 593 Geospatial Data Integration Units: 4

Additional Requirements

The courses in this program are open to students living and/or working anywhere, including students at USC's Los Angeles, Orange County, Sacramento and Washington, D.C. centers. The certificate program can be completed in as few as two and no more than four semesters depending on the numbers of courses taken in each of the fall, spring and summer semesters. Continuous enrollment, including summer, is required.

Admission Requirements

Two groups of students are served by this program:

1. New students who wish to apply directly to one of the spatial sciences graduate certificate program.
2. Students currently matriculated in a USC master's or doctoral degree program (other than the MS in geographic information science and technology).

Candidates for admission among the first group of students must have: (1) a BA or BS degree or its international equivalent; (2) a minimum 3.0 GPA (A = 4.0) undergraduate GPA. All course work taken at the undergraduate level is used to calculate the GPA. Exceptions will be made in cases of very high GRE scores or some other compelling evidence of potential to excel in graduate studies (e.g., outstanding letters of recommendation). Preference will be given to candidates with significant professional experience working with geographic information systems and related geospatial technologies.

Application Procedures

Applicants are required to submit the following documents: (1) completed application for admission, which can be found online at usc.edu/admission/graduate; (2) statement of purpose; (3) official transcripts from all schools previously attended. International students must submit TOEFL scores with a minimum score of 100 on the Internet-based examination, or an IELTS score of 7.

The graduate certificate program utilizes rolling admissions and enrollment based on the standard academic calendar. This means that students may start the program in either the fall, spring or summer semesters.

Those interested in learning more about this program should contact Ken Watson, University of Southern California, 3616 Trousdale Parkway, AHF B55B, Los Angeles, CA 90089-0374.

Spatial Analytics Graduate Certificate

AHF B56C
(213) 740-8298
Email: watsonke@usc.edu
Director: John P. Wilson, PhD

The Graduate Certificate in Spatial Analytics requires 12 units of graduate work and provides doctoral students with an opportunity to learn about the fundamental guiding principles (i.e. spatial cognition, positioning, spatial representations and data models, map projections and datums, modifiable unit area problems, remote sensing, spatial analysis and modeling techniques and cartographic principles) and a series of rapidly evolving geospatial technologies that take advantage of the Cloud and the Web as well as advances in analytical techniques, modeling tools and online data sources.

Course Requirements

Twelve units of graduate work are required.

Courses (12 Units)

- SSCI 680 Advanced Spatial Computing Units: 4
- SSCI 683 Principles of Spatial Data Analysis Units: 4
- SSCI 684 Spatial Modeling with GIS Units: 4

Note:

The courses in this program are open to students enrolled in any one of USC's doctoral programs. The three courses that make up this graduate certificate provide a vibrant and evolving series of learning opportunities for doctoral students wishing to look at their own disciplines and potential research topics through a spatial lens.

Doctoral Degree

Population, Health and Place (PhD)

Residency Requirement

A minimum of 24 graduate units at USC is required for the doctoral degree.

Course Requirements

Each student must take at least 44 substantive units in preventive medicine (health), sociology (population) and the spatial sciences (place) at USC during the first three years. Students must complete two laboratory rotations (4 units total) as well as a set of core courses that cover topics in biostatistics, demography, epidemiology and spatial sciences, the specifics of which are provided in the Spatial Sciences Institute's handbook for graduate students. Additional course requirements vary according to specialty area and/or dissertation topic.

Research Requirement

During the first and second year, students work on either a refereed journal article, book chapter or a research report of comparable scope and quality. A research project done at USC is required of all students (by the conclusion of the summer following the student's second year), regardless of prior graduate work.

Screening Procedure

The student's ability to master graduate-level course material is first evaluated after completion of no more than 24 units, and not later than the third semester of graduate work at USC. The final screening procedure is the successful completion of a second-

year project requirement. This evaluation is based on the student's performance in courses taken and on an evaluation of the student's research competence as reflected in the first- and second-year research projects. The projects are evaluated by a committee of three faculty, including the student's primary adviser.

Additionally, students are evaluated each year based on adviser input, course work and research progress.

Guidance Committee

In preparation for the qualifying examination, each student assembles a five-person guidance committee to direct the student's program of studies and evaluate research competence. The committee must include at least one member from the lists of eligible faculty in Demography, Preventive Medicine and Spatial Sciences listed in the each of the contributing fields specified in the Spatial Sciences Institute's handbook for graduate students. The committee continues to serve until after the qualifying examination has been passed, the dissertation topic approved, and the student admitted to candidacy for the PhD. At that time the student assembles a dissertation committee of four or more members (usually consisting of members of the guidance committee, one of whom must be a faculty member from outside the three contributing departments), who advise on and evaluate the dissertation.

Qualifying Examination

The qualifying examination evaluates the student's ability to conduct independent scholarship and research. The student is evaluated based on oral and written presentation of two elements: a written review paper or written exam and the dissertation proposal. The qualifying examination is planned, administered and evaluated by the student's guidance committee. It should be taken no later than during the sixth semester.

Doctoral Dissertation

A student is expected to engage in research activity throughout his or her graduate career, leading up to and culminating in the Ph.D. dissertation. The dissertation is based on an original investigation, usually involving empirical data.

Defense of the Dissertation

The student's doctoral dissertation is defended at either a defense oral, based on an approved preliminary copy of the dissertation, or a final oral, based on the final version of the dissertation.

Advisement

Each student has a major adviser who is usually in the specialty area. The guidance committee should be formed at least one semester before the student takes the qualifying examination. Advisement concerning graduate school requirements may also be sought from the Spatial Sciences staff student adviser and the faculty member serving as director of graduate studies.

Courses

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- SOCI 621L Quantitative Methods and Statistics II Units: 4
- SOCI 625 Demographic Methods Units: 4
- SOCI 656 Social Demography Units: 4
- SSCI 600 The Geography of Life and Death Units: 4
- SSCI 601a Population, Health and Place Research Practicum Units: 2
- SSCI 601b Population, Health and Place Research Practicum Units: 2
- SSCI 680 Advanced Spatial Computing Units: 4
- SSCI 683 Principles of Spatial Data Analysis Units: 4
- SSCI 684 Spatial Modeling with GIS Units: 4
- SSCI 790 Research Units: 1
- SSCI 794a Doctoral Dissertation Units: 2
- SSCI 794b Doctoral Dissertation Units: 2
- SSCI 794c Doctoral Dissertation Units: 2
- SSCI 794d Doctoral Dissertation Units: 2
- SSCI 794z Doctoral Dissertation Units: 0

Thematic Option

Thematic Option, the university's general education core honors program, is an alternative to regular core general education requirements. The program is interdisciplinary and provides a strong intellectual community.

The program teaches students to formulate ethical questions, to analyze and understand the reasoning behind views that differ from their own, to recognize the roles that historical, political and social forces play in matters of personal choice, and to express their views coherently in writing. Thematic Option can be arranged to fit any major.

To maintain small classes and allow for extensive discussion, Thematic Option is limited to just under 200 students each year. Students must be highly motivated, with a record of academic achievement. The average Thematic Option student has cumulative SAT scores above 1480 and an average high school GPA of 4.0. The program is rigorous and requires extensive reading and writing.

Hancock Foundation Building 410
(213) 740-2955
Email: thematicoption@dornsife.usc.edu
dornsife.usc.edu/thematic-option
Executive Director: Richard Edinger
Assistant Professor of Writing: Trisha Tucker, PhD
Lecturers: Amy Cannon, MFA; Patience Moll, PhD; Michael Petitti, PhD

Program Requirements

The Thematic Option honors curriculum consists of four interdisciplinary core classes taught around distinct themes: CORE 101g Symbols and Conceptual Systems: Thematic Option Honors Program ; CORE 102gp Culture and Values: Thematic Option Honors Program ; CORE 103g The Process of Change in Science: Thematic Option Honors Program; and CORE 104gw Change and the Future: Thematic Option Honors Program .

CORE 111 Writing Seminar I: Thematic Option Honors Program and CORE 112 Writing Seminar II: Thematic Option Honors Program make up the 8 units of writing to meet the university requirement. The classes are accompanied by individual, bi-weekly tutorials. CORE 111, which requires concurrent enrollment with an affiliated CORE 102, focuses on critical thinking and analysis, focusing on academic argument and reasoning through close reading of primary texts. CORE 112 teaches students to convey complex ideas and to advance sophistication of essay structure, grounded argument, and to identify and address specific audiences persuasively in academic discourse.

The core Thematic Option curriculum is supplemented by four additional courses taken from the General Education Program: one in Quantitative Reasoning, one in The Arts, one in Social Analysis, and one in the Physical Sciences. Completion of CORE 102 and CORE 111 with a passing grade satisfies the University's General Education Seminar requirement.

Minor

Thematic Approaches to Humanities and Society Minor

The interdisciplinary minor in Thematic Approaches to Humanities and Society allows students to examine a range of thematic and theoretical approaches to understanding culture and society from multiple standpoints in the humanities. The minor is rich in course and schedule options, enabling students with an interest in the humanities to continue their studies. It also includes co-curricular events and advisement from Thematic Option staff.

Thematic approaches to humanities and society builds on the intellectual community developed in the Thematic Option honors program and is open to all interested students.

The minor focuses on themes such as interdisciplinary perspectives and modes of inquiry; approaches to criticism and history; reification, ideology, contextualization; and knowledge, human diversity and social relations. Students choose six 4-unit classes, including one lower-division elective, one upper-division Thematic Option class (CORE 301 Modes of Inquiry), and four upper-division electives. Students also complete a 2-unit reading salon (CORE 200 Liberal Arts Reading Salon).

Requirements, Lower-Division (Choose One, 4 Units)

- CLAS 150g The Greeks and their Legacies Units: 4
- CLAS 151gp The Legacy of Rome Units: 4
- CORE 102gp Culture and Values: Thematic Option Honors Program Units: 4
- HIST 101gp State and Society in the Ancient World Units: 4
- HIST 102gm Medieval People: Early Europe and Its Neighbors, 400–1500 Units: 4
- PHIL 115g Ancient Greek Culture and Society Units: 4
- REL 132g Origins of Western Religions Units: 4

Course Requirements (6 Units)

- CORE 200 Liberal Arts Reading Salon Units: 2
- CORE 301 Modes of Inquiry Units: 4

Requirements, Upper-Division (16 Units)

Enroll in four of the following, at least one from List A, one from List B and not more than one from List C. Not more than two may come from any one department. Courses must be chosen in consultation with a Thematic Option adviser.

List A

Early:

- CLAS 310 Pagans and Christians Units: 4
- CLAS 320gmp Diversity and the Classical Western Tradition Units: 4
- CLAS 333 Cult and City in Ancient Greece Units: 4
- CLAS 470 Democracies Ancient and Modern Units: 4
- EALC 340gp Japanese Civilization Units: 4
- EALC 345 Korean Civilization Units: 4
- EALC 350gp Chinese Civilization Units: 4
- EALC 355 Studies in Chinese Thought Units: 4
- EALC 365 Studies in Japanese Thought Units: 4
- PHIL 345 Greek Ethics Units: 4
- REL 311g The Bible in Western Literature Units: 4
- REL 315 Thought and Life of Islam Units: 4
- REL 317g The Bible in Its Ancient Context Units: 4

Modern:

- COLT 426 Utopias Units: 4
- COLT 445 Europe and the Writing of Others Units: 4
- EALC 332 Modern Korean Literature in Translation Units: 4
- EALC 335m Korean American Literature Units: 4
- EALC 342gp Japanese Literature and Culture Units: 4
- EALC 352g Chinese Literature and Culture Units: 4
- EALC 354g Modern Chinese Literature in Translation Units: 4
- FREN 446 Contemporary French Thought Units: 4
- GERM 370 Literature and Culture in Vienna at the Turn of the Century Units: 4
- GERM 372g Literature and Culture in Berlin in the 1920s Units: 4
- PHIL 337 History of Modern Political Philosophy Units: 4
- PHIL 355 Existentialism Units: 4
- PHIL 437 Social and Political Philosophy Units: 4
- REL 340 Introduction to Indian Philosophy Units: 4
- SLL 330gp Russian Thought and Civilization Units: 4
- SLL 344g Tolstoy: Writer and Moralist Units: 4

List B

Humanities and Society:

- COLT 448 Multilingual Encounters Units: 4
- COLT 475 Politics and the Novel Units: 4
- ENGL 373g Literature and Society Units: 4
- ENGL 374m Literature, Nationality and Otherness Units: 4
- FREN 370gm Equality and Difference around the Enlightenment Units: 4
- REL 366 Religion and Social Change Units: 4
- REL 462 Religion and Violence Units: 4
- SLL 345g Literature and Philosophy: Dostoevsky Units: 4
- SLL 348g The Novels of Vladimir Nabokov Units: 4

Critical Approaches:

- CLAS 380 Approaches to Myth Units: 4
- COLT 391 Literary Criticism from Plato to Postmodernism Units: 4
- COLT 454 Aesthetic Philosophy and Theory Units: 4
- ENGL 372 Literature and Related Arts Units: 4
- ENGL 379 History of Literary Criticism Units: 4
- ENGL 380 Modern Literary Criticism: Theory and Practice Units: 4
- LING 466 Word and Phrase Origins Units: 4
- PHIL 361 Philosophy of Religion Units: 4
- PHIL 445 Philosophy of the Arts Units: 4

List C

Social Science Approaches:

- ANTH 372 Interpretation of Myth and Narrative Units: 4
- HIST 201 Approaches to History Units: 4
- HIST 329 Madness and Society in the Modern Age Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- POSC 381 Sex, Power, and Politics Units: 4
- POSC 476 Contemporary Political Thought Units: 4
- SOCI 350 Social Exclusion, Social Power, and Deviance Units: 4
- SOCI 360m Social Inequality: Class, Status, and Power Units: 4

The Writing Program

Writing Program courses are designed to help students develop practices of reading, writing and critical reasoning that are necessary for success in academic and professional discourse. Writing Program pedagogy emphasizes small classes and frequent conferences in order to provide the highly individuated instruction and careful feedback necessary to extend the writing process and enhance the rhetorical judgment of each student. To meet the university's writing requirement, students must complete WRIT 150 (or its equivalent) and an advanced writing course, WRIT 340.

Jefferson Building 150 (JEF 150, mc 1293)
(213) 740-1980
FAX: (213) 740-4100
Email: writprog@usc.edu
dornsife.usc.edu/writing-program

Director: John Holland
Professors (Teaching): Diana Blaine, PhD; Geoffrey Middlebrook, PhD
Associate Professors (Teaching): Norah Ashe, PhD; Stephanie Bower, PhD; Michael Bunn, PhD; Jeffrey Chisum, PhD; James Condon VII, PhD; Andrew De Silva, MPW; Kevin Egan, PhD; William Feuer, PhD; Nathalie Joseph, PhD; Stephen Mack, PhD; Matthew Manson, PhD; Mark Marino, PhD; Indra Mukhopadhyay, PhD; John Murray, EdD; Erika Nanes, PhD; Shefali Rajamannar, PhD; Eric Rawson, PhD; Sandra Ross, MA; Scott Smith, PhD; David Tomkins, PhD; Robert Waller Jr., MPW; William Wyatt, MPW
Assistant Professors (Teaching): Jennifer Sopchockchai Bankard, PhD; Jessica Wells Cantiello, PhD; LauraAnne Carroll-Adler, PhD;

Elizabeth Durst, PhD; Jay Fisher, MPW; Farida Habeeb, PhD; Amy Meyerson, MPW; Daniel Pecchenino, PhD; Steve Posner, MPW; Deborah Sims, PhD; Ellen Wayland-Smith, PhD; John James Strong, MPW

Lecturers: Emily Artiano, PhD; Justin Bibler, PhD; Ryan Boyd, PhD; Tamara Black, PhD; Amanda Bloom, PhD; Brent Chappelow, PhD; James Clements, PhD; Nicholas De Dominic, MFA; Carlos Delgado, PhD; Daniel Dissinger, PhD; Antonio Elefano, JD; Amber Foster, PhD; Rochelle Gold, PhD; William Gorski, PhD; Amanda Hobmeier, PhD; Ashley Karlin, PhD; Meridith Kruse, PhD; Rory Lukins, PhD; Philip McNiff, MPW; Sarah Mesle, PhD; Dana Milstein, PhD; Cory Nelson, PhD; Meghan Olivas, PhD; Vanessa Osborne, PhD; Benjamin Pack, MPW; Leah Pate, PhD; DeAnna Rivera, JD; Alisa Sanchez, PhD; Atia, Sattar, PhD; Anne Schindel, PhD; Mary Traester, PhD

Lower-Division Requirement

WRIT 150 Writing and Critical Reasoning–Thematic Approaches focuses on the rhetorical principles and techniques necessary for successful college-level writing. Special attention is paid to critical thinking and reading, sentence-level fluency, research techniques, and the elements of academic argument and reasoning. WRIT 150 will not satisfy the lower-division writing requirement if taken on a Pass/No Pass basis.

Advanced Writing Requirement

All students at USC, except those who satisfy their general education requirements through the Thematic Option Program, must complete WRIT 340 Advanced Writing, an upper-division course designed to help students write on topics related to their disciplinary or professional interests. Students usually enroll in WRIT 340 in their junior year, and may not take the course earlier than their sophomore year. Different schools within the university offer sections of this course. Students should consult their major departments to determine which version of WRIT 340 best complements their program of study. WRIT 340 will not satisfy the university's advanced writing requirement if taken on a Pass/No Pass basis.

All classes that meet the university's advanced writing requirement teach students to write clear, grammatical, well-structured prose; to discover and convey complex ideas critically; and to appreciate the nuances of effective argumentation. The principal aim of the requirement is to develop a student's capacity to formulate thoughtful and compelling writing for specific academic, professional and public audiences.

Preparatory Course Work

Some students are better served by taking a preparatory course before they enroll in WRIT 150. Entering freshmen who score below a specified level on the verbal portion of the SAT take the University Writing Examination. Based on the results of this examination, certain students enroll in WRIT 120 Introduction to College Writing or WRIT 121 Introduction to College Writing in a Second Language during their first semester at USC.

International students take the University Writing Examination after having completed any course work required by the American Language Institute.

Transfer Credit

Students may complete the lower-division requirement by completing an equivalent second-semester composition course that is taken for a letter grade option (not Pass/No Pass) at another institution after high school graduation and prior to enrolling at USC. Equivalent transfer credit is determined by the university's articulation officer. The advanced writing requirement must be completed at USC.

Time Limits

Students should complete the lower-division writing course requirement by the end of their first year at USC and must complete it before they enroll in their sixty-fifth unit. Transfer students who have not completed the lower-division requirement prior to entering USC should enroll in WRIT 150 during their first semester at USC, and must enroll in WRIT 150 no later than their nineteenth unit (second semester) at USC.

USC Annenberg School for Communication and Journalism

The USC Annenberg School for Communication and Journalism is a national leader in education and scholarship in the fields of communication, journalism, public diplomacy and public relations. The school offers a comprehensive curriculum emphasizing the core skills of leadership, innovation, service and entrepreneurship and drawing upon the resources of a networked university located in the media capital of the world. USC Annenberg's commitment to the converged practice of communication and journalism, interdisciplinary studies, and collaboration makes it unique among peer institutions. Students learn from theory and practice, and the school's programs put it at the crossroads of media, entertainment technology and globalization.

USC Annenberg's nationally accredited School of Journalism provides experience for students in all media platforms, with a digital newsroom, state-of-the-art editing equipment for radio and television news production and the opportunity to work at on-campus media outlets. The school's public relations program prepares students to thrive in advocacy communication, learning to write and communicate targeted messages across media platforms. The School of Communication's multidisciplinary curriculum explores how human interaction and technology affect communities, businesses, nations and the world, preparing students for careers in communication, persuasion and leadership. USC Annenberg's active internship program and study abroad opportunities give students the broad, global perspective required to be successful professionals. USC Annenberg alumni fill top posts in the communication and media industries, and remain an invaluable resource to students and faculty. USC Annenberg's more than 100 faculty members have been recognized in diverse fields, and their expertise challenges students to become communication leaders.

Administration

Willow Bay, MBA, *Dean, Walter H. Annenberg Chair in Communication, Professor of Professional Practice*
Emily Cavalcanti, MA, *Associate Dean for Communication & Marketing*
William Celis, MS, *Associate Dean for Diversity, Inclusion and Strategic Initiatives, Associate Professor of Journalism*
Allyson Hill, MA, *Associate Dean, Admissions*
Andrea Hollingshead, PhD, *Associate Dean, Faculty Affairs and Research, Professor of Communication*
Debra Lawler, MA, *Associate Dean, Administration*
Margaret L. McLaughlin, PhD, *Senior Associate Dean for Faculty Affairs, Professor of Communication*
Diana O'Leary, MS, *Associate Dean, External Relations*
Dave Racewicz, BA, *Associate Dean, Finance*
Gordon Stables, PhD, *Associate Dean, Student Affairs, Clinical Professor of Communication*
James Vasquez, BA, *Associate Dean, Operations*
Sarah Banet-Weiser, PhD, *Director, School of Communication, Professor of Communication*
Gordon Stables, PhD, *Interim Director, School of Journalism, Associate Dean, Student Affairs, Clinical Professor of Communication*

School of Communication

Annenberg School for Communication and Journalism (ASC)
305
(213) 740-0900 (academic inquiries)
(213) 740-3951 (administrative)
(213) 821-0770 (admission inquiries)
FAX: (213) 740-3913
annenberg.usc.edu

Director: Sarah Banet-Weiser, PhD
Associate Director: Imre S. Meszaros, EdD

Faculty

Walter H. Annenberg Chair in Communication: Willow Bay, MBA
University Professor and Annenberg Family Chair in Communication Leadership: Geoffrey Cowan, LLB
University Professor and Wallis Annenberg Chair in Communication Technology and Society: Manuel Castells, PhD
Norman Lear Chair in Entertainment, Media and Society: Martin H. Kaplan, PhD
Provost Professor of Communication, Journalism and Cinematic Arts: Henry Jenkins, PhD
Professors: Jonathan D. Aronson, PhD; Sandra Ball-Rokeach, PhD; Sarah Banet-Weiser, PhD*; Francois Bar, PhD; Manuel Castells, PhD; Peter Clarke, PhD; Michael J. Cody, PhD; Geoffrey Cowan, LLB*; Nicholas Cull, PhD *(Director, Public Diplomacy Master's Program)*; Janet Fulk, PhD; G. Thomas Goodnight, PhD; Larry Gross, PhD; Thomas A. Hollihan, PhD; Andrea Hollingshead, PhD; Henry Jenkins, PhD; Joshua Kun, PhD *(Journalism)*; Alessandro Lomi, PhD; Doe Mayer, MA *(Cinematic Arts)*; Margaret McLaughlin, PhD; Lynn C. Miller, PhD; Peter R. Monge, PhD*; Sheila T. Murphy, PhD; Philip Seib, JD; Ernest J. Wilson III, PhD
Associate Professors: Robeson Taj Frazier, PhD; Randall Lake, PhD; Patricia Riley, PhD *(Director, Global Communication Master's Program)*; Kenneth K. Sereno, PhD*; Stacy Smith, PhD; Douglas Thomas, PhD; Dmitri Williams, PhD
Assistant Professors: Michael Ananny, PhD *(Journalism)*; Christina Dunbar-Hester, PhD; Yu Hong, PhD; Lian Jian, PhD
Clinical Professors: Daniel Durbin, PhD; Colleen M. Keough, PhD; Ben Lee, PhD; Mark Lloyd, JD; Karen North, PhD *(Director, Digital Social Media Master's Program)*; Susan Resnick West, PhD; Robert Scheer; Christopher Smith, PhD; Gordon Stables, PhD *(Director, Trojan Debate Squad)*; Alison Trope, PhD *(Director, Undergraduate Studies)*; Rebecca Weintraub, PhD *(Director, Communication Management Master's Program)*
Clinical Associate Professors: Robert Banks, PhD; Daniela Baroffio, PhD; Mathew Curtis, PhD; Carmen Lee, PhD; Jillian Pierson, PhD; Paolo Sigismondi, PhD
Clinical Assistant Professors: David Craig, PhD; Dorine Lawrence-Hughes, JD, EdD; Hye Jin Lee, PhD; Brad Shipley, PhD; Kimberlie Stephens, PhD
Lecturers: Nithya Muthuswamy, PhD; Carlos Godoy, JD, PhD; Jessica Gould Neff, PhD; Courtney Pade, PhD
Research Professors: Jeffrey Cole, PhD *(Director, Center for the Digital Future)*; Colin Maclay, PhD *(Director, Annenberg Innovation Lab)*
Research Associate Professor: Hernan Galperin, PhD
Adjunct Faculty: Rook Campbell, PhD; Laurel Felt, PhD; Mayanna Framroze, MA; James Hubbard, MA, MDiv; Michael Phillips, MA, MS; Michael Overing, JD; Paula Patnoe-Woodley, MA; Kelton Rhoads, PhD; Simon Uwins, MA; Lisa Vebber, MA; Gary Wexler, BA; Michael Wissot, MBA, MIM
Emeritus Professor: Walter R. Fisher, PhD
**Recipient of university-wide or school teaching award.*

Degree Programs

The School of Communication offers programs of study leading to a BA in Communication; minors in Sports Media Studies; Culture, Media and Entertainment; Communication Technology Practices and Platforms; Global Communication; Health Communication; Justice, Voice, and Advocacy; Media Economics and Entrepreneurship; Professional and Managerial Communication; Communication Policy and Law; Cultural Studies; Photography and Social Change; and Law and Society; progressive degrees in Master of Communication Management and Master of Public

Diplomacy; a Master of Science in Digital Social Media; an MA and PhD in Communication; MA in Global Communication (in conjunction with the London School of Economics); a Master of Communication Management and two Master of Public Diplomacy programs. The Master of Public Diplomacy combines the resources of the Annenberg School for Communication and Journalism and the USC Dornsife College of Letters, Arts and Sciences' School of International Relations. The Communication Management Program has established dual degree programs with the USC Gould School of Law and Hebrew Union College.

Undergraduate Degrees

The School of Communication offers programs of study leading to a BA degree and minors in Culture, Media and Entertainment; Communication Technology Practices and Platforms; Global Communication; Health Communication; Justice, Voice, and Advocacy; Media Economics and Entrepreneurship; Professional and Managerial Communication; Sports Media Studies; and Communication Policy and Law. Many communication majors pursue, with the school's encouragement, a double major with another discipline or a minor to complement the major. Through careful planning, students can complete these options within four years.

Students must consult with an undergraduate academic adviser at least once each semester to explore course selections within the major, the minor, general education offerings and electives.

Admission

Admission is competitive. Fall 2015 incoming freshmen had an average GPA of 3.61 with an SAT score of 1920-2180 (middle 50%). Transfer students had an average college GPA of 3.66. For admission information and deadlines, refer to the USC Admission Website. All transfer applicants must review the transfer admission application guidelines on the Annenberg Website; contact the Annenberg Admissions Office for more information. USC exclusively uses the Common Application for freshman and transfer admission. Applicants must submit the Common Application and the USC Supplement, both of which can be accessed at commonapp.org. In addition to the university writing samples, a 250-word statement of intent is required; instructions are included with the USC Supplement.

Students currently enrolled at USC who wish to change their major to communication must file a formal application with all supporting documents through the Annenberg Student Services Office. Students who entered USC as freshmen must have 16 units completed at USC with a minimum cumulative GPA of 3.0. Students who entered USC as transfers must have 16 units completed at USC with a minimum GPA of 3.0. The 3.0 GPA is a minimum standard and does not guarantee admission.

For current USC students, the application period is the first week of classes each fall, spring, and summer terms. No applications will be accepted after the first week of classes.

Students who have not been admitted to the communication major or one of the minors may complete a maximum of 20 communication (COMM) units at USC. No further communication course work may be taken until the student is admitted. Students who complete the maximum number of units without gaining admission to the school will be advised to select another major. Students are encouraged to contact the Annenberg Student Services Office, ASC 140, (213) 740-0900, for advisement on change of major criteria and major requirements. In certain cases, students may be referred to Academic Counseling Services, STU 300, (213) 740-1741, to consult with an adviser to select another major.

Academic Integrity Policy

The School of Communication maintains a commitment to the highest standards of ethical conduct and academic excellence. Any student found responsible for plagiarism, fabrication, cheating on examinations, or purchasing papers or other assignments will be reported to the Office of Student Judicial Affairs and Community Standards and may be dismissed from the School of Communication. There are no exceptions to the school's policy.

Curriculum Areas of Study

By design, the courses in the curriculum tend to cluster into different areas of study. These areas represent important foci in the communication discipline and are areas in which the school's faculty possess special expertise. Four such areas of study are described below. They are not mutually exclusive, nor do they exhaust the curriculum; rather, they represent partially overlapping areas of unusual depth. Students may specialize in one of these areas or may design individual programs of study by choosing other combinations of electives that best meet their needs and career objectives. Relevant courses for the clusters are posted on the Annenberg School for Communication and Journalism Website.

Communication and Culture Option: This option will be attractive to a broad range of students whose careers have an international or multicultural dimension, from those interested in foreign service, travel and consulting to those seeking careers in the arts. In addition, students taking this option will be well prepared for advanced graduate study. Courses emphasize: communication as an essential component of culture and cultural production; cultural forces that shape communication practices; cultural barriers to communication; gender and diversity issues in human and mass communication and cultural production; media representations of race, ethnicity and gender; the production of meaning in diverse modes such as art, religion, popular culture and technology; and cultural criticism.

Entertainment, Communication and Society Option: This option is for students who wish to pursue careers in the entertainment industry, as well as students interested in the relationship of communication and entertainment to popular culture, globalization, cultural studies, marketing, advertising and ethics. Students taking this option will be well prepared for graduate study; they will also be able to enter the entertainment industry with a grounding in the theory, roles, issues and effects of entertainment. Courses emphasize: the theoretical underpinnings of entertainment studies; the historical context of entertainment; the roles and effects of entertainment concepts in "high art" and popular culture; the impact of entertainment on politics; advertising in an entertainment society; the blurring of marketing and entertainment and the effects of this on culture; the effects of entertainment in general and specifically on constructions of race and childhood; issues in the blurring of fact and fiction; ethical dilemmas; and the globalization of entertainment industries.

Media, Law and Politics Option: This option is designed for students who are interested in careers in government and public service, the law, and political and legal consulting, as well as advanced graduate study. Students examine communication processes in the public sphere and learn how to participate competently in these practices. Courses emphasize: the role of persuasion in the political and legal processes; the techniques used by individuals, institutions and social movements to influence public affairs; the history, design, implementation and evaluation of political campaigns; the role of public opinion; ethical issues in public communication, including the influence of media in the political and justice systems, the role of the First Amendment and the changing nature of freedom of expression in a mass-mediated environment, and problems of public participation.

Organizational and Interpersonal Communication Option: This option is most relevant to students interested in careers in business, management, human resources and development, corporate communication, and consulting, as well as advanced graduate study. Courses emphasize: interpersonal communication processes that affect and reflect personality, motives, beliefs, attitudes and values; communication's role in the development, maintenance and disintegration of social, family and intimate relationships; managing interpersonal conflict; communication between superiors and subordinates and in teams; communication's role in determining organizational culture; managing information in organizations; and the role of information technology in processes of globalization.

Progressive Degree Program

This progressive degree program allows USC students to complete a bachelor's degree and a Master of Communication

Management or a Master of Public Diplomacy in as little as five years. Students with a 3.0 overall GPA or higher in all classes taken at the university level are eligible to apply for admission to the degree program during their junior year, if a minimum of 24 semester hours will be completed in the final year of undergraduate enrollment. However, a 3.0 GPA does not guarantee acceptance. Current students must attend a mandatory information session conducted by Annenberg Admissions and a member of the faculty before initiating the application process. Students admitted into the progressive degree program begin taking master's level courses in their senior year and may complete the master's degree in year five. For information on the application process, refer to the Annenberg Website, annenberg.usc.edu/currentstudents. Click on progressive degree. For further details on progressive degree programs, see the Requirements for Graduation page.

Other Programs

Debate Squad

The Trojan Debate Squad provides an opportunity for outstanding students (3.0 GPA or better), both communication majors and non-majors, to compete in an intensive intercollegiate laboratory setting. Whatever the student's intended career, the skills he or she develops in research, critical thinking and oral advocacy will be invaluable. The team has an excellent record in team policy debate and is now also offering British parliamentary (worlds format) debating. The team competes at both regional and national competitions.

Honors Program

The School of Communication offers an 8-unit honors program for exceptional students. To qualify, students must have a 3.5 GPA both overall and in the COMM major after completing the core courses (COMM 200 or COMM 313, COMM 206 or COMM 311, COMM 209 or COMM 309, COMM 204 or COMM 322, COMM 301 or COMM 305, ASCJ 200 or ASCJ 210). To graduate with School of Communication honors, a student must maintain a 3.5 overall and COMM major GPA and receive at least a B+ or higher in the two honors courses. Students either take COMM 495 Honors Seminar or work with a professor to customize a 400-level COMM course for honors status (4 units). All honor students complete COMM 497 x Honors Thesis (4 units). Contact an undergraduate adviser for further information and application forms.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Honors in Multimedia Scholarship

This program offers qualified undergraduate students an opportunity to approach their discipline(s) of study through the critical application of multimedia expression and scholarship. The student experience will be characterized by smaller classes taught by leading faculty members and enriched by a program of lecture series, visiting scholars, symposia and conferences. For complete program requirements, see the USC School of Cinematic Arts.

Annenberg Career Development

The USC Annenberg Career Development Office has listings for paid and unpaid internships from around the country. Career advisers conduct mandatory advisement appointments for all sophomores and offer career workshops, guest speakers and mentoring opportunities. Students are advised to participate in at least two internships before graduation.

Annenberg International Programs

Semester in Amsterdam

Through the Council on International Education Exchange, students study at the University of Amsterdam. The first week students spend in orientation sessions that include an overview of the academic program, an introduction to Amsterdam and to Dutch society and culture, as well as excursions in and around the city. Students enroll in the offerings taught in English at the University of Amsterdam. Such courses include communication, art, history, economics, environmental sciences, computer science, history, philosophy, literature, social science and theology. Students may earn a maximum of 12 USC units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Australia

This semester program offers students the chance to study at one of Australia's premier universities, in one of the country's most exciting cities. Students take communication courses that count for major credit at USC at the University of New South Wales (UNSW) and can choose from a wide variety of elective courses. UNSW is located in Kensington, just south of the center of Sydney and its commercial hub. The program gives students the chance to explore mass media and communication in a challenging environment with a distinct worldview, very different from that of the United States. Students may earn a maximum of 12 USC units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Fall Semester in Buenos Aires

This semester program offers students the opportunity to study Latin American culture and study at the Universidad de San Andrés, a small liberal arts college in the suburbs of Buenos Aires. Students will live and learn in this vibrant metropolis while taking communication courses that count toward major credit at USC. Buenos Aires is one of the largest cities in Latin America and will give students the chance to explore the worldview of Latin America and how it relates to communication, mass media and the world at large. The program will immerse students in South American culture. With classes being taught exclusively in Spanish, this program requires a high degree of proficiency in Spanish, both written and oral (five semesters of college-level Spanish or the equivalent required). A minimum USC cumulative GPA of 3.0 is required for this program.

Semester in Hong Kong

The semester program offers students the opportunity to learn about Chinese culture at the Chinese University in Hong Kong, a bilingual institution. The program also gives students the experience of living in Hong Kong where they can witness the "one country, two systems" experiment. Courses in English are offered in fine arts, literature, history, Japanese studies, intercultural studies, music, philosophy, computer science, anthropology, economics, international relations, as well as journalism and communication. For students interested in Chinese language, courses are offered in Putonghua (Mandarin) or Cantonese. Extracurricular activities include the opportunity to teach English in rural China, monthly dinner talks with Asian studies specialists and excursions to local areas of interest. Students may earn a maximum of 12 USC units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Semester in London

The semester program offers students the opportunity to study communication in London, the most important center of media in Europe. Many of the communication courses offered include British media guest lecturers and site visits. The program includes one-day visits to such places as Oxford, Cambridge and Liverpool. Planned activities within London include theatre and museum visits. Students may earn 16 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program. Please visit the Annenberg International Programs Website for more information on additional program requirements.

Spring Semester in New Zealand

Annenberg's New Zealand program offers students the opportunity to travel to the Southern Hemisphere. Each spring, students can study at the Auckland University of Technology (AUT), a world-class institution that offers students the chance to take communication courses that count toward major credit at USC, all the while exploring the beautiful city of Auckland and the surrounding countryside. The AUT program offers communication students an exciting way to broaden their understanding of media and mass communication in a challenging environment with an outlook distinctly different from that of the United States and Southern California. Students may earn 12 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

Semester in Rio de Janeiro

The semester program offers students the opportunity to learn about Brazilian culture through an intensive pre-semester Portuguese language course (*does not count for USC language requirement) and through civic engagement projects that benefit the local communities in Rio de Janeiro. Through the Council on International Educational Exchange (CIEE), USC students enroll in 20 USC units in courses offered by CIEE and at the Escola Superior de Propaganda e Marketing, Brazil's top communication and journalism school. Students may earn 12 units of upper-division COMM elective credit; please visit the Annenberg International Programs Website for more information on language prerequisites. A minimum USC cumulative GPA of 3.0 is required for this program.

International Communication Studies — London, Paris, Prague, Istanbul and Rome

The International Communication Studies program (ICS) allows undergraduate students to study a range of approaches to public communication media across Europe.

Students divide the five-week course into stays in Los Angeles, London, Paris, Prague, Istanbul and Rome. In addition to regular class meetings, students discuss the interplay of current world issues and international media practices with communication practitioners from international news and public relations media, government institutions, private industry and global organizations.

Students enroll in JOUR 482 Comparative Media in Europe (4 units), which will count as 4 units of upper-division COMM elective credit. A minimum USC cumulative GPA of 3.0 is required for this program.

For further information, contact Annenberg International Programs at (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Graduate Degrees

Degree Programs

The School of Communication offers programs of study leading to a professional Master of Communication Management, an MA/MSc in Global Communication in collaboration with the London School of Economics, a Master of Science in Digital Social Media, two Master of Public Diplomacy programs, and research-oriented Master of Arts and Doctor of Philosophy degrees in Communication. The Master of Public Diplomacy combines the resources of the Annenberg School for Communication and Journalism and the USC Dornsife College of Letters, Arts and Sciences' School of International Relations. The School of Communication also collaborates with the USC Viterbi School of Engineering to offer a Master of Communication Informatics (MCI), which gives students the opportunity to innovate at the intersection of communication and engineering. For more information, please see Communication Informatics (MCI). In addition, special programs enable students to earn dual degrees in communication management and law (USC Gould School of Law) and in communication management and Jewish nonprofit management (Hebrew Union College).

The degree programs are designed to ensure that students are educated in substantive studies that constitute the discipline of communication and provide a basis for competing effectively in the job market.

All students seeking the degrees in communication management and global communication will take a range of courses that prepare them for successful professional management careers in communication-related businesses, organizations and fields.

All students pursuing the research-oriented degree (PhD in Communication) are required to take two theory courses that introduce them to inquiry in human communication and two research methods courses that acquaint them with the historical/critical and social scientific techniques available to conduct scholarly research. These requirements strengthen the student's appreciation of the intellectual bases of human communication study and further the concept of a community of scholars and practitioners in the profession. Students specialize in one of seven available tracks: Global and Transnational Communication; Groups, Organizations and Networks; Health Communication and Social Dynamics; Information, Political Economy and Entertainment; Media, Culture and Community; New Media and Technology; or Rhetoric, Politics and Publics. In addition, students are encouraged to sample courses in the remaining tracks, thus obtaining an education of unparalleled breadth and depth.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Admission Requirements

Master of Communication Management, Master of Arts in Global Communication, Master of Science in Digital Social Media, Master of Public Diplomacy and Master of Public Diplomacy (Practitioner and Mid-Career Professional)

The school accepts students from a broad range of academic backgrounds in social sciences, humanities, physical sciences or professional schools. Some are employed or have work experience in communication-related fields. Others apply immediately after completing baccalaureate degrees.

Criteria: All applicants must submit the online USC Graduate Admission Application. The faculty admission committees consider many criteria in the admission selection process: the academic record and professional and work-related accomplishments are taken into account. The minimum criteria are the equivalent of a U.S. bachelor's degree and a 3.0 GPA for all undergraduate and graduate work completed. The Master of Arts in Global Communication requires a minimum 3.5 (on a 4.0 scale) cumulative GPA or international equivalent for admission. For admission to communication management, digital social media and public diplomacy, scores on the Graduate Record Examinations (GRE) General Test are required. Applicants to the communication management degree program may submit Graduate Management Admissions Test (GMAT) scores in lieu of the GRE. Scores on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) are required for applicants whose undergraduate degree was not completed in a country where English is the only official language. Letters of recommendations from those persons familiar with the applicant's work — preferably academically — are required also. In addition, applicants must submit a statement of purpose, transcripts of all previous college and university work attempted, résumé and writing samples.

Applicants to the global communication degree program must apply to USC and the London School of Economics (LSE). Participation in this degree program requires that students simultaneously gain admission to LSE and USC. GRE or GMAT scores are not required for admission. Scores on the Test of English as a Foreign Language (TOEFL) or International English

Language Testing System (IELTS) are required for applicants whose undergraduate degree was not completed in a country where English is the only official language. All students will begin their studies in London at the LSE.

Procedure: Refer to the Annenberg Website for degree program admission application guidelines, deadlines and filing periods.

Doctor of Philosophy

Students may enter from a variety of academic fields and majors. Applicants whose undergraduate work was in fields other than communication may be admitted on the condition that adequate preparation in directly relevant areas is evident. Completion of a master's degree in communication is not required for admission to the Doctor of Philosophy.

Criteria: All applicants must submit the online USC Graduate Admission Application. The faculty admission committee reviews each application comprehensively. Three letters of recommendation from faculty qualified to comment on an applicant's capacities for a rigorous program of study are required. Completion of a basic descriptive statistics course is recommended. In addition, a personal statement, transcripts from all colleges/universities attended, a résumé and a sample of scholarly writing are required. The MA in Communication is earned as part of the PhD program.

Procedure: Admission is granted for the fall semester only. Applicants are strongly encouraged to take the Graduate Record Examinations prior to November 1.

Degree Requirements

The Global Communication, Master of Arts in Communication and Doctor of Philosophy in Communication are awarded under the jurisdiction of the Graduate School. Refer to The Graduate School section of this catalogue and the Requirements for Graduation section for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

Bachelor's Degree

Communication (BA)

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education Program for more information.

Course Requirements

Required Courses

Theoretical and Foundational Classes (12 units total)

These courses introduce students to theories and subject matter that provide foundational understanding for the Communication major. Each area below broadly explores the way messages and meanings are socially and culturally produced, received by individuals and society, and transformed through technological and industrial shifts.

Communication Interaction, Influence and Impact (4 units)

- COMM 200 Communication and Social Science Units: 4
  OR
- COMM 313 Communication and Mass Media Units: 4

Communication, Civic Life and Culture (4 units)

- COMM 206 Communication and Culture Units: 4
  OR
- COMM 311 Rhetoric and the Public Sphere Units: 4

Economics and Technologies of Communication (4 units)

- COMM 209 Communication and Media Economics Units: 4
  OR
- COMM 309 Communication and Technology Units: 4

Methods of Communication Practice (8 units total)

The courses in this area help to provide students with the critical thinking, tools, and methods of inquiry necessary for the interpretation, development, and expression of messages, systematic arguments, and empirical evidence.

Four units that center on the design and execution of arguments

- COMM 204 Public Speaking Units: 4
  OR
- COMM 322 Argumentation and Advocacy Units: 4

Four units that center on the design, execution and interpretation of empirical evidence

- COMM 301Lg Empirical Research in Communication Units: 4
  OR
- COMM 305 Understanding Social Science Research Units: 4

Annenberg Experience (4 units)

Students are required to take one 4-unit course that prepares Annenberg students to enhance their digital literacy and contextualize modern communication controversies, contemplating changes in the way we process and produce information.

- ASCJ 200 Navigating Media and News in the Digital Age Units: 4
  or
- ASCJ 210 Contours of Change in Media and Communication Units: 4

Electives (24 units total)

- Upper-division COMM courses: 16 units
- Lower- or upper-division COMM or ASCJ courses: 4 units
- One 400-level non-cross-listed COMM course (excluding COMM 443, COMM 490, COMM 494 and COMM 499): 4 units

Additional Requirements

Students must maintain a minimum 2.0 overall GPA in upper-division course work applied toward the major. No more than 4 units of COMM 380 may be counted toward the department major. The School of Communication is committed to ensuring that all declared communication majors follow the necessary requirements. Mandatory advisement is required of all communication majors each semester prior to registration. All students taking communication classes are held to the highest academic integrity standards and may be denied admission or have admission revoked as a result of conduct violations.

Qualified non-majors (generally, students with junior/senior status, a minimum 3.0 GPA and a declared major elsewhere at the university) with appropriate academic preparation may be permitted to enroll in communication electives without fulfilling prerequisite requirements. Application for a waiver should be made to an undergraduate adviser.

Minor

Communication Policy and Law Minor

Information and communication practices and technologies have an increasingly powerful impact on nearly every aspect of our lives. From the level of privacy in our personal lives to the way we govern our communities or manage our businesses, the legal and policy issues in the communication field are ever-changing and increasingly complex. To prepare students to navigate this dynamic and complicated world, the minor in communication policy and law combines courses in communication, law, ethics, and the business of communication taught at both the School of Communication and the School of Journalism at USC Annenberg. Students can choose to focus on policy or legal issues that affect communication technologies, strategies, and uses. This minor will not only enable students to understand the revolution in media and telecommunications technology and practice, it will ground them in the fundamentals of free speech, intellectual property and the local, state and federal role in the regulation of communication platforms ranging from emerging social media to the legacy media

of broadcasting and newspapers. This is an ideal minor for students interested in law or advanced communication scholarship. Admission requirements are a minimum 3.0 grade point average and completion of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 units)

- ASCJ 210 Contours of Change in Media and Communication Units: 4
- COMM 322 Argumentation and Advocacy Units: 4

Choose three electives (12 units)

- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 371 Censorship and the Law: From the Press to Cyberspace Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 421 Legal Communication Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- COMM 427 Topics in Media Economics, Law and Policy Units: 4
- COMM 489 Campaign Communication Units: 4
- JOUR 462 Law of Mass Communication Units: 4

Communication Technology Practices and Platforms Minor

Students in this minor trace the roots and dynamics of contemporary networked technologies and learn how to participate and excel within media cultures, online networks and organizational workplaces. The minor focuses on three areas: cultures (connecting communication technologies to histories, values, and ethics of social relationships and civic communities); networks (developing qualitative and quantitative skills to model, explain and influence relationships among media and people at local and global scales); institutions (tracing the legal, organizational, economic and interpersonal contexts that produce and transform communication technologies). The field of communication technology requires individuals who can critique, cultivate, build and influence new relationships among people, platforms and practices. Whether starting careers in strategic consulting, medical informatics, non-profit management, social media design, public sector service or new media entrepreneurship, students are encouraged to utilize skills and foundational concepts underlying 21st century communication technologies.

Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Communication Courses

- COMM 309 Communication and Technology Units: 4
- COMM 339 Communication Technology and Culture Units: 4
- COMM 340 The Cultures of New Media Units: 4

Electives-Choose Two From The Following

- COMM 310 Media and Society Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- COMM 422 Legal Issues and New Media Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 449 Perspectives on the Networked Press Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- COMM 498 Ethical Issues in Entertainment and Communication Units: 4
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 488 Game Design Workshop Units: 4

Total units: 20

Culture, Media and Entertainment Minor

This 20-unit minor offers courses that examine the theory, content, social impact and economics of a range of creative, media, culture and entertainment industries. Through the lens of music, film, television, advertising, digital media, games, comics and fashion, students will learn strategies for analyzing popular culture and entertainment texts, mechanisms and platforms of content distribution, as well as the historical, social, cultural and political issues shaping these entertainment fields. Taking into account shifts and disruptions in contemporary media and entertainment, students will further examine consumption, audience engagement and participation that necessarily shape our individual and collective identities. These courses will highlight the production, consumption and meanings inscribed in entertainment media industries and products. Depending on the courses selected, the minor will prepare students for a variety of careers in and/or further critical scholarship about media and entertainment industries.

Admission requirements are a minimum 3.0 grade point average and completion of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Courses (8 Units)

- COMM 300 Entertainment, Communication and Society Units: 4
- COMM 384 Interpreting Popular Culture Units: 4

Choose Three Electives (12 units)

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 310 Media and Society Units: 4
- COMM 312 The Business and Culture of Celebrity Units: 4
- COMM 350 Video Games: Content, Industry, and Policy Units: 4
- COMM 355 Advertising and Communication Units: 4
- COMM 360 The Rhetoric of Los Angeles Units: 4
- COMM 363 Media Consumption Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 396 Fashion, Media and Culture Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 433 Home Entertainment Units: 4
- COMM 440 Music as Communication Units: 4
- COMM 456 Entertainment, Marketing and Culture Units: 4
- COMM 457 Youth and Media Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- COMM 498 Ethical Issues in Entertainment and Communication Units: 4
- CTCS 482 Transmedia Entertainment Units: 4
- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- JOUR 493 Comics and Graphic Storytelling Units: 4

Total units: 20

Justice, Voice, and Advocacy Minor

The 20-unit minor offers courses that prompt students to explore the central role communication, media, news, and public relations play in a multicultural society. As a cross-school minor, students will examine questions and perspectives on identity and community through an interdisciplinary lens that centers on theory and praxis, impact and change. The courses in this minor are grouped in order

to give students a foundational understanding of the cultural roots and representations of identity, the practice of storytelling in the context of local and disenfranchised communities, as well as various institutional structures and policies that create barriers or avenues of social justice. Familiarity with these important issues serves students on a practical level by improving their ability to understand, anticipate and appreciate diverse viewpoints and audiences. The minor also helps students develop as more engaged, informed and empathetic citizens who are empowered to bring resolution and shared understanding to areas of conflict and difference in their own lives, the broader community and the workplace.

Required Core Courses (8 units)

- ASCJ 210 Contours of Change in Media and Communication Units: 4
- COMM 366 Designing Media and Communication Projects for Social Change Units: 4

Culture and Identity (4 units)

Choose 4 units from the following:

- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 360 The Rhetoric of Los Angeles Units: 4
- COMM 392 Media and Migration in Times of European Crisis Units: 4
- COMM 395m Gender, Media and Communication Units: 4
- COMM 412 Communication and Social Movements Units: 4
- COMM 414 Communication and Social Change in China Units: 4
- COMM 415m African American Rhetoric and Image Units: 4
- COMM 426 Religion, Media and Hollywood: Faith in TV Units: 4
- COMM 450 Visual Culture and Communication Units: 4
- COMM 451 Visual Communication and Social Change Units: 4
- COMM 458m Race and Ethnicity in Entertainment and the Arts Units: 4
- JOUR 465m Latino News Media in the United States Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- JOUR 467 Gender and the News Media Units: 4
- JOUR 468m The American Press and Issues of Sexual Diversity Units: 4
- JOUR 484 American Religion, Foreign Policy and the News Media Units: 4

Community Storytelling (4 units)

Choose 4 units from the following:

- COMM 367 Community Engagement and Service Learning Units: 2
- JOUR 372 Engaging Diverse Communities in the Digital Era Units: 2
- JOUR 470 Community Journalism Units: 2
- PR 455 Public Relations for Non-Profit Organizations Units: 4

Institutions and Policy (4 units)

Choose 4 units from the following:

- COMM 308 Communication and Conflict Units: 4
- COMM 310 Media and Society Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 421 Legal Communication Units: 4
- COMM 465m Gender in Media Industries and Products Units: 4
- JOUR 460 Social Responsibility of the News Media Units: 4
- JOUR 469 Money, Markets and Media Units: 4

Media Economics and Entrepreneurship Minor

In recognition of the dislocation and restructuring underway in contemporary media and information industries, this 24-unit minor introduces students to the microeconomics and trends of the sector and gives them an understanding of the role that entrepreneurship plays in the new economy. Students with professional media industry aspirations will learn basic economic literacy and discover the key factors that shape competition in information markets. Further, the minor fosters an entrepreneurial mindset in students and helps them to develop the entrepreneurial skills required to build successful careers and ventures in the media and information sector. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing).

Required Courses (8 Units)

- BAEP 450 Fundamentals of Entrepreneurship Units: 4 or
- BAEP 451 The Management of New Enterprises Units: 4

- COMM 209 Communication and Media Economics Units: 4

Elective Courses-Choose 16 Units From The Following

4 units must be in BAEP:

- BAEP 452 Feasibility Analysis Units: 4 *
- BAEP 454 Venture Initiation: Launching and Scaling Your Startup Units: 4 **
- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2

Note:

**Prerequisite: BAEP 450 or BAEP 451*

***Prerequisite: BAEP 452*

4-8 units must be in COMM:

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 427 Topics in Media Economics, Law and Policy Units: 4
- COMM 430 Global Entertainment Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 432 American Media and Entertainment Industries Units: 4
- COMM 433 Home Entertainment Units: 4
- COMM 454 Media, Money, and Society Units: 4

4-8 units must be in JOUR:

- JOUR 381 Entertainment, Business and Media in Today's Society Units: 4
- JOUR 469 Money, Markets and Media Units: 4
- PR 429 Business and Economic Foundations of Public Relations Units: 4 *
- PR 473 Emerging Media Strategies for Communication and Public Relations Units: 4
- PR 491 Transmedia, New Media and Strategic Public Relations Units: 4

Note:

**Prerequisite: PR 351a or JOUR 351a*

Total units: 24

Professional and Managerial Communication Minor

The ability to succeed in today's workplace necessitates a growing number of communication skills. As today's increasingly global and highly competitive marketplace grows in complexity, the need to understand intercultural differences, the power of structure in the workplace and other issues such as dealing with interpersonal conflicts continues to increase. This minor will provide students interested in the management of people, resources or products with these necessary tools. Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing).

Required Core Communication Courses

- COMM 320 Small Group and Team Communication Units: 4
- COMM 375 Business and Professional Communication Units: 4
- COMM 385 Organizational Communication Units: 4

Electives-Choose Three From The Following:

- COMM 302 Persuasion Units: 4
- COMM 304 Interpersonal Communication Units: 4
- COMM 308 Communication and Conflict Units: 4
- COMM 315 Health Communication Units: 4
- COMM 321 Communication and Social Media Units: 4
- COMM 322 Argumentation and Advocacy Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 345 Social and Economic Implications of Communication Technologies Units: 4
- COMM 388 Ethics in Human Communication Units: 4
- COMM 431 Global Strategy for the Communications Industry Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- COMM 487 Communication and Global Organizations Units: 4

Total units: 24

Sports Media Studies Minor

USC has a unique historical relationship to sports and sports media, and is near the center of the current sports media capital of Los Angeles. The courses examine the role of sports and sports media in culture, how the presentation of sports in media has evolved, has been shaped by cultural issues and, itself, impacted culture. This minor will enhance students' skills in working and interacting with, sports media.

Requirements for admission are a minimum 3.0 GPA and completion of a minimum of 32 units (sophomore standing). The 3.0 GPA is a minimum standard and does not guarantee admission.

Required Core Communication Courses

- COMM 381 Issues in Contemporary Sport Units: 4
- COMM 383m Sports, Communication and Culture Units: 4

Electives

Choose four classes from the following:

- COMM 300 Entertainment, Communication and Society Units: 4
- COMM 310 Media and Society Units: 4
- COMM 363 Media Consumption Units: 4
- COMM 387 Sports and Social Change Units: 4
- COMM 444 Critical Theories of Sport Units: 4
- JOUR 380 Sports, Business and Media in Today's Society Units: 4
- JOUR 432 Sports Commentary Units: 4
- MOR 479 The Business of Sports Units: 4
- OT 333 Sports Ethics Units: 4

Total units: 24

Master's Degree

Communication (MA)

Individuals seeking the Master of Arts in Communication are expected to acquire and demonstrate a general knowledge of human communication, including humanistic and social scientific approaches.

Students must apply to the PhD program in Communication and complete all application requirements. The faculty admission committee determines candidates appropriate for the MA

The program, arranged in consultation with the school's director of doctoral studies, provides two options: degree with comprehensive examination requires a total of 32 units (normally eight courses), including core courses COMM 525, COMM 526, COMM 550 and COMM 552 and four electives; or degree with thesis requires successful completion of core courses, three electives and 4 units of COMM 594a Master's Thesis, COMM 594b Master's Thesis.

Not more than two approved 400-level courses may be applied to a student's program and a maximum of 4 semester units with grades of B or better may be accepted by transfer from another institution of higher learning. The minimum acceptable GPA for successful completion of this program is 3.0.

The majority of students choose the comprehensive examination option. The examination consists of six hours of writing, taken on two different days. Permission to take an MA degree with thesis can be obtained only by application to the school screening committee.

Communication Management (MCG)

Each student builds a program of study with faculty academic advisors, drawing on earlier academic and work experience in order to achieve desired professional goals.

Residence

Students may pursue the Master of Communication Management on either a full- or part-time basis. Full time, the degree can be finished in one year and four months (across four terms, including the summer session); parttime, all course work can be finished in two to three years. With permission from a School of Communication committee, a maximum of 4 graduate units may be transferred from another accredited institution.

Foreign Language Requirement

There are no foreign language requirements for this degree.

Course Requirements

Thirty-two units in approved graduate-level course work are required.

Students will take a required 4-unit research methods course in their first semester. In their second semester, students will take a required 4-unit core conceptual foundation course. During their course of study, students take 4 units from a list of approved theory-practice integration courses.

A maximum of two courses may be taken in the first semester. In the second and subsequent semesters, with approval from the director of the Master of Communication Management program, students may take up to three courses.

Among the remaining courses, at least 12 units must be from Communication Management elective areas of focus. Up to 8 may be taken at USC outside the Communication Management program; these courses must be approved by the director of the Master of Communication Management program, and may be selected from a variety of disciplines, depending upon academic and career interests. Any given course may be taken at most three times, after which the student is no longer eligible to take the course.

Digital Social Media (MS)

The School of Communication in the Annenberg School for Communication and Journalism offers a Master of Science in Digital Social Media degree, which is an intensive program focused on leadership and management of digital and social media, and online communities. Students learn to be digital and social media executives, leaders and entrepreneurs through a sequence of classes that teach conceptualization, management of development and analytics, creation of content, and implementation of digital products. Students take 32 units over the course of one calendar year including a funded, final project in which teams receive a budget to develop and launch a working, dynamic, social media product. An internship is highly recommended as students are expected to gain relevant, professional experience while enrolled in the program. No engineering skills are required, but the program provides instruction in collaborating with, and managing, developers.

The program begins in spring semester, and includes courses during summer and fall. Students applying for this program are required to take the Graduate Record Examinations (GRE).

The completion of this degree program requires 32 units including the successful development and launch of a digital social media product. Core courses are taught in the School for Communication and Journalism. With approval of the program director, students may

select electives from the entire USC graduate curriculum.

Digital And Social Media Core Requirements (12 Units)

- DSM 510 Introduction to Digital Social Media Units: 4
- DSM 520 Managing Technologies for Digital Media Units: 4
- DSM 596 Final Project Capstone Units: 4

Research And Practicum Required Classes (8 Units)

- DSM 550 Analytics and Research Methodology Units: 4
- DSM 560 Digital Media Policy, Law, Practices, and Regulation Units: 4

Specialization Classes (4-8 Units)

Students choose one to three classes (4-8 units) that help them specialize their area of expertise within the realm of digital social media. Approval from the director is required for these classes. Student may choose from the director's list or request approval for other classes.

Electives-Communication Or Other Relevant Classes (4-8 Units)

Students may elect to take classes in related topics within the Annenberg School for Communication and Journalism, or from engineering, business, cinema, music, or other area related to digital and social media or related to the sector of implementation that interests the students. Students are strongly encouraged to acquire relevant experience through an internship and may earn degree credit by enrolling in CMGT 591 Communication Internship. With the permission of the program director, students may take up to 8 elective units within the Annenberg School, or from other USC programs.

Global Communication (MA)

The USC Annenberg School for Communication and Journalism collaborates with the London School of Economics and Political Science (LSE) to provide the course work necessary for students to become fully engaged with the phenomenon of global communication through this dual master's degree program. Upon satisfaction of all program requirements, students will be awarded a Master of Arts (MA) in Global Communication by USC as well as a Master of Science (MSc) in Global Media and Communications by the LSE.

Residence

This is a two-year program during which students spend their first year at the LSE and their second year at USC.

Foreign Language/Research Tool Requirements

There are no foreign language requirements. Students take a one-term research methods course as part of their course work at the LSE.

Course Requirements

The Master of Arts in Global Communication requires 42 units; the equivalent of 18 units earned at the LSE and 24 units earned at USC.

Year One at LSE: The LSE academic year has three terms. Students will complete classes approved by faculty at the LSE. Students must earn at least 3 units at the LSE, which articulates as 18 units at USC.

Year Two at USC: Students must complete COMM 598 as well as 20 elective units (5 courses) from the School of Communication graduate curriculum, excluding COMM 525, COMM 526, COMM 550 and COMM 552. All students are required to complete an internship/practicum during their year at Annenberg.

Students may choose one of their elective courses from a department outside Annenberg with the approval of their advisers.

Students will produce a final research project on global communication that will be the product of work done both at the LSE and Annenberg. Students complete a research project during the summer after their year at the LSE for which grades are awarded by LSE faculty. A passing grade is required. They will continue to develop this project during the year at Annenberg in COMM 598 and must earn a grade of B minus or higher.

Public Diplomacy (MPD)

The Master of Public Diplomacy combines the resources of the Annenberg School for Communication and Journalism and the USC Dornsife College of Letters, Arts and Sciences' School of International Relations. This program is designed for students who already have a substantial undergraduate background in social sciences or relevant professional experience in subjects such as communications, film and media studies, journalism, political science, public relations and international relations. Students in the program may decide to emphasize public diplomacy training most appropriate for a career in public service, the corporate world or in a nongovernmental organization (NGO) working in the ever-expanding global civil society. USC is a member of the Association of Professional Schools of International Affairs (APSIA).

Requirements for the completion of this degree program are 49 units, including the required substantive paper or alternative project. The course requirements are as follows:

Public Diplomacy Requirements (12 Units)

- PUBD 502 Historical and Comparative Approaches to Public Diplomacy Units: 4
- PUBD 504 Global Issues and Public Diplomacy Units: 4
- PUBD 596 Practicum in Public Diplomacy Research Units: 4

Public Diplomacy Toolbox Courses (12 Units)

- Any three approved PUBD courses

Internship (1 Unit)

- IR 591 Field Study Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Communication And International Relations Electives (16 Units)

- Any two approved IR courses Units: 8
- Any two approved COMM or CMGT courses Units: 8

Other Electives (COGNATE, COMM, CMGT, IR) (8 Units)

These units may be taken from the School of Communication, School of International Relations or any graduate program at USC. Courses must be approved by the Public Diplomacy program director.

Public Diplomacy (Practitioner and Mid-Career Professional) (MPD)

This program is designed for students who already have at least five years experience working in public diplomacy (engaged in international advocacy, international publicity/public relations, international broadcasting, cultural and/or exchange work or other work which the admissions committee deems to fall within their definition of public diplomacy). The program is taught over a single calendar year beginning with a summer course introducing the advanced study of public diplomacy and ending in the middle of the following summer with the submission of a piece of research work. Refer to the application guidelines on the Annenberg Prospective Student Web pages.

Requirements for the completion of this degree program are 32 units including a substantive paper or alternative project. Core courses are taught in the School of Communication and the School of International Relations, USC Dornsife College of Letters, Arts and Sciences. With approval of the program director, students may select electives from the entire USC graduate curriculum.

Public Diplomacy Core Requirements (8 Units)

- PUBD 500 Introduction to the Advanced Study of Public Diplomacy Units: 4
- PUBD 596 Practicum in Public Diplomacy Research Units: 4

Public Diplomacy Toolbox Courses (8 Units)

- Select two approved PUBD courses

Electives (8 Units From Communication Or International Relations)

- Approved IR courses
- Approved COMM or CMGT courses

Other Electives (COGNATE, COMM, CMGT, IR) (8 Units)

These units may be taken from the School of Communication, School of International Relations or any graduate program at USC.

University Certificate

Health Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in health communication. Students will study the most recent theoretical and practical developments in the area of health communication and how this information can be used to improve public health as well as individual behavior.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses. One course must be from a preventive medicine, public health, pharmacology or other health science program that focuses on "what is communicated" in health communication.

A partial list of courses includes:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 511 Health Communication Units: 4
- CMGT 520 Social Roles of Communication Media Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 578 Non-profit Advocacy Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4

International and Intercultural Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in international and intercultural communication management. Students will study the latest developments in information and communication technologies, markets and cultures, and industry practices within cross-nation, cross-cultural contexts.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 531 Communication and the International Economy Units: 4
- CMGT 545 Communication and Global Competition Units: 4
- CMGT 556 Global Marketing Communication Units: 4
- CMGT 558 The International Entertainment Marketplace Units: 4
- CMGT 559 Global Hollywood Units: 4
- CMGT 580 Chinese Media and Society Units: 4
- CMGT 582 International Communication: National Development Units: 4
- CMGT 584 Communication and the Multicultural Marketplace Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4

Marketing Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in marketing communication. Students will study the latest developments in marketing communication research and theory and the application to marketing communication issues.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 541 Integrated Communication Strategies Units: 4
- CMGT 544 Creating Organizational Identity: Meaning Through Messages Units: 4
- CMGT 554 Copywriting and Creativity Units: 4
- CMGT 555 Online Marketing Communication Development and Analysis Units: 4
- CMGT 556 Global Marketing Communication Units: 4
- CMGT 578 Non-profit Advocacy Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 584 Communication and the Multicultural Marketplace Units: 4
- CMGT 587 Audience Analysis Units: 4

Media and Entertainment Management Graduate Certificate

This certificate program is for students who have already earned master's degrees and who wish to pursue or expand careers in the entertainment industry. Students will study the latest areas of entertainment-related research, theory and application. They will have a strong grounding in the theory, roles, issues and effects of entertainment as well as the impact of entertainment and new entertainment technologies on society, behavior and the entertainment industry.

Students take 16 units of graduate course work that may not be used or have been used for any other degree or certificate program, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- CMGT 542 Business Strategies of Communication and Entertainment Firms Units: 4
- CMGT 543 Managing Communication in the Entertainment Industry Units: 4
- CMGT 546 Sports Media and Society Units: 4
- CMGT 547 Distribution of Recordings: Media, Retail and Online Channels Units: 4
- CMGT 549 Case Studies in Digital Entertainment Units: 4
- CMGT 550 Hollywood 3.0 — Entertainment Industry in the Convergence Age Units: 4
- CMGT 551 Communicating Entertainment Media Identities Units: 4
- CMGT 558 The International Entertainment Marketplace Units: 4
- CMGT 559 Global Hollywood Units: 4
- CMGT 574 Tele-Media: Strategic and Critical Analysis Units: 4
- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 586 Entertainment Media: Content, Theory, and Industry Practices Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 579 Entrepreneurship in the New Media Units: 4

New Communication Technologies Graduate Certificate

This certificate program is for students holding master's

degrees who wish to pursue or expand careers in communication technologies. Students will study the latest developments in new communication and media technologies and their application in a variety of organizational and social contexts.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 515 Innovation and the Information Economy Units: 4
- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 533 Emerging Communication Technologies Units: 4
- CMGT 547 Distribution of Recordings: Media, Retail and Online Channels Units: 4
- CMGT 571 Communications Technologies Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 579 Entrepreneurship in the New Media Units: 4

Strategic Corporate and Organizational Communication Management Graduate Certificate

This certificate program is for students holding master's degrees who wish to pursue or expand careers in corporate communication and communication consulting. Students will study the latest developments in organizational communication research and theory and the application to business communication issues.

Students take 16 units of graduate course work beyond the master's degree, of which 4 units may be cognate courses.

A partial list of courses includes:

- CMGT 500 Managing Communication Units: 4
- CMGT 502 Strategic Corporate Communication Units: 4
- CMGT 503 Strategic Communication Consulting Units: 4
- CMGT 504 Writing for Strategic Communication Units: 4
- CMGT 505 Communication in Work Settings Units: 4
- CMGT 508 Communicating Strategy and Change Units: 4
- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 536 Team Communication and Leadership Units: 4
- CMGT 573 Evaluating Communication Needs Units: 4
- CMGT 576 Communication Strategies for Conflict Management Units: 4
- CMGT 577 Communicating Corporate Social Responsibility Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4

Dual Degree

Master of Communication Management/ Juris Doctor (MCG/JD)

Academic training in law and in communication management provides a powerful background for careers in business, entertainment or government life. The USC Gould School of Law and the USC Annenberg School of Communication collaborate in a program that enables these educational opportunities. Students complete both the JD and the Master of Communication Management in three years, the time normally required for the law degree alone.

Students must complete 20 units (five courses) of communication courses at the School of Communication: one required research methods course; one required core conceptual foundation course; one approved theory-practice integration course; and two courses from approved CMGT elective areas of focus.

To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean of the USC Gould School of Law may make exceptions to this rule for students enrolled in law school honors programs.

First Year: Required law school courses.

Second and Third Years: 20 units of communication courses, including the 4-unit required research methods course in the first semester of the second year, and the 4-unit required core conceptual foundation course in the second semester of the second year, and an approved 4-unit theory-practice integration course; 38 units of law courses, of which 8 units must be approved as appropriate for acceptance by the School of Communication toward its degree. Application to pursue the dual degree should be made before completion of 15 units of work in law or 8 units toward the Master of Communication Management degree. Admission by the law school to its JD degree will be evaluated as a substitute for GRE scores.

Master of Communication Management/ Master of Arts, Jewish Nonprofit Management (MCG/MA)

The dual degree program, Communication Management/Jewish Nonprofit Management, offers students the opportunity for advanced study of sophisticated communication processes and technologies in the context of the nonprofit arena. The program has been developed by the USC Annenberg School for Communication and Journalism and Hebrew Union College-Jewish Institute of Religion's School of Jewish Nonprofit Management (formerly the HUC-JIR School of Jewish Communal Service) to combine the study of communication theory, processes and technologies with postgraduate education in Jewish nonprofit management and leadership. The goal of this program is for graduates to perform more effectively in the nonprofit sector, having received specific training in areas such as organizational communication, media impacts and policy.

Students of this program are admitted separately to each school. Students are required to complete 52 units of graduate course work at Hebrew Union College, which include the School of Jewish Nonprofit Management's thesis requirements. Four of the 52 required credits of graduate course work at Hebrew Union College are used to fulfill the School of Communication's cognate option.

In addition, students are required to take 24 units (six courses) at the School of Communication, including one required research methods course in the first semester; one required core conceptual foundation course in the second semester; one approved theory-practice integration course; and three courses from approved CMGT elective areas of focus.

Those interested in this program should contact the Office of Admissions, Hebrew Union College-Jewish Institute of Religion, 3077 University Avenue, Los Angeles, CA 90007-3796 for comprehensive information about the application process.

Doctoral Degree

Communication (PhD)

Students in the doctoral program learn theories that guide research into communication processes and effects and into institutions and technologies that lend pattern to communication. Applicants for the PhD are expected to acquire and demonstrate humanistic and behavioral knowledge of communication while acquiring skills requisite to scholarly research in the discipline.

Screening Procedures

Student progress is carefully monitored by the School of Communication faculty. Students are normally screened at the end of their first year of graduate study. At that time they must have completed no fewer than 16 and no more than 24 units, including COMM 525, COMM 526, COMM 550 and COMM 552. Students are evaluated on subject matter competence, teaching potential and their ability to conduct independent research. Upon successful passage of the screening procedure, the student has 30 days in which to form a qualifying exam committee.

Course Requirements

The student is required to take a minimum of 76 units and write an approved dissertation.

Four core courses

- COMM 525x Humanistic and Social Scientific Approaches to Human Communication I Units: 4

- COMM 526x Humanistic and Social Scientific Approaches to Human Communication II Units: 4
- COMM 550 Quantitative Research Methods in Communication Units: 4
- COMM 552 Qualitative Research Methods in Communication Units: 4

And Doctoral Dissertation

- COMM 794a Doctoral Dissertation Units: 2 are required for all students
- COMM 794b Doctoral Dissertation Units: 2 are required for all students

Students specialize in one of seven tracks by completing a minimum of three courses (12 units) in one of the following:

(1) Rhetoric, Politics and Publics:

- COMM 509x Classical Rhetorical Theory Units: 4
- COMM 511x Contemporary Rhetorical Theory Units: 4
- COMM 512x Rhetorical Criticism Units: 4
- COMM 513x Neoclassical Rhetorical Theory Units: 4
- COMM 514x Social Movements as Rhetorical Form Units: 4
- COMM 515x Postmodern Rhetorical Theory Units: 4
- COMM 517x Rhetorical Theory and Culture Units: 4
- COMM 518x American Public Address Units: 4
- COMM 520 The Rhetoric of the Presidential Campaign Trail Units: 4
- COMM 521x Argumentation Units: 4
- COMM 522x Kenneth Burke's Dramatistic Theory Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 576 Civic Media and Participatory Politics Units: 4
- COMM 580 Media and Politics Units: 4

(2) Media, Culture and Community:

- CMGT 587 Audience Analysis Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 517x Rhetorical Theory and Culture Units: 4
- COMM 519x Cultural Studies in Communication Units: 4
- COMM 564 Communication, Culture and Capitalism Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 575 Advocacy and Social Change in Entertainment and the Media Units: 4
- COMM 580 Media and Politics Units: 4
- COMM 605 Advanced Macro Theories of Communication Units: 4
- COMM 618 Mass Media Effects Units: 4
- COMM 629 Global Culture Units: 4
- COMM 653 Research, Practice and Social Change Units: 4
- COMM 654 Art, Artists and Society Units: 4
- COMM 655 Studies in Sound, Music and Communication Units: 4
- COMM 656 Theorizing Race, Culture, Cross-Cultural Exchange Units: 4
- COMM 662 Video Games Research Units: 4
- COMM 672 Experiments in Critical Writing Units: 4

(3) Health Communication and Social Dynamics:

- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 587 Audience Analysis Units: 4
- CMGT 588 Global Storytelling: The Power of Narrative Units: 4
- COMM 554 Regression and Multivariate Communication Research Units: 4
- COMM 602 Seminar in Persuasion Units: 4
- COMM 611 Communication Technology and Healthcare Units: 4
- COMM 612 Designing Health Communication Interventions Units: 4
- COMM 613 Grant Writing in Communication Units: 4
- COMM 614 Computational Approaches in Health Communication Units: 4
- COMM 615 Health Communication Units: 4
- COMM 616 Health Communication for Prevention Units: 4
- COMM 650 Survey Construction and Validation Units: 4
- COMM 651 Experimental and Quasi-Experimental Designs Units: 4

(4) Groups, Organizations and Networks:

- COMM 508x Power, Politics and Conflict in Communication Units: 4
- COMM 524x Small Group Process Units: 4
- COMM 585x Organizational Communication Units: 4
- COMM 635 Economics of Information Units: 4
- COMM 636 Interpretive and Cultural Approaches in Organizational Communication Units: 4
- COMM 637 Current Readings in Organizational Communication Units: 4
- COMM 638 Global, International and Intercultural Communication in Organizations Units: 4
- COMM 640 Communication and Organizational Change Units: 4
- COMM 641 Organizations and Communication Technologies Units: 4
- COMM 645 Communication Networks Units: 4
- COMM 648 Online Communities and Networks Units: 4
- COMM 652 Field Research in Communication Units: 4

(5) Political Economy of Global Communication:

- COMM 546 The Political Economy of Innovation Units: 4
- COMM 553 Political Economy of Global Telecommunications and Information Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 560 Global Media and Communication in China and Asia Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4
- COMM 567 The Political Economy of Privacy and Cybersecurity Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 582 Information and Communication Technology for Development Units: 4
- COMM 629 Global Culture Units: 4
- COMM 630 Communication Technology and Social Change Units: 4
- COMM 635 Economics of Information Units: 4
- COMM 645 Communication Networks Units: 4
- COMM 647x Network Society Units: 4
- PUBD 504 Global Issues and Public Diplomacy Units: 4
- PUBD 510 Technologies and Public Diplomacy Units: 4
- PUBD 515 Transnational Diplomacy and Global Security Units: 4
- PUBD 516 International Broadcasting Units: 4
- PUBD 522 Hard Power, Soft Power and Smart Power Units: 4

(6) Information, Political Economy and Entertainment:

- CMGT 582 International Communication: National Development Units: 4
- COMM 516x Feminist Theory and Communication Units: 4
- COMM 559 Globalization, Communication and Society Units: 4
- COMM 560 Global Media and Communication in China and Asia Units: 4
- COMM 563 Black Popular Culture: Theory and Central Debates Units: 4
- COMM 564 Communication, Culture and Capitalism Units: 4
- COMM 566 Using Theory to Craft Policies to Affect Change Units: 4
- COMM 570 Economics of the Communication Industries Units: 4

- COMM 630 Communication Technology and Social Change Units: 4
- COMM 647x Network Society Units: 4
- COMM 654 Art, Artists and Society Units: 4
- COMM 660 Entertainment and Games Units: 4
- COMM 662 Video Games Research Units: 4
- COMM 670 Economic Cultures Units: 4

(7) New Media and Technology:

- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 531 Communication and the International Economy Units: 4
- CMGT 537 The Industry, Science and Culture of Video Games Units: 4
- COMM 524x Small Group Process Units: 4
- COMM 570 Economics of the Communication Industries Units: 4
- COMM 572 Theories of Computer-Mediated Communication Units: 4
- COMM 573 Networked Publics: Theories and Encounters Units: 4
- COMM 576 Civic Media and Participatory Politics Units: 4
- COMM 577 Fandom, Participatory Culture and Web 2.0 Units: 4
- COMM 578 New Media Literacies Units: 4
- COMM 611 Communication Technology and Healthcare Units: 4
- COMM 641 Organizations and Communication Technologies Units: 4
- COMM 647x Network Society Units: 4

Additional Requirements

In addition, students must take at least two courses in one other track outside their specialization (8 units total). Students also pursue an approved cognate elective program of study in which at least two courses (normally 8 units) are taken in a related field outside USC Annenberg School. Students entering the School of Communication with a master's degree may, with permission, apply part of their previous graduate course work to the cognate requirement. Students in the organizational communication track are required to take at least two methods classes in addition to the core courses, COMM 550 and COMM 552. If taken in a department or unit other than the School of Communication, these courses cannot also be counted toward the student's cognate requirement.

Research Tool Requirement

Doctoral students are expected to demonstrate methodological competence in an area of specialization prior to taking the qualifying examination. Such competence is usually demonstrated through course work (the successful completion, with grade B or better, of selected course work in addition to their content courses that is approved by the PhD qualifying exam committee taken in the school and/or related departments), and by completion of a preliminary research project. Under special circumstances, students with an exceptional prior background in research methods may demonstrate their competence by successfully passing a research tool examination designed and administered by the PhD qualifying exam committee.

Qualifying Exam Committee

This committee is composed of five USC faculty members, at least three of whom are from the School of Communication. Students are expected to work closely with the members of their qualifying exam committee, especially their committee chair, in selecting advanced course work and shaping areas of interest and research. In addition to helping the student plan a program, the committee administers the oral portion of the qualifying examination and approves the dissertation committee.

Qualifying Examination

Qualifying examinations for the PhD usually are taken in the third year of study following completion of all required courses and a preliminary research paper. The examination includes both written and oral portions. The written portion is composed by committees of faculty in the relevant areas of study; the oral portion is administered by the student's qualifying exam committee. Students must pass both portions to be advanced to candidacy. Students must confer with their qualifying exam committee chair, not later than the second week of the semester during which the examinations are to be taken, regarding distribution of written examination hours among subject matter areas.

Doctoral Dissertation

The dissertation is an original research project contributing to knowledge about human communication and should demonstrate a high level of competence in methodologies of scholarly inquiry.

Defense of Dissertation

Dissertations are defended in a formal meeting with the three-member dissertation committee. The school prefers that the defense oral be taken prior to final typing so that recommended changes can be made in the final manuscript.

School of Journalism

USC Annenberg School for Communication and Journalism
3502 Watt Way, Suite 303
(213) 740-0900 (academic and student services inquiries)
(213) 740-3914 (administrative)
(213) 821-0770 (admission inquiries)
FAX: (213) 740-8624
annenberg.usc.edu

Administration

Interim Director: Gordon Stables, PhD

Faculty

Wallis Annenberg Chair in Communication and Journalism: León Krauze, MA
Walter H. Annenberg Chair in Communication: Willow Bay, MBA
University Professor and Annenberg Family Chair in Communication Leadership: Geoffrey Cowan, LLB
Jayne and Hans Hufschmid Chair in Strategic Public Relations and Business Communication: Robert Kozinets, PhD
Knight Chair in Media and Religion: Diane Winston, PhD
Provost Professor of Communication, Journalism and Cinematic Arts: Henry Jenkins, PhD
Professors: K.C. Cole, BA; Geoffrey Cowan, LLB*; Henry Jenkins, PhD; Robert Kozinets, PhD; Joshua Kun, PhD *(Communication)*; Tim Page, BA; Michael Parks, BA; Joe Saltzman, MS*; Philip Seib, JD; Roberto Suro, MS; Sandy Tolan, BFA
Associate Professors: Mike Ananny, PhD *(Communication)*; Ben Carrington, PhD; William Celis, MS*; Jonathan Kotler, JD*; Jian Wang, PhD; Diane Winston, PhD
Assistant Professors: Allissa Richardson, PhD; Aimei Yang, PhD
Professors of Professional Practice: Willow Bay, MBA; Daniel Birman, MA; Laura Castañeda, EdD; Fred Cook, BA; Jennifer Floto, MA*; Vince Gonzales, MA; Gabriel Kahn, BA; Stacy Scholder, BA; Willa Seidenberg, BA; Burghardt Tenderich, PhD
Clinical Professor (Communication): Mark Lloyd, JD
Associate Professors of Professional Practice: Alan Abrahamson, JD; Amara Aguilar, MA; Sasha Anawalt, BA; Peggy Bustamante, MA; Jeff Fellenzer, MA; Rebecca Haggerty, EdD; Robert Hernandez, BA; Matthew Le Veque, BA; Alan Mittelstaedt, BA; Mary Murphy, BA; Lisa Pecot-Hébert, PhD
Assistant Professors of Professional Practice: Laura Davis, BA; Miki Turner, BA
Senior Lecturer: Richard Reeves, ME
Lecturers: Dana Chinn, MBA; Jennifer de la Fuente, BA
Emeritus Professors: Ed Cray, BA; Murray Fromson; Felix

Gutierrez, PhD; Judy Muller, BA; Bryce Nelson, MPhil
Emeritus Professor of Professional Practice: Gerald Swerling, MS
Emeritus Associate Professors: William Robert Faith, PhD; Larry Pryor, MS
**Recipient of university-wide or college teaching award.*

Degree Programs

The School of Journalism offers Bachelor of Arts degrees in Journalism and Public Relations. It also offers minors in Advertising, News Media and Society, Public Relations and Sports Media Industries. The school stresses a broad-based liberal arts education to enhance writing and reporting and encourages undergraduate students to pursue double majors or minors in disciplines outside the school.

At the graduate level, a Master of Science degree is offered in Journalism and Master of Arts degrees are offered in Specialized Journalism, Specialized Journalism (The Arts) and Strategic Public Relations. The MS in Journalism degree is an intense, deadline-driven program in which students learn to write, report, produce, code, publish and promote cross-platform stories in a converged news environment. Cutting-edge digital courses cater to students interested in careers in social media, data journalism, data visualization, app creation, online design and publishing, emerging mobile platforms and coding. The Specialized Journalism degree is designed for experienced professionals and recent journalism graduates interested in developing specialized reporting expertise. The Specialized Journalism (The Arts) degree is designed for experienced professionals, art practitioners, and recent journalism graduates interested in arts and culture criticism and reporting. The Strategic Public Relations degree emphasizes the requisite skills of that discipline, with an emphasis on strategic problem solving, public relations theory and techniques, writing, research-based planning and analysis, content development, case studies and the application of the discipline to specific industry categories.

Student Services

Students must meet with an advisor at least once each semester to receive academic advisement covering university degree requirements and major course selection. The school also offers several international study programs to students. The USC Annenberg Career Development Office has listings for paid and unpaid internships from around the country. Career advisers conduct mandatory advisement appointments for all sophomores and offer career workshops, guest speakers and mentoring opportunities. Students are advised to participate in at least two internships before graduation.

Honor Society

Lambda Pi Eta is a national communication/journalism honor society that is open to students in graduate and undergraduate Annenberg programs. To be eligible, students must have a USC cumulative GPA and an Annenberg major GPA of 3.5 or higher. In addition, undergraduate students must have a declared communication, journalism or public relations major, and have completed (or currently be registered for) at least 60 units, at least 12 of which are in the major. Graduate students must have completed at least 12 units in the fields of communication, journalism or public relations.

Undergraduate Degrees

The School of Journalism offers Bachelor of Arts degrees in Journalism and Public Relations. The school also offers minors in Advertising, News Media and Society, Public Relations and Sports Media Industries. Journalism students are encouraged to pursue double majors or minors in other areas of study.

To meet accrediting guidelines, a minimum of 72 units must be completed outside the major area of journalism. A maximum of 16 units of course work taken prior to high school graduation and a combined 32 units of AP, IB and pre-high school graduation course work will count toward this requirement. Journalism and public relations majors can take up to a maximum of 48 journalism units; however, the major unit total (44 units) cannot be exceeded, unless the student has fulfilled the accreditation requirement.

A grade point average of at least C (2.0) on all baccalaureate units attempted at USC, as well as on the combined USC-transfer GPA, is required for undergraduate degrees. A minimum cumulative grade point average of 2.0 in all upper-division courses applied toward the major is also required. Students must complete each journalism and public relations class with at least a grade of C- in order to count the course toward a major requirement. Journalism and public relations courses with a grade of D+ or below must be repeated; courses may only be retaken once.

Students interested in taking JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology must contact the instructor for permission to enroll. The instructor will need to assess the technical skill sets of the students to ensure that everyone who enrolls meets the class requirements.

Undergraduate students who are interested in enrolling in JOUR 585 Specialized Reporting: Religion must be a senior, have at least a 3.7 cumulative GPA, and must contact the instructor for permission to enroll.

Non-majors who are interested in enrolling in PR 209 Effective Writing for Strategic Public Relations and/or PR 250 Strategic Public Relations: An Introduction must have at least a 2.5 GPA.

Admission Requirements

Admission is competitive. Fall 2016 incoming freshmen had an average GPA of 3.61 with an SAT score of 1920–2180 (middle 50%). Transfer students had an average college GPA of 3.66. For admission information and deadlines, refer to the USC Admission Website. All transfer applicants must review the transfer admission application guidelines on the Annenberg Admissions Website; contact the Annenberg Admissions Office for more information. USC exclusively uses the Common Application for freshman and transfer admission. Applicants must submit the Common Application and the USC Supplement, both of which can be accessed at commonapp.org. In addition to the university writing samples, a 250-word statement of intent is required; instructions are included with the USC Supplement.

Students currently enrolled at USC who wish to apply to the School of Journalism must complete the online application with all supporting documents. Students must have 16 units completed at USC with a minimum USC cumulative GPA of 3.0 in order to be eligible to apply to the journalism or public relations major. The 3.0 GPA is a minimum standard and does not guarantee admission. In order to be eligible to apply for the Advertising or New Media and Society minors, students must have a minimum USC cumulative GPA of 2.0 and a declared major. To apply to the Public Relations or Sports Media Industries minors, students must have a minimum USC cumulative GPA of 2.5 and a declared major. For further information on the application process, current USC students are encouraged to attend an information session conducted by Annenberg Advisement and Academic Services.

General Education Requirements

The university's general education program provides coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see the General Education Program.

Grammar, Spelling and Punctuation (GSP) Requirement

All undergraduate journalism and public relations majors are required to complete the Grammar, Spelling and Punctuation (GSP) online learning module and exam. The GSP exam is administered in JOUR 208 for the journalism majors and PR 209 for public relations majors. This exam must be taken and passed by the end of

the semester. Students who do not pass the exam will be allowed to retake it. Students who fail to pass the GSP will not be allowed to progress in the program until they pass the exam.

Note: Students with disabilities may register with the Disability Services and Programs Office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Annenberg International Programs

Spring Semester in London, England (Journalism and Public Relations)

Undergraduate journalism and public relations students may spend the spring semester of their junior year at a dedicated study center, where they enroll in 16 units of upper-division Annenberg course work, eight of which are for major credit. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to British media, culture and civilization. The program also includes group excursions to such places as Bath, Oxford, Liverpool and Hampton Court. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Auckland, New Zealand (Journalism and Public Relations)

This undergraduate semester program offers students the opportunity to study at the Auckland University of Technology in New Zealand, a leading southern hemisphere school of journalism and media studies. Fully integrated into the university and its vibrant urban surroundings with strong connections to the nation's indigenous heritage, the program allows students to earn 8 units that fulfill journalism/public relations electives and 8 units of general electives. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Rio de Janeiro, Brazil (Journalism and Public Relations)

This semester program offers students the opportunity to learn about Brazilian culture through an intensive pre-semester Portuguese-language course* and through civic engagement projects that benefit the local communities in Rio de Janeiro. (*This course does not count for a USC language requirement.) Through the Council on International Educational Exchange (CIEE), USC Annenberg students enroll in 18-20 USC units in courses offered by CIEE and at the Escola Superior de Propaganda e Marketing, Brazil's top communication and journalism school. The program is open to journalism and public relations majors. Visit the Annenberg International Programs website for more information on language and other prerequisites. A minimum USC cumulative GPA of 3.0 is required for this program.

Spring Semester in Rome, Italy (Journalism and Public Relations)

Undergraduate journalism and public relations students may spend a spring semester at a dedicated study center, where they enroll in 16 units of upper-division Annenberg course work, eight of which are for major credit. In addition to their studies, students tour publishing and broadcasting companies, meet communication executives and government policy-makers and gain exposure to Italian media, culture and civilization. The program also includes guided visits to museums and historical districts, as well as an overnight group excursion to Tuscany. A minimum USC cumulative GPA of 3.0 is required for this program.

International Communication Studies — London, Paris, Madrid, Berlin and Prague

The International Communication Studies Program (ICS) allows undergraduate students to study a range of approaches to public communication media across Europe during the summer semester. Students divide the five-week course into stays in Los Angeles, London, Paris, Madrid, Berlin and Prague. In addition to regular class meetings, students discuss the interplay of current world issues and international media practices with communication practitioners from international news and public relations media, government institutions, private industry and global organizations. Students enroll in JOUR 482 Comparative Media in Europe (4 units). A minimum USC cumulative GPA of 3.0 is required for this program. For further information, contact Annenberg International Programs at (213) 821-1276, email ascintl@usc.edu or visit annenberg.usc.edu/international.

Departmental Honors

Undergraduate students who are nominated by journalism faculty to participate in JOUR 498 – Honors Seminar (2 units) or PR 498 – Public Relations Honor Seminar (2 units) their senior year are eligible for departmental honors. Nominations are based on academic achievement, performance in the classroom, leadership and involvement in the school. Students who successfully complete JOUR 498 or PR 498 with a B+ or higher and achieve no less than a USC cumulative GPA of 3.0 and a journalism or public relations major GPA of 3.5 at the time of graduation will receive departmental honors.

Academic Integrity Policy

Since its founding, the USC School of Journalism has maintained a commitment to the highest standards of ethical conduct and academic excellence. Any student found plagiarizing, fabricating, cheating on examinations, and/or purchasing papers or other assignments faces sanctions ranging from an "F" on the assignment to dismissal from the School of Journalism.

Progressive Degree Program

The School of Journalism offers progressive degree options for the Master of Science in Journalism, Master of Arts in Specialized Journalism, and Master of Arts in Specialized Journalism (The Arts). The progressive degree program allows USC students to complete a bachelor's degree and master's degree in as little as five years.

Students with a USC cumulative GPA of 3.0 or higher in all classes taken at the university level are eligible to apply for admission to the degree program during their junior year. The 3.0 GPA is a minimum standard and does not guarantee acceptance. Current students must attend an information session conducted by Annenberg Admissions and a member of the faculty before initiating the application process. Students admitted into the progressive degree program begin taking master's level courses in their senior year and may complete the master's degree in year five.

For further information on the application process, current USC students must attend a mandatory information session. Contact Annenberg Admissions for session dates. Application materials must be downloaded from undergrad.usc.edu/programs/progressive/.

Graduate Degrees

The School of Journalism offers one Master of Science degree program in Journalism, three Master of Arts degree programs in Specialized Journalism, Specialized Journalism (The Arts) and Strategic Public Relations, and two certificates in Journalism and Public Policy Advocacy.

The nine-month, 36-unit MS in Journalism is an intense, deadline-driven program in which students learn to write, report, produce, code, publish and promote cross-platform stories in a converged news environment. Students also choose a specialty area that prepares them for careers in broadcast television and radio news, long-form audio and video documentaries, in-depth reporting and writing or multimedia news production. Cutting-edge digital courses cater to students interested in careers in social media, data journalism, data visualization, app creation, online design and publishing, emerging mobile platforms and coding.

The nine-month, 34-unit MA in Specialized Journalism is a program geared toward experienced journalists seeking subject-matter expertise and toward experienced professionals in other fields seeking journalism skills to advance their expertise. The program is also open to recent journalism school graduates with records of excellence and a demonstrated aptitude and commitment to developing an expertise in a specialized field of reporting.

The nine-month, 34-unit MA in Specialized Journalism (The Arts) is geared toward experienced arts journalists, as well as recent graduates with a demonstrated commitment to specializing in arts journalism. The program is also open to experienced artists

and practitioners with a highly developed background in at least one art form who want to acquire journalism skills toward a future specializing in the coverage of arts and culture.

The 16-18-month professionally oriented MA in Strategic Public Relations degree is designed to train both recent graduates interested in public relations and related fields, and young professionals considering transitions into that field or seeking to advance their careers, for eventual management-level positions in all types of organizations. In their first two semesters, all students take a core group of courses focusing on strategic problem-solving, research-based actionable insight, business acumen and skills. In their third and fourth semester students choose from a wide variety of electives and have the opportunity to specialize in one of six specific tracks. Admission to the Journalism certificate is by permission only. Only current graduate students may apply to the Public Policy Advocacy certificate.

Admission Requirements

Prerequisites

An applicant must have the equivalent of a four-year bachelor's degree from an accredited college or university for the MS or MA degree. Applicants with three-year bachelor's will be considered for admission to the graduate journalism certificate.

Criteria

Minimum recommended criteria are a 3.0 GPA for undergraduate work and valid Graduate Record Examinations (GRE) General Test scores; the GMAT is not accepted in lieu of the GRE. International applicants are required to take the Test of English as a Foreign Language (TOEFL) and should receive a score of 114 on the Internet-based exam; the International English Language Testing System (IELTS) is accepted in lieu of the TOEFL and the minimum recommended score is 8.0. All completed applications are reviewed by the faculty admission committee even if the applicant's academic quality is below the minimum recommendations. Applicants are strongly encouraged to complete admission testing at least one month prior to the application deadline. GRE scores are valid for five years; TOEFL and IELTS are valid for two years.

In addition, applicants are judged on a personal statement of purpose, résumé, writing sample and letters of recommendation submitted on their behalf. Professional journalism or internship experience is expected for the MS in Journalism and required for the nine-month MA degree program in Specialized Journalism. A professional work bibliography and samples must be uploaded to the online application. No professional public relations work experience is required for the MA in Strategic Public Relations.

Procedure

Applicants must complete and submit the online USC Graduate Admission Application. Refer to the Annenberg graduate application guidelines on the Annenberg Admissions website for details before initiating the application. In addition, international students must submit official TOEFL or IELTS scores for admission consideration and, after submitting the online graduate admission application, a Confidential Statement for Financing Studies at USC.

Applicants must upload the following supporting materials to the online USC Graduate Admission Application: personal statement of purpose, copy of official transcripts from each college/university attended, writing sample and résumé. Letters of recommendation must be submitted online. Official GRE and TOEFL or IELTS scores must be reported electronically from the Educational Testing Service (ETS) to USC (institution code 4852). The IELTS testing center must report scores to USC Graduate Admission. Paper copies of score reports are not required or accepted in lieu of the official ETS report. Official transcripts must be mailed to USC Graduate Admission.

New students are admitted to the MS in Journalism, the MA in Specialized Journalism, the MA in Specialized Journalism (The Arts) and the Journalism Certificate for the summer session only. Refer to the graduate application guidelines on the Annenberg Admissions Website for application filing dates.

New students are admitted to the MA in Strategic Public Relations degree program for the fall semester only. Refer to the Annenberg Website for application filing dates.

Degree Requirements

All course work applied toward a degree must be approved by the School of Journalism and the Graduate School.

Academic Integrity Policy

Since its founding, the USC School of Journalism has maintained a commitment to the highest standards of ethical conduct and academic excellence. Any student found plagiarizing, fabricating, cheating on examinations and/or purchasing papers or other assignments faces sanctions ranging from an "F" on the assignment to dismissal from the School of Journalism.

Bachelor's Degree

Journalism (BA)

Required Courses, Lower Division

- ASCJ 200 Navigating Media and News in the Digital Age Units: 4
- JOUR 201 Culture of Journalism: Past, Present and Future Units: 4
- JOUR 207 Reporting and Writing I Units: 4
- JOUR 208 Media Law and Ethics Units: 2

Required Courses, Upper Division

- JOUR 307 Reporting and Writing II Units: 4
- JOUR 320 Introduction to Coding for Storytelling Units: 2
- JOUR 321 Visual Journalism Units: 2
- JOUR 322 Data Journalism Units: 2
- JOUR 323 Creating your Digital Footprint and Brand Units: 2
- JOUR 372 Engaging Diverse Communities in the Digital Era Units: 2
- JOUR 408 Advanced Media Law in the Digital Age Units: 2
- JOUR 414 Advanced Digital Media Storytelling Units: 2

Upper-Division Electives

Complete 12 upper-division journalism or public relations elective units chosen in consultation with your adviser.

Public Relations (BA)

Total units: 44

Required Courses, Lower Division

- PR 209 Effective Writing for Strategic Public Relations Units: 4
- PR 250 Strategic Public Relations: An Introduction Units: 4

Required Courses, Upper Division

- PR 351a Strategic Public Relations Media and Content Units: 4
- PR 351b Strategic Public Relations Media and Content Units: 4
- PR 428 Social, Legal and Ethical Foundations of Public Relations Units: 4
- PR 429 Business and Economic Foundations of Public Relations Units: 4
- PR 450 Advanced Strategic Public Relations Units: 4
- PR 463 Strategic Public Relations Research, Analysis and Insights Units: 4

  Plus 12 upper-division PR and/or JOUR elective units chosen in consultation with an adviser

Minor

Advertising Minor

The advertising minor is designed for students interested in building a career in, or developing a better understanding of, the field of advertising. It explores the key role played by advertising in today's global economy. At no time has advertising been more successful or more controversial than it is today, and this program will explore both the positives and the negatives. Emphasis is placed throughout the program on both the practical skills required to meet the demands of the marketplace and the theoretical underpinnings of those practices. Program content includes: the history of advertising; creation of written and visual advertising elements; the measurement, selection and analysis of media; the concept of "branding;" the role

of advertising in creating and maintaining successful brands; the analysis of advertising campaign case studies; and the creation of integrated marketing communications campaigns.

Required Courses

- PR 340 Introduction to Advertising Units: 4
- PR 341 Advertising Copywriting Units: 4
- PR 342 Advertising Media and Analysis Units: 4
- PR 343 Advertising Design and Production Units: 4
- MKT 406 Practicum in Advertising and Promotion Design Units: 4.0

Select one additional course from the following:

- MKT 402 Research Skills for Marketing Insights Units: 4
- MKT 405 Advertising and Promotion Management Units: 4
- MKT 425 Marketing in a Digital World Units: 4

Total units: 24

News Media and Society Minor

News media and society is a journalism minor that explores the responsibilities, the influence, the ethics and the diversity of the news media. It explores the myths about news media in the United States and explains what the news media are, how they work, what they do wrong and what they do right, and why they are important to a society whose citizens depend on the free and unfettered flow of information. This minor will help all students in all majors to understand one of the most important and misunderstood forces in American society: the news media.

News media and society benefits every student at the university because it gives students a new appreciation and understanding of the news media that so much influence their lives on a daily basis.

Required Course, Lower Division

- JOUR 201 Culture of Journalism: Past, Present and Future Units: 4

Required Courses, Upper Division

- COMM 371 Censorship and the Law: From the Press to Cyberspace Units: 4
- 16 upper-division journalism units chosen in consultation with an adviser Units: 16

Total units: 24

Students are urged to choose their 16 upper-division units from these classes:

- JOUR 373 Journalism Ethics Goes to the Movies Units: 4
- JOUR 375 The Image of the Journalist in Popular Culture Units: 4
- JOUR 460 Social Responsibility of the News Media Units: 4
- JOUR 466m People of Color and the News Media Units: 4
- JOUR 467 Gender and the News Media Units: 4

Nonprofits, Philanthropy and Volunteerism Interdisciplinary Minor

This four-course minor enables students to learn about the nonprofit sector — its organizations, philanthropy and voluntary action. See complete description in the USC Price School of Public Policy section.

Public Relations Minor

The public relations minor is designed for students interested in building a career in, or developing a better understanding of, the field of public relations. At no time has public relations been more successful or more visible than it is today. Emphasis is placed throughout the program on both the practical skills required to meet the demands of the marketplace and the critical thinking required to be a successful entry-level public relations practitioner.

Required Courses

- PR 209 Effective Writing for Strategic Public Relations Units: 4
- PR 250 Strategic Public Relations: An Introduction Units: 4
- PR 352 Public Relations Media and Content for Non-Majors Units: 4

Elective Courses

Choose 12 units of PR or JOUR 300-499 level electives.

Sports Media Industries Minor

Organized sports are one of the most popular forms of live and participatory entertainment, and produce vast quantities of mediated content. Virtually all professional sport, and increasingly much of amateur competition, is influenced by the importance of having the competitions shared with a wide range of audiences and utilizing diverse platforms to engage these fans. This content rich environment highlights how leagues, teams, players and coaches are each independent and interdependent brands, as well as creators and distributors of multimedia content. This volume of sports content creates new challenges for journalistic norms and storytelling techniques as well as new opportunities for the business of sports media management. The Sports Media Industries minor introduces students to a range of professional settings, activities and challenges related to the growth of sports media.

This 20-unit minor requires that students be introduced both to sports journalism as content production and also to the notion of sports media as a unique setting for publicity, advertising, and public relations. Students will develop the skills required to create sports media content, and increase their ability to critically examine sports media's influence on contemporary culture, particularly issues related to race, gender, class and sexual orientation. The minor will also establish an introductory knowledge of the business of sports and sports media. Elective courses allow students greater opportunity to explore these fields as well as take courses dedicated to specific aspects of sports media.

Required Core Course

- JOUR 350 Introduction to Sports Media Units: 4

Electives

Choose at least 16 units from the following:

- COMM 387 Sports and Social Change Units: 4
- JOUR 380 Sports, Business and Media in Today's Society Units: 4
- JOUR 432 Sports Commentary Units: 4
- JOUR 441 Sports Reporting Units: 2
- JOUR 480 Sports and Media Technology Units:
- PR 453 Public Relations Strategies for Working with Athletes Units: 4
- PR 454 Sports Public Relations Units: 2

Master's Degree

Journalism (MS)

Master of Science

Studies toward the Master of Science in Journalism require 36 units of prescribed courses and approved electives in the student's field of study. No more than 12 units of 400-level course work may be applied toward the Master of Science in Journalism.

Students who earn a GPA of below 3.0 will be placed on academic probation and must improve according to established terms if they are to remain in the school. In the case of courses offered on Credit/No Credit (CR/NC) basis, faculty review of competence will be substituted for grades.

Residence

Students in the Master of Science in Journalism can complete the program in nine months by enrolling in the four-week summer immersion course and enrolling in 16 units in the fall and spring semesters. The School of Journalism will accept only 4 units of approved transferred graduate credit.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree, but fluency in the English language is needed for success in the program.

Grammar, Spelling and Punctuation (GSP)

Journalism students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the spring semester. Students who fail to complete the GSP tutorial and pass the test within the stated time frame will not be allowed to progress in the program and will be dismissed from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Capstone Project

MS in Journalism students must enroll in JOUR 598 (4 units) in order to graduate. Completed projects are judged by a committee appointed by the director of the School of Journalism and degrees are conferred based on the committee's review.

Course Requirements (36 units)

- JOUR 505 The Practice: Journalism's Evolution as a Profession Units: 1
- JOUR 528 Summer Digital Journalism Immersion Units: 4
- JOUR 531L Fall Digital Journalism Immersion Units: 4
- JOUR 546 News, Numbers and Introduction to Data Journalism Units: 2
- JOUR 547 Navigating the Media Marketplace Units: 1
- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 560 Seminar in Mass Communication Law Units: 2
- JOUR 599 Special Topics Units: 2, 3, 4
- JOUR 598 Journalism Capstone Project Units: 4

Plus 14 approved elective units (400-level courses and above).

Note:

Students should enroll in JOUR 510 Special Assignment Reporting.

Emphases

Students interested in specific journalistic platforms are encouraged to select an emphasis and complete the recommended courses for that emphasis:

Long-Form Video

- JOUR 521 Documentary Pre-Production Units: 2
- JOUR 522 Video Documentary Production Units: 4
- JOUR 575 Converged Media Center Units: 2, 4

News Video

- JOUR 517 Advanced Investigative Reporting Units: 3
- JOUR 524 Advanced Broadcast Reporting Units: 4
- JOUR 539 Introduction to Investigative Reporting Units: 2
- JOUR 552 Television Reporting and Production Units: 2
- JOUR 575 Converged Media Center Units: 2, 4

Audio

- JOUR 495 Journalism for Mobile and Emerging Platforms Units: 2
- JOUR 523 Public Radio Reporting Units: 2
- JOUR 525 Public Radio Documentary Units: 4
- JOUR 575 Converged Media Center Units: 2, 4

Text

- JOUR 517 Advanced Investigative Reporting Units: 3
- JOUR 519 Advanced Writing and Reporting for Magazine and the Web Units: 4
- JOUR 539 Introduction to Investigative Reporting Units: 2
- JOUR 575 Converged Media Center Units: 2, 4
- JOUR 577 Monetization and the New Media Units: 3
- JOUR 585 Specialized Reporting: Religion Units: 3
- JOUR 586 Specialized Reporting: Science Units: 3
- JOUR 596 Follow the Money: Business and Economics Reporting Units: 3

Digital

- JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology Units: 2
- JOUR 494 Python Coding for Data Journalism Units: 2
- JOUR 495 Journalism for Mobile and Emerging Platforms Units: 2
- JOUR 496 Interactive Media Design for Publishing Units: 4
- JOUR 497 Data Visualization and Interactive Tools Units: 2
- JOUR 533 Web Journalism and Editorial Site Management Units: 2
- JOUR 551 Intermediate Online Publishing Units: 4
- JOUR 555 Advanced Coding for Creative Storytelling Units: 4
- JOUR 561 Advanced Data Journalism Units: 2
- JOUR 575 Converged Media Center Units: 2, 4

Specialized Journalism (MA)

Master of Arts

The Master of Arts in Specialized Journalism is a program geared toward experienced journalists seeking subjectmatter expertise and toward experienced professionals in other fields seeking journalism skills to advance their expertise. The program is also open to recent School of Journalism graduates with records of excellence in their university classes and internships and a demonstrated aptitude and commitment to developing an expertise in a specialized field of reporting.

Students must begin the program in summer term, enrolling in a required 4-unit, intensive session course focused on journalism and society and on digital media. In addition to the formal classes, the course includes multimedia skills workshops. This gateway course provides the master's students with a working knowledge of the specialized journalism and the multimedia storytelling skills necessary for study in the program. It sets the stage for two semesters of access to courses as substantively broad as a major research university such as USC makes available and for advanced courses in the School of Journalism's graduate program.

In the fall semester, students will enroll in two courses in the School of Journalism, including a critical thinking course for journalists and a specialized reporting course. With the advice of their academic adviser and faculty mentors, students will select elective course work totaling 8 units appropriate to their fields of specialization. These courses will be drawn from regular graduate and 400-level courses taught across the university. Students also will begin research for their master's professional project. Thesis topics must be approved in advance by faculty. These projects will be extended works of journalism, such as a full-length magazine article, similar radio, television or multimedia treatments or the equivalent in their professional field.

In the spring semester, students will enroll in a journalism seminar focused on the reporting and analysis of decision-making and typically an approved elective in the Annenberg School. Students will also enroll in elective course work totaling 8 units, chosen again from offerings across the university and in consultation with their faculty mentors. Finally, students will complete their master's professional project.

The nine-and-a-half-month program has been designed for a fall and spring semester enrollment cycle; however, students may also elect to complete the program on a part-time basis, but must start with the intensive summer course.

Studies toward the Master of Arts in Specialized Journalism require 34 units of prescribed courses and approved electives. No more than 10 units of 400-level course work may be applied toward the Master of Arts in Specialized Journalism.

Residence

The Master of Arts in Specialized Journalism can be completed in a nine-month enrollment cycle that includes the four-week summer session, plus the fall and spring semesters. These programs may be attended on a part-time basis.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree.

Grammar, Spelling and Punctuation (GSP)

Journalism and strategic public relations graduate students are

required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the fall semester of their first year. Students who fail to complete the GSP tutorial and pass the test within the stated time frame will not be allowed to progress in the program and will be dismissed from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Master's Thesis

MA in Specialized Journalism students normally enroll in JOUR 594a (2 units), JOUR 594b (2 units) in their single year of study.

Course Requirements (34 Units)

- JOUR 528 Summer Digital Journalism Immersion Units: 4
- JOUR 582 Specialized Journalism: Reporting Decisions Units: 2
- JOUR 594a Master's Thesis Units: 2
- JOUR 594b Master's Thesis Units: 2
- JOUR 595 Critical Thinking: The Art and Science of Not Getting Fooled Units: 3

One course from:

- JOUR 571 21st Century Sports Storytelling Units: 3
- JOUR 572 Reporting on Entertainment and Popular Culture Units: 3
- JOUR 578 Reporting on Globalization Units: 3
- JOUR 584 Specialized Reporting: Education, Youth and Learning Units: 3
- JOUR 585 Specialized Reporting: Religion Units: 3
- JOUR 586 Specialized Reporting: Science Units: 3
- JOUR 588 Cities, Climate and Risk Units: 3
- JOUR 589 Specialized Reporting: The Changing U.S. Population Units: 3
- JOUR 596 Follow the Money: Business and Economics Reporting Units: 3
- *Plus 18 approved elective units (400-level courses and above).*

Note:

**One elective course must be taken from an Annenberg School program in COMM, CMGT, JOUR or PUBD.*

Specialized Journalism (The Arts) (MA)

Master of Arts

The Master of Arts in Specialized Journalism (The Arts) is geared toward experienced arts journalists as well as recent graduates holding bachelor's degrees in journalism or one of the arts with records of excellence in their university classes and internships and a demonstrated aptitude and commitment to specializing in arts journalism. The program is also open to experienced artists and practitioners with a highly developed background in at least one art form who want to acquire journalism skills toward a future specializing in the coverage of arts and culture. Those with a focus on lifestyle, popular culture and many forms of criticism not strictly associated with the arts, such as food, will also be able to advance their subject expertise as journalists in this program.

Students will complete 16 units of specialized journalism course work, including a master's professional project and 18 units of approved elective course work from faculty-recommended lists, including one course from the USC Annenberg School for Communication and Journalism. Other electives must be in at least two arts schools with at least 8 units from one school. The arts schools are Architecture, Art and Design, Cinematic Arts, Dance, Dramatic Arts and Music.

Students must begin the program in summer term, enrolling in a required 4-unit intensive summer session course focused on journalism and society and digital media. In addition to the formal classes, the course includes discussions, workshops and field reporting. This gateway course provides master's students with a working knowledge of the specialized journalism background and the multimedia and digital storytelling skills necessary for study in the program. It sets the stage for two semesters of access to courses as substantively broad as a major research university such as USC makes available.

In the fall semester, students will enroll in an arts writing practicum and an arts reporting seminar. With the advice of their academic adviser and faculty mentors, students will select elective course work appropriate to their fields of specialization. These courses will be drawn from regular graduate and 400-level courses taught across the arts schools and within the USC Annenberg School for Communication and Journalism. Students also will begin research for their master's professional project. These projects may be full-length magazine (print or broadcast) treatments of issues in their field or similar professional work.

In the spring semester, students will enroll in a journalism course focused on arts criticism and commentary. Students will enroll in elective course work, chosen again from offerings across the arts schools and from the USC Annenberg School for Communication and Journalism in consultation with the academic adviser and mentors. Finally, students will complete their master's professional project.

The nine-and-a-half-month program has been designed for a fall and spring semester enrollment cycle; however, students also may elect to complete the program on a part-time basis with the approval of the director of the School of Journalism, but must start with the intensive summer course.

Studies toward the Master of Arts in Specialized Journalism require 34 units of prescribed courses and approved electives. No more than 10 units of 400-level course work may be applied toward the Master of Arts in Specialized Journalism.

Residence

The Master of Arts in Specialized Journalism can be completed in a nine-month enrollment cycle that includes the four-week summer session, plus the fall and spring semesters. These programs may be attended on a part-time basis.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree.

Grammar, Spelling and Punctuation (GSP)

Journalism and strategic public relations graduate students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the fall semester of their first year. Students who fail to complete the GSP tutorial and pass the test within the stated time frame will not be allowed to progress in the program and will be dismissed from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Master's Thesis

MA in Specialized Journalism students normally enroll in JOUR 594a (2 units), JOUR 594b (2 units) in their single year of study.

Course Requirements (34 Units)

- JOUR 528 Summer Digital Journalism Immersion Units: 4
- JOUR 591 Arts Writing Practicum Units: 3
- JOUR 592 Arts Journalism: Storytelling and Production Units: 3
- JOUR 593 Arts Criticism and Commentary Units: 3
- JOUR 594a Master's Thesis Units: 2
- JOUR 594b Master's Thesis Units: 2

  *Plus 17 approved elective units (400-level courses and above).

Note:

**The elective course work (400-level courses and above) must be taken from faculty-recommended lists. No more than 10 units*

of 400-level electives may be taken. One elective must be taken from within the USC Annenberg School for Communication and Journalism. The other electives must be in at least two arts schools, with at least 8 units from one school. The arts schools are Architecture, Art and Design, Cinematic Arts, Dance, Dramatic Arts and Music.

Strategic Public Relations (MA)

Studies toward the Master of Arts in Strategic Public Relations require 40 units of prescribed courses and approved electives in the student's field of study. Students may take, with prior approval, two of their electives outside the school. No more than 12 units of 400-level course work may be applied toward the Master of Arts in Strategic Public Relations.

Students who earn a GPA of below 3.0 will be placed on academic probation and must improve according to established terms if they are to remain in the school. In the case of courses offered on Credit/No Credit (CR/NC) basis, faculty review of competence will be substituted for grades.

Residence

Normally, full-time students in the Master of Arts in Strategic Public Relations can complete the program in four semesters.

Foreign Language/Research Tool Requirements

There is no foreign language or research tool requirement for the master's degree.

Grammar, Spelling and Punctuation (GSP)

Journalism and strategic public relations graduate students are required to complete an online tutorial about Grammar, Spelling and Punctuation (GSP) and pass the GSP test before the end of the fall semester of their first year. Students who fail to complete the GSP tutorial and pass the test within the stated time frame will not be allowed to progress in the program and will be dismissed from the School of Journalism.

Note: Students with disabilities may register with the Disability Services and Programs office (DSP) so the DSP staff can assess the nature of the students' disabilities and recommend the appropriate accommodations to be provided for each student.

Master's Thesis/Comprehensive Examination

MA in Strategic Public Relations students have the option of completing a master's thesis or taking a comprehensive exam. The thesis option takes two forms: (1) a professional project presenting the results of an extensive public relations project completed by the student; or (2) a research thesis presenting the results of primary research undertaken by the student. In either case, students must establish a guidance committee of three faculty members. The chair must be a full-time faculty member in the School of Journalism. The second member will usually be a full-time Journalism faculty member but may be a person connected with USC in other positions who has specific knowledge of the student's topic. In the latter case, the chair of the committee will submit for the director's approval a detailed presentation of the qualifications of the proposed committee member that justify his or her inclusion. In exceptional circumstances, this committee member may come from outside USC. A detailed presentation of qualifications will be required. The third committee member should be a full-time USC faculty member from outside the School of Journalism. The committee is ultimately subject to the approval of the school dean.

Students must secure approval of the professional project or thesis prior to enrollment in PR 594a. Students who elect the thesis option are required to enroll in PR 594a (2 units), PR 594b (2 units), normally during their second year of study. The 4 units will count toward the approved elective units.

The comprehensive examination option allows students to complete the degree by passing a comprehensive examination in their last semester of course work.

Course Requirements (40 Units)

- PR 504 Strategic Public Relations Research, Evaluation and Insights Units: 3
- PR 508 Introduction to Strategic Public Relations Units: 3
- PR 510 Legal, Ethical and Social Foundations of Strategic Public Relations Units: 3
- PR 527 Multimedia Content Creation for Strategic Public Relations Units: 3
- PR 529 Business and Economic Foundations for Public Relations Units: 3
- PR 535 Writing for Strategic Public Relations Units: 3

Plus 22 units of approved elective courses*

Note:

*Students electing the thesis option are required to enroll in PR 594a (2 units) and PR 594b (2 units) and must complete 18 units of approved elective courses. Students electing the comprehensive examination option must complete 22 units of approved elective courses.

University Certificate

Journalism Certificate

The certificate program requires students to complete a 4-unit course in the summer and then complete 16 units during the fall semester, for a total of 20 units.

Course Requirements (20 Units)

- JOUR 505 The Practice: Journalism's Evolution as a Profession Units: 1
- JOUR 528 Summer Digital Journalism Immersion Units: 4
- JOUR 531L Fall Digital Journalism Immersion Units: 4
- JOUR 553 Coding and Programming for Storytelling Units: 2
- JOUR 560 Seminar in Mass Communication Law Units: 2
- JOUR 599 Special Topics Units: 2, 3, 4

Plus 5 approved elective units.

Note:

**Students should enroll in the section titled "Special Assignment Reporting" of JOUR 599.*

Public Policy Advocacy Graduate Certificate

The graduate certificate is offered jointly by the Sol Price School of Public Policy and the Annenberg School of Communication and Journalism. The certificate provides students with knowledge of the increasingly important role played by information flows in politics and governance. Students will assess the structure of campaigns designed to influence public opinion, the messaging strategies utilized by political players and civic society organizations and new scholarship on the pathways of persuasion in the digital age. The certificate is especially appropriate for students who intend to pursue work with elected officials, think tanks, foundations, community-based organizations, consulting firms and corporate offices that aim to shape public policy through advocacy.

Applicants for the Certificate in Public Policy Advocacy must be currently enrolled in a graduate program at USC and in good standing, with a 3.0 GPA. Students can apply for the certificate through the student services office at the Price or the Annenberg School.

The Certificate in Public Policy Advocacy requires a minimum of 14 units for students taking two 3-unit electives in the Strategic Public Relations Program. More typically students will earn 15 or 16 units by taking one or two 4-unit electives. All units earned in pursuit of the certificate can be applied towards the completion of degree requirements if they fall within existing criteria. However, courses taken solely for certificate purposes will not substitute for degree requirements.

Required Courses

- PPD 693 Communicating Public Policy Units: 4
- PR 501 Advocacy Communications Units: 4

Elective Courses

Pick any two courses from the following:

Annenberg

- CMGT 508 Communicating Strategy and Change Units: 4

- CMGT 581 Media in Social Services: Design and Evaluation of Campaigns Units: 4
- COMM 561 Leading and Communicating Change in Global Organizations Units: 4
- PR 534 Case Studies in Public Relations Units: 3
- PR 536 Digital, Social and Mass Media Public Relations Strategies Units: 3
- PR 568 Crisis Management in Strategic Public Relations Units: 3

Price

- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 657 Political Leadership in Public Organizations Units: 4
- PPDE 647 Civic Engagement in Governance Units: 4

USC Kaufman School of Dance

The USC Glorya Kaufman School of Dance expands USC's signature as a world-class research institution with a deep commitment to the arts. With its innovative vision for arts education, USC Kaufman moves to the forefront of developing dancers, choreographers and leaders for the future. The newly built, state-of-the-art Glorya Kaufman International Dance Center is the home of the school and the largest facility dedicated to dance at any private university.

The USC Glorya Kaufman School of Dance is quickly emerging as an epicenter of excellence in the interdisciplinary study of dance creation and performance. The exciting opportunity to create a new school brought the chance to rethink the professional dance degree. Dance is an increasingly dynamic art form, and the professionals who will shape the future of the field need the flexibility to move seamlessly between dissolving boundaries in the world around them: to embrace innovation with tradition, technology with history, classical with new dance forms. To meet that need, USC Kaufman created a new model for dance in which intersecting dance techniques create hybrid art forms expressed in new media, scholarship, studio practice and choreography. The vision is **The New Movement**.

The Bachelor of Fine Arts in Dance provides a rigorous conservatory experience at one of the world's leading private research universities. The BFA curriculum provides foundational insight, intellectual and artistic development, a robust performance repertory, exposure to world-renowned practicing artists, interdisciplinary projects, as well as conditioning for dancers and strategic career venture skills.

USC Kaufman has assembled one of the nation's top faculty, a group of artists unparalleled in their depth and diversity of experience and talent, including esteemed professionals in the field, such as Patrick Corbin (Contemporary Technique and Paul Taylor Repertory), d. Sabela Grimes (Hip Hop Culture & Funkamentals), Jackie Kopcsak (Ballet Technique and Pointe), Thomas McManus (William Forsythe Improvisational Technologies) and Vice Dean and Director Jodie Gates (Contemporary and Classical repertory). Additionally, USC Kaufman's teaching philosophy includes semester-long opportunities for BFA students to work with our Artist's in Residence, including Desmond Richardson (Complexionss Contemporary Ballet), Victor Quijada (Rubberbandance), Fiona Lummis (Jiri Kylian Repertory) and Zippora Karz (George Balanchine Repertory). The USC Choreographic Institute, advised by USC Kaufman faculty member and celebrated artist William Forsythe, is unique among similar initiatives in the United States, and provides artists with research opportunities and foundational insight into the creative process.

Established partnerships with Hubbard Street Dance Chicago, Glorya Kaufman Presents Dance at the Music Center, Dance Camera West, the USC Thornton School of Music, and the USC School of Cinematic Arts afford significant collaborative experiences with acclaimed artists, scholars and institutions. The school's location in Los Angeles, a global center for the arts and entertainment, provides additional artistic and professional opportunities.

In addition to its BFA, USC Kaufman offers a wide variety of classes open to all USC students. Technique classes are offered in Ballet, Contemporary, Jazz, Hip Hop, Afro-Cuban, Tap, Bollywood and Ballroom. General Education courses on the history and culture of dance provide a rewarding introduction to the field. Minors in Dance; Hip Hop, Street and Social Dance Forms; and Dance in Entertainment serve as thought-provoking supplements to majors in other schools.

USC Glorya Kaufman School of Dance
Glorya Kaufman International Dance Center
849 West 34th Street
Los Angeles, CA 90089-3521
213-740-9327
Email: uscdance@usc.edu

Administration

Robert A. Cutietta, DEd, *Dean*
Jodie Gates, *Vice Dean and Director*

Faculty

Professor: Jodie Gates
Professor, Artistic Adviser: William Forsythe
Associate Professor: Margo Apostolos, PhD
Assistant Professors of Practice: Patrick Corbin, MFA; Alison D'Amato, PhD; E. Moncell Durden; d. Sabela Grimes, MFA; Jackie Kopcsak, MFA; Thomas McManus, MFA; Jennifer McQuiston Lott, MFA; Dawn Stoppiello
Adjunct Assistant Professor: Saleemah Knight, MFA
Lecturers: Tiffany Bong; Alison D'Amato, PhD; Jesus Fuentes; Gillian Finley; Anindo Marshall; Achinta McDaniel; Christian Vincent, MFA
Artists in Residence: Zippora Karz; Fiona Lummis; Victor Quijada; Desmond Richardson

Bachelor's Degree

Dance (BFA)

The Bachelor of Fine Arts in Dance is a four-year professional degree designed to prepare the artist, innovator and entrepreneur. A diverse array of electives, in combination with a rigorous core curriculum, provides students with ample opportunity to explore their artistic and intellectual passions and develop a strong personal vision of dance.

Intensive studio instruction is in three core areas: Ballet, hip hop and contemporary styles. Emphasis is on performance and composition, while also building a solid foundation in dance history, science, conditioning, new media, entrepreneurship and critical theory. Upperclassmen continue to work on technique as well as performance and/or composition, while also pursuing individual interests.

In the junior and senior years, students pursue one of four concentrations: Dance Performance, Choreography for Stage and Cinematic Arts, Dance and Music or Design Your Own. They are mentored by faculty and assisted by academic advisers in selecting elective courses both within and outside of USC Kaufman that support their personal and professional goals.

Emphasis in the final year of study is placed on the development of a professional quality project in the areas of performance, choreography, music, media, scholarship or entrepreneurship.

Dance Performance Concentration

The Dance Performance concentration is designed for students who are interested in careers as professional dancers or in other performance mediums. Emphasis is placed on providing students with the skills to succeed in a variety of entertainment positions. Students work with artists and scholars in the field, learning essential tools needed for a successful career in dance performance.

Dance and Music Concentration

The Dance and Music concentration provides students with a unique perspective on dance by combining dance training with substantial studies in music. Courses in vocal arts, music theory or instrumental training, for example, equip students interested in choreography or dance performance with the knowledge to explore careers in the music and larger entertainment industries.

Choreography for Stage and Cinematic Arts Concentration

The Choreography for Stage and Cinematic Arts concentration is designed to guide students who are interested in the field of dance for the stage, motion pictures, television, digital media and animation. Students are mentored in experimental types of dance media, both as individual performers and in collaboration with other visual and performing artists.

Design Your Own Concentration

The Design Your Own concentration allows students to pursue a truly custom program of study by combining hand-picked elective courses from across the university with dance electives. This is the only concentration for which students must formally apply in their junior year. The application requires students to demonstrate how the concentration is different from a major and minor combination and to provide preliminary ideas about how their senior project brings together their hand-picked courses with their dance studies.

General Requirements

Candidates must submit the Common Application and USC Writing Supplement as well as the USC Kaufman Portfolio, which includes a headshot, action shot, written short answer, dance resume, one-minute video response, and two video auditions showing contrasting solos. Final candidates are selected to audition and interview in person. Specific audition requirements, along with other entrance requirements, are reviewed on an annual basis and published under the Apply section at kaufman.usc.edu.

Curriculum Requirements

The Bachelor of Fine Arts in Dance requires a total of 132 units. All students in the dance program are required to complete the university's General Education and Writing requirements.

Within USC Kaufman, students will receive foundational training and insight through the core curriculum. In addition, they must complete a minimum of 19 electives toward their concentration.

The BFA degree's 132 unit requirement includes at least 16 general elective units. Students are encouraged to use these units in order to pursue a minor outside of USC Kaufman.

Core Requirements (65 units)

Lower Division

- DANC 101 Colloquium: What is the Medium of Dance Today? Units: 1
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 110 Dance Technique I Units: 3 + 3
- DANC 120 Repertory and Performance I Units: 2 + 2
- DANC 130 Improvisation and Composition I: Introduction Units: 2
- DANC 131 Improvisation and Composition II: Introduction Units: 2
- DANC 201 Colloquium: History of Performance and Cultural Context Units: 1
- DANC 210 Dance Technique II Units: 3 + 3
- DANC 212g Dance in Popular Culture Units: 4
- DANC 218 Introduction to Dance for the Camera: New Media and Editing Units: 2
- DANC 220 Repertory and Performance II Units: 2 + 2
- DANC 230 Improvisation and Composition III: Intermediate Units: 2
- DANC 231 Improvisation and Composition IV: Intermediate Units: 2
- MUCO 140 Music for Dancers Units: 2

Upper Division

- DANC 301 Colloquium: The Role of the Dance Artist in Society Units: 1
- DANC 310 Dance Technique III Units: 3 + 3
- DANC 320 Repertory and Performance III Units: 2 + 2
- DANC 342g International and Historical Perspectives on Dance Units: 4
- DANC 470 Dance Leadership Units: 2
- DANC 480 Advanced Performance Studies: Senior Seminar Units: 1
- DANC 485 Advanced Performance Studies: Senior Project Units: 1

Dance Performance Concentration (minimum 19 units)

Required Electives (10 units)

- DANC 410 Dance Technique IV Units: 3 + 3
- DANC 420 Repertory and Performance IV Units: 2 + 2

Additional Electives (9 units)

In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC Thornton School of Music, USC School of Cinematic Arts and/or USC School of Dramatic Arts. More details are below.

- DANC 285 Elements of Dance Production Units: 4
  DANC 181a-189b - Dance Technique
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 305 Dance and New Media Units: 1
- DANC 312gw African American Dance Units: 4
- DANC 330 Composition I: Advanced Units: 2
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 430 Composition II: Upper Level Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

  Students may take courses under the below prefixes. These courses must be approved within USC Kaufman by the faculty mentor, Director of Admission and Student Services and Vice Dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

  <u>USC Thornton School of Music</u>
- ARTL: Arts Leadership
- MPGU: Performance (Guitar)
- MPKS: Performance (Keyboard Studies)
- MPPM: Performance (Popular Music)
- MPST: Performance (Strings)
- MPVA: Performance (Vocal Arts)
- MPWP: Performance (Wind & Percussion)
- MTEC: Music Technology
- MUHL: Music History and Literature
- MUIN: Music Industry
- MUCO: Music Composition
- MUJZ: Jazz Studies
  <u>USC School of Dramatic Arts</u>
- THTR: Theatre
  <u>USC School of Cinematic Arts</u>
- CNTV: Cinematic Arts
- CTAN: Animation
- CTCS: Cinema and Media Studies
- CTIN: Interactive Media
- CTPR: Production
- IML: Media Arts and Practice

Choreography for Stage and Cinematic Arts Concentration (minimum 19 units)

Required Electives (8 units)

- DANC 330 Composition I: Advanced Units: 2 + 2

- DANC 430 Composition II: Upper Level Units: 2 + 2

Additional Electives (11 units)

In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC School of Cinematic Arts, USC Thornton School of Music and/or USC School of Dramatic Arts. More details are below.

- DANC 285 Elements of Dance Production Units: 4
  DANC 181a-189b - Dance Technique
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 305 Dance and New Media Units: 1
- DANC 312gw African American Dance Units: 4
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420 Repertory and Performance IV Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

  Students may take courses under the below prefixes. These courses must be approved within USC Kaufman by the faculty mentor, Director of Admission and Student Services and Vice Dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

  <u>USC Thornton School of Music</u>
- ARTL: Arts Leadership
- MPGU: Performance (Guitar)
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- MPPM: Performance (Popular Music)
- MPST: Performance (Strings)
- MPVA: Performance (Vocal Arts)
- MPWP: Performance (Wind & Percussion)
- MTEC: Music Technology
- MUHL: Music History and Literature
- MUIN: Music Industry
- MUCO: Music Composition
- MUJZ: Jazz Studies
  <u>USC School of Dramatic Arts</u>
- THTR: Theatre
  <u>USC School of Cinematic Arts</u>
- CNTV: Cinematic Arts
- CTAN: Animation
- CTCS: Cinema and Media Studies
- CTIN: Interactive Media
- CTPR: Production
- IML: Media Arts and Practice

Dance and Music Concentration (minimum 19 units)

Required Electives

While students pursuing this concentration are not required to take specific dance electives, they are expected to take additional Dance Technique, Repertory and Performance and Composition courses.

Additional Electives (19 units)

In addition to DANC courses, students in this concentration are able to take up to 8 units in the USC Thornton School of Music, USC School of Cinematic Arts and/or USC School of Dramatic Arts. More details are below.

- DANC 285 Elements of Dance Production Units: 4
  DANC 181a-189b - Dance Technique
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 305 Dance and New Media Units: 1
- DANC 312gw African American Dance Units: 4
- DANC 330 Composition I: Advanced Units: 2
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420 Repertory and Performance IV Units: 2
- DANC 430 Composition II: Upper Level Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

  Students may take courses under the below prefixes. Any such courses must be approved within USC Kaufman by the faculty mentor, Director of Admission and Student Services and Vice Dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

  <u>USC Thornton School of Music</u>
- ARTL: Arts Leadership
- MPGU: Performance (Guitar)
- MPKS: Performance (Keyboard Studies)
- MPPM: Performance (Popular Music)
- MPST: Performance (Strings)
- MPVA: Performance (Vocal Arts)
- MPWP: Performance (Wind & Percussion)
- MTEC: Music Technology
- MUHL: Music History and Literature
- MUIN: Music Industry
- MUCO: Music Composition
- MUJZ: Jazz Studies
  <u>USC School of Dramatic Arts</u>
- THTR: Theatre
  <u>USC School of Cinematic Arts</u>
- CNTV: Cinematic Arts
- CTAN: Animation
- CTCS: Cinema and Media Studies
- CTIN: Interactive Media
- CTPR: Production
- IML: Media Arts and Practice

Design Your Own Concentration (minimum 19 units)

Required Electives

While students pursuing this concentration are not required to take specific dance electives, they are expected to take additional Dance Technique, Repertory and Performance and Composition courses.

Additional Electives (minimum 19 units)

In addition to DANC courses, students in this concentration are able to take up to 10 units across one or several USC departments offering undergraduate courses. These courses must be approved within USC Kaufman by the faculty mentor, Director of Admission

and Student Services and Vice Dean. Students must also meet any eligibility requirements (i.e. prerequisites) and/or receive approval from the school or department when needed.

- DANC 285 Elements of Dance Production Units: 4
  DANC 181a-189b Dance Technique
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 305 Dance and New Media Units: 1
- DANC 312gw African American Dance Units: 4
- DANC 330 Composition I: Advanced Units: 2
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 345 Artist in Residence Units: 1, 2, 3, 4
- DANC 347 Artist Collaborative Units: 1, 2, 3, 4
- DANC 355 Performance Lab Units: 1, 2, 3, 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 410 Dance Technique IV Units: 3
- DANC 420 Repertory and Performance IV Units: 2
- DANC 430 Composition II: Upper Level Units: 2
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

Total Units Required: 132

Minor

Dance in Entertainment Minor

The Dance in Entertainment minor offers undergraduate students an opportunity to explore dance in the commercial realm, from Hollywood to Broadway, primarily focused on performance, choreography and dance entrepreneurship. The program offers a wide variety of courses in dance technique, theory, the business of dance and choreography.

This minor consists of one lower-division course, one upper-division course and 10 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower Division Requirement (4 units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper Division Requirement (4 units)

- DANC 333g Origins of Jazz Dance Units: 4 or
- DANC 363g Dancing on the Screen Units: 4

Elective Courses (10 units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 170 Choreography and Performance Units: 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 181a-189b (up to 4 units)*
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 4
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 305 Dance and New Media Units: 1
- DANC 312gw African American Dance Units: 4
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 342g International and Historical Perspectives on Dance Units: 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

Total Units Required: 18

Dance Minor

The minor in dance presents undergraduate students with a broad yet deep foundation in dance. The program offers a variety of courses in dance technique, history, culture, critical theory, choreography and performance.

This minor consists of one lower-division course, one upper-division course and 12 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower Division Course (4 Units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper Division Course (4 Units)

- DANC 342g International and Historical Perspectives on Dance Units: 4

Elective Courses (12 Units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 105 Dance Science: Analysis of Dance Movement Units: 4
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 170 Choreography and Performance Units: 2
- DANC 175 Choreography for the Screen Units: 2
- DANC 181a-189b (up to 6 units)*
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 4
- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4

- DANC 452 Dancing with Words Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students may apply up to 6 units of dance technique courses (DANC 181a-189b) toward the minor. Additional dance technique courses may be taken for general elective credit.
Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

Total Units Required: 20

Hip Hop, Street and Social Dance Forms Minor

The Hip Hop, Street and Social Dance Forms minor delves into the historical, social and aesthetic issues of dance in the contemporary settings of entertainment, concert, vernacular and recreational forms. This minor is designed to explore the foundations and structures of hip hop, street and social dances and to introduce and orient non-major students to the language of dance in contemporary society. In the hip hop culture dance has become a major avenue of expression, acceptance and power. This minor will address issues of art, race and politics within the parameters of dance as an art form, entertainment and personal expression.

This minor consists of one lower-division course, one upper-division course and 8 units of elective courses. Students must be in good academic standing to be admitted. No previous dance experience is required.

Required Lower Division Course (4 Units)

- DANC 280g Introduction to Dance as an Art Form Units: 4

Required Upper Division Course (4 Units)

- DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance Units: 4

Elective Courses (8 Units)

- ARTL 310 Music and Dance In Paris Salon Culture Units: 2
- DANC 103 Conditioning for Dancers Units: 2
- DANC 107 World Perspective on Dance Performance Units: 2
- DANC 170 Choreography and Performance Units: 2
- DANC 175 Choreography for the Screen Units: 2
  DANC 181a-189b (up to 2 units)*
- DANC 212g Dance in Popular Culture Units: 4
- DANC 285 Elements of Dance Production Units: 4
- DANC 312gw African American Dance Units: 4
- DANC 333g Origins of Jazz Dance Units: 4
- DANC 342g International and Historical Perspectives on Dance Units: 4
- DANC 362 Pilates Mat Training Units: 2
- DANC 363g Dancing on the Screen Units: 4
- DANC 432 Creativity, Culture, Commerce and Community Units: 4
- DANC 442 International and Historical Perspectives on Dance II Units: 4
- DANC 452 Dancing with Words Units: 4
- DANC 483 Dance Performance Units: 2
- DANC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- DANC 495 Dance Internship Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
- DANC 499 Special Topics Units: 1, 2, 3, 4

Dance Technique Courses*

Students may apply up to 2 units of dance technique courses (DANC 181a-189b) toward the minor. Additional dance technique courses may be taken for general elective credit.
Students with previous dance experience may place into intermediate (b-level), intermediate/advanced (c-level) and/or advanced (d-level) courses. Such students must submit a Prerequisite Waiver Form, which requires the instructor's approval.

- DANC 181a Contemporary Dance Units: 2
- DANC 181b Contemporary Dance Units: 2
- DANC 181c Contemporary Dance Units: 2
- DANC 183a Ballet Units: 2
- DANC 183b Ballet Units: 2
- DANC 183c Ballet Units: 2
- DANC 183d Ballet Units: 2
- DANC 184a Jazz Dance Units: 2
- DANC 184b Jazz Dance Units: 2
- DANC 184c Jazz Dance Units: 2
- DANC 185a Hip Hop Dance Units: 2
- DANC 185b Hip Hop Dance Units: 2
- DANC 186 Afro Cuban Dance Units: 2
- DANC 187 Bollywood Dance Units: 2
- DANC 188a International Style Ballroom Dance Units: 2
- DANC 188b International Style Ballroom Dance Units: 2
- DANC 189a Tap Dance Units: 2
- DANC 189b Tap Dance Units: 2

Total Units Required: 16

Herman Ostrow School of Dentistry of USC

Since 1897, the Herman Ostrow School of Dentistry of USC has provided students with unique, intensive clinical experiences using the most advanced techniques and technologies in the field. Graduates form a tightly knit community of proud alumni, provide top-notch patient care, conduct world-class research and lead the oral health field.

The school's strength is its educators. Their world-renowned expertise, combined with innovative curricula, gives students the strong clinical education they need to become great oral health professionals. The curricula include the Doctor of Dental Surgery program, the baccalaureate in dental hygiene program and postdoctoral advanced and specialty programs: endodontics, general practice residency, operative dentistry, oral and maxillofacial surgery, orofacial pain, orthodontics, pediatric dentistry, periodontology and prosthodontics. Other programs include an advanced standing program for international dentists; online master of science degrees in geriatric dentistry, orofacial pain and oral medicine; an online graduate certificate program in geriatric dentistry, and master's and doctor of philosophy degrees in craniofacial biology.

The Herman Ostrow School of Dentistry's celebrated status as a well-funded dental and craniofacial research unit allows students to enrich their education through laboratory activities and bolster their clinical skills with strong scientific foundations.

Through community service, the Herman Ostrow School of Dentistry provides valuable clinical experiences to the students while helping disadvantaged individuals improve their oral health. Serving the surrounding community helps students develop clinical competency and learn to treat all members of diverse communities with care and compassion.

Herman Ostrow School of Dentistry of USC
dentistry.usc.edu

Administration

Avishai Sadan, DMD, MBA, *Dean*
Mahvash Navazesh, DMD, *Executive Associate Dean for Academic, Faculty and Student Affairs*
Douglas Solow, DDS, MBA, *Associate Dean of Clinical Affairs*
Roseann Mulligan, MS, DDS, *Associate Dean of Community Health Programs and Hospital Affairs and Chair, Division of Dental Public Health and Pediatric Dentistry*
Ilan Rotstein, DDS, *Associate Dean of Continuing Education and Chair, Division of Endodontics, Orthodontics and General Practice Residency*
Yang Chai, DDS, PhD, *Associate Dean of Research*
Malcolm Snead, DDS, PhD, *Chair, Division of Biomedical Sciences*
Mark Urata, MD, DDS, FACS, FAAP, *Chair, Division of Oral and Maxillofacial Surgery*
Casey Chen, DDS, PhD, *Chair, Division of Periodontology, Diagnostic Sciences and Dental Hygiene*
Sillas Duarte, Jr., DDS, PhD, *Chair, Division of Restorative Sciences*
Kim Austin, DDS, *Assistant Dean for Diversity and Inclusion*
Anita Tourah, DDS, *Assistant Dean for Admissions and Student Affairs*

Biokinesiology and Physical Therapy
pt.usc.edu
James Gordon, EdD, PT, FAPTA, *Associate Dean and Chair, Division of Biokinesiology and Physical Therapy*

Occupational Science and Occupational Therapy
chan.usc.edu
Grace Baranek, PhD, OTR/L, FAOTA, *Associate Dean and Chair, Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy*

Faculty

G. Donald and Marian James Montgomery Dean's Chair in Dentistry: Avishai Sadan, DMD, MBA
George and Mary Lou Boone Chair in Craniofacial Molecular Biology: Yang Chai, DDS, PhD
Don and Sybil Harrington Foundation Chair in Esthetic Dentistry: Pascal Magne, DMD, PhD
Sykes Family Chair in Pediatric Physical Therapy, Health and Development: Linda Fetters, PhD
Wayne G. and Margaret L. Bemis Endowed Professorship in Endodontics: Rafael Roges, DDS
Ralph W. and Jean L. Bleak Professor of Restorative Dentistry: Winston Wan-Li Chee, BDS
Mrs. T.H. Chan Professorship in Occupational Science and Occupational Therapy: Florence Clark, PhD
Charles M. Goldstein Professor of Community Dentistry: Roseann Mulligan, DDS, MS
Phillip Maurer Tennis Professorship in Clinical Dentistry: George C. Cho, DDS

Professors: Yang Chai, DDS, PhD; Chih-Kuang (Casey) Chen, DDS, PhD; Glenn Clark, MS, DDS; Tina F. Jaskoll, PhD; Michael Melnick, DDS, PhD; Cedric Minkin, PhD; Roseann Mulligan, MS, DDS; Mahvash Navazesh, DMD; Janet Moradian-Oldak, PhD; Michael Paine, BDS, PhD; Pragna Patel, PhD; Ilan Rotstein, DDS; Avishai Sadan, DMD, MBA; Michael L. Schneir, MS, PhD; Jorgen Slots, MBA, DDS, PhD, DMD; Malcolm L. Snead, DDS, PhD
Associate Professors: Winston Wan-Li Chee, BDS; George C. Cho, DDS; Sillas Duarte, Jr., DDS, PhD; Ralph L. Leung, MS, DDS; Pascal Magne, DMD, PhD; Glenn Sameshima, DDS, PhD; Arnold Tiber, DDS, PhD; Homayoun H. Zadeh, DDS, PhD
Assistant Professors of Dentistry: Ruchi Bajpai, PhD; Amy Merrill-Brugger, PhD; Jian Xu, PhD; Jiang Zhong, PhD
Professors of Clinical Dentistry: Jane Forrest, RDH, EdD; Michael Jorgensen, DDS; Diane Melrose, BSDH, MA; Michael J. Mulvehill III, DDS, MBA; Eddie Sheh, DDS; Douglas Solow, DDS, MBA; Richard Udin, DDS; Mark Urata, DDS, MD
Associate Professor (Clinical Scholar): Stephen Yen, DMD, PhD
Associate Professors of Clinical Dentistry: Loris Abedi, DDS; Kim Austin, DDS; Gardner Beale, DDS; Linda Brookman, RDH, MSHS; Reyes Enciso, PhD; Alon Frydman, DDS; Joyce Galligan, RN, DDS; Richard Green, MS Ed, DDS; Kian Kar, MS, DDS; Tae Kim, DDS; Thomas Allen Levy, MS, DDS; Anthony Park, DDS; Ramon Roges, DDS; Donna Smith, RDH, MSEd; Piedad Suarez, DDS; Joyce Sumi, RDH, MS; Thomas Tanbonliong, Jr., DDS
Assistant Professors of Clinical Dentistry: Tae Ahn, DDS; Alexander Alcaraz, DMD; Lupe Arevalo, RDH; Nissim Benbassat, DDS; Yaara Berdan, DDS; Jucheng Chen, DDS, PhD; Nam Cho, DDS, MD; Christine Edwards, PhD; Laura Elizondo, DDS; Dan Grauer, DDS, PhD; Ripsik Gukasyan, DDS; Phuu Han, DDS, PhD; Helia Hooshangi, DDS; Julie Jenks, MS, MPH, DDS; Boris Keselbrener, DDS; Richard S. Lin, DDS; W. Michael Madden, DDS; Ali Ostadali Makhmalbaf, DDS; (Mehdi) Mohammad Mohammadi, MPH, DDS; John Morzov, DDS; Cheryl Park, DDS; Kristine Parungao, BSDH; José Polido, DDS; Lisa Popkoff, DDS; Elham Radan, DMD, MSc; Rafael Roges, DDS; Gelareh Ronaghi, DDS; Neimar Sartori, DDS, MS, PhD; Parish P. Sedghizadeh, DDS; Natalia Slusky, DDS; Jenny Son, MS, DDS; Santosh Sundaresan, DDS; Marlene Talley, DDS; Anita Tourah, DDS; Christopher Truhan, DDS; Natalie Tung, DDS, MD; Felix (Kyle) Yip, DDS, MD
Research Assistant Professor: Yan Zhou, PhD
Research Associate Professor: Matthew K. Lee, MD
Clinical Professors: Ralph B. Allman, MS, DDS; David Good, DDS; John J. Lytle, DDS, MD; Gayle Macdonald, PhD; Margarita Zeichner-David, PhD
Clinical Associate Professors: Mina Habibian, DMD, PhD; John Kishibay, DMD, PhD; Bach Le, DDS, MD; Lisa Oshiro, RDH; Richard Phillips Jr., DDS; M. Hazem Seirawan, DDS, MS, MPH; Hovhanness Shnorhokian, DMD, PhD; James W. Tom, DDS, MS; Arman Torbati, DDS; Leon Unterman, DDS; Stefan Zweig, DDS
Clinical Assistant Professors: Mainul Ahsan, PhD; Gabriela Anderson, DDS; Vartuhi Avanesian, DDS; Nasrin Bahari Chopiuk, PhD; Rebekah Browder, DDS; Sangho Byun, DDS; Ting Cho, DDS; Chloe Cohen, DDS; Xiao Mei Cui, DDS; Sibel Dincer, DDS, MS;

Hannah Duong, DDS; Rosario Fernandez, RDH; Sharon Faust, DDS; Ellen M. Grady, BA; Melina Gregorian, DDS; Stan Hanes, DDS; Lisa Hou, DDS; Annie Huang, DMD; Steven Kallman, DDS; David Kang, DDS; Jean Kang, DDS, MPH; Parabjeet Kaur, DDS; Andrew Kim, DDS; Alena Knezevic, DMD, PhD; Bethany Kum, RDH; Theresia Laksmana, DMD, MS; Gerald Lee, DDS; Janet Lent, DDS; Michael Mashni, DDS; Chris Mayeda, DDS; Brett Nagatani, DDS; Camille Nakamura, DDS; Naomi Nguyen, DDS, MS; Vanthi Pham, DDS; Narendranath Ravindranath, PhD; Lucille Rotstein, BChD; Mary Satuito, DDS; Daniel Schechter, DDS; Daniela Schmid, DDS, PhD; J. Denise Tefft, PhD; Jeremy Teoh, MPH, DDS; Justin Urbano, RDH, MA; Tera Van Houten, DDS; Fabiana Varjao, PhD; Lois Velasco, DDS; Xin Wen, PhD; Ryan Wu, DDS; Xun Sean Xu, PhD, DDS; Kiyomi Yamazaki, DDS, PhD; Nineli Zadourian, DDS

Clinical Instructors: Joiakim Bakhoum, DDS; Joan Beleno, RDH; Cristy Boehm, RDH; Katheryn Bowns, RDH; Linus Chong, DDS, MS; Patricia Denny, MA; Shahrokh Jedian, DDS; Albert Mizrahi, DDS; Michaela Nguyen, RDH; Carlos Sanchez, RDH; Eugene Zakaryan, DDS

**Recipient of university-wide or school teaching award.*

Degrees Offered

The Herman Ostrow School of Dentistry awards the following degrees: the Bachelor of Science, Dental Hygiene; the Master of Science, Geriatric Dentistry; the Master of Science, Orofacial Pain and Oral Medicine; the Doctor of Dental Surgery; the Advanced Operative and Adhesive Dentistry Certificate/MS, Craniofacial Biology; the Advanced Orthodontics Certificate/MS, Craniofacial Biology; the Advanced Pediatric Dentistry Certificate/MS, Craniofacial Biology; the Advanced Pediatric Dentistry Certificate/PhD, Craniofacial Biology; the Advanced Periodontology Certificate/MS, Craniofacial Biology; Advanced Dental Education Certificate programs in Endodontics, Geriatric Dentistry, Operative and Adhesive Dentistry, Oral and Maxillofacial Surgery, Orofacial Pain, Pediatric Dentistry, Periodontology, and Prosthodontics; Master of Science in Craniofacial Biology; and the Doctor of Philosophy in Craniofacial Biology. The Herman Ostrow School of Dentistry, the Viterbi School of Engineering Department of Biomedical Engineering and the Dornsife College of Letters, Arts and Sciences Department of Biological Sciences jointly offer the minor in craniofacial land dental technology.

General Information

The Grading System

Grades are issued by members of the faculty to indicate to students their level of achievement and to provide information to committees given the responsibility of reviewing a student's total academic record and assigning honor or deficient status.

Newly admitted students to the Doctor of Dental Surgery (DDS) program, the Advanced Standing Program for International Dentists and Bachelor of Science in Dental Hygiene (BS) students are bound by the university grading system (excluding plus/minus grades), which is detailed in the Academic Standards section of this catalogue.

Grades used by course directors of required advanced specialty classes are: "Cr" — credit, "CrH" — credit with honors and "NCr" — no credit. Other notations appearing on the transcript are: "IP" — course in progress indicating that the grade in a course is not issued until a subsequent trimester; "IN" — incomplete work; "ICW" — incomplete clinical work; "MG" — missing grade; and "W" — withdraw. Students pursuing a Master of Science, Doctor of Philosophy in Craniofacial Biology and students in dental hygiene, doctoral and international classes should refer to the Academic Standards section of this catalogue.

Probation and Disqualification

A student evaluation policy has been developed that outlines methods by which the faculty can recognize outstanding achievements by students and identify those who have difficulty meeting the School's academic standards.

In this policy, the procedures dealing with the assignment and consequences of academic status, including academic probation and disqualification, are outlined in detail. It is hoped that the development of specific guidelines will eliminate confusion and minimize the amount of time spent in determining the student's status, thus allowing faculty and students to concentrate on their primary responsibility — the training of dental health professionals. Copies of student professional performance evaluation committee guidelines are available online on the Dental School intranet.

DDS (including Advanced Standing Program for International Dentists)

A student will be placed on academic warning ("AW") if: (1) the GPA of a given Academic Time Unit (ATU) falls below a 2.0; (2) a failing course grade in a course of 1 unit or less is received; (3) a student does not successfully pass National Board Part I and National Board Part II or does not take the exams during the time-frame designated; and/or (4) if in the judgment of the Student Professional Performance Evaluation Committee, such a warning is warranted for other reasons, such as poor attendance or consistent tardiness.

A student will be placed on academic probation ("AP") if: (1) a failing grade is received in 2 or more units completed in one ATU; (2) a second consecutive academic warning is warranted: (2) two conditions that justify academic warning are met in a single ATU or if a single condition is met twice in an ATU; and/or (4) a student receives an F in a module that results in an MG. A first year student in trimesters I, II or III will be placed on academic probation if: (1) the quality of preclinical work is unsatisfactory as reflected by a failing (F) grade in a module; (2) the quality of preclinical work is poor enough to jeopardize the student's timely transition to clinic with the rest of the class; (3) warranted by other factors related to the quality of preclinical/clinical work such as poor attendance, unprofessional behavior and/or poor performance in written examinations; (4) in the judgment of the Student Professional Performance Evaluation Committee, probation is warranted by other academic factors; and/or (5) recommended by the Group Practice Director, due to quality and/or quantity of clinical work.

A student will be placed on Clinical Probation upon recommendation of the Group Practice Director if a grade of "F" is received in any of the graded categories of Group Practice performance, or, in the judgment of the Group Practice Director, probation is warranted by other factors related to the delivery of health care or clinical accomplishment.

A student will be considered for disqualification if: (1) at the end of any trimester during the first year (trimesters I,II, III), a student's continued lack of preclinical accomplishment is significant enough to suggest a deterioration of preclinical skills; (2) a second academic probation is warranted; (3) a failing grade is not reconciled; (4) at the end of the academic year the grade point average for the preceding year is below 2.0; (5) academic probation is warranted while repeating a trimester on probation; (6) a deficiency in any area is determined by the Student Professional Performance Evaluation Committee to be insurmountable; (7) at the end of the second trimester of the Advanced Standing Program for International Dentists (ASPID), the cumulative average is less than 2.0; (8) it is recommended by the Group Practice Director, based on severe and irreconcilable deficiencies relating to the quality and/or quantity of patient treatment; and/or (9) at the end of any trimester following trimester VI, a student's ongoing lack of clinical accomplishment is significant enough to suggest a deterioration of skills and/or inadequate treatment of patients assigned to his/her care.

BS, Dental Hygiene

A student will be placed on academic warning ("AW") if: (1) the GPA for any given Academic Time Unit (ATU) is less than 2.0; (2) a failing grade is received in a 1-unit (or less) course; and/or (3) a grade of "D" is received in a 3-, 4- or 5-unit course. A student will be placed on academic probation ("AP") if: 2 units or more of failure are recorded at the end of any trimester; if a second consecutive academic warning is warranted; or if, in the judgment of the Student Professional Performance Evaluation Committee, probation is

warranted.

A student will be placed on clinical probation if, in the judgment of the Clinical Director, probation is warranted by other factors related to the delivery of health care or clinical accomplishment.

A student will be considered for disqualification if: (1) a third probation is warranted at the end of any trimester; (2) a failing grade is not reconciled; (3) at the end of the academic year the grade point average for the preceding year is below 2.0; (4) academic probation is warranted while repeating a trimester on probation; and/or (5) a deficiency in any area is determined by the Student Professional Performance Evaluation Committee to be insurmountable. In addition to the Dental School evaluation policy (which evaluates courses taken in the Dental School), students in the Dental Hygiene Program are also bound by the University's academic status requirements.

Advanced Specialty, online Master of Science in Orofacial Pain and Oaral Medicine, online Master of Science in Geriatric Dentistry, and online Certificate in Geriatric Dentistry

A student will be placed on academic probation if a failing grade is received in any course or if, in the judgment of the program director, a student's performance warrants such status due to academic or other factors. A student may be disqualified if: (1) the stipulations of a probationary period are not met by the required deadline; (2) a failing grade is not reconciled in the period specified by the course director; and/or (3) a deficiency in any area is acquired which is determined by the program director to be insurmountable. A student who is placed on academic probation a second time can continue in the program only with the approval of the program director and the Advanced Student Professional Performance Evaluation Subcommittee.

Honor Status

The Herman Ostrow School of Dentistry recognizes excellence in achievement by assigning special honor status during the course of study and by presentation of awards upon graduation.

Dean's List

Students who complete all course work by a prescribed deadline and earn a grade point average of 3.5 or above for a trimester are eligible for and will be considered for placement on the Dean's List for that ATU. Placement is not automatic and is not based on any single marker of performance. Students shall not be placed on the Dean's List if they are on academic warning, academic probation or continued academic probation at any time during that trimester, or have been found guilty of or engaged in a direct resolution of an ethics violation.

Omicron Kappa Upsilon Honor List

The local chapter of Omicron Kappa Upsilon (OKU), a national dental honor fraternity recognizes the top 10 percent of each doctoral dental class at the end of each academic year (August) by including these students on the OKU Honor List. The determination of the top 10 percent is based on a yearly GPA. It should be noted that placement on the OKU Honor List has no relationship to membership in OKU, which is based on overall academic achievement and professional development.

Graduation Awards

There are numerous awards made each year at graduation to recognize excellence in members of the graduating doctoral, dental hygiene and ASPID classes. A complete listing is available at the Herman Ostrow School of Dentistry.

Voluntary Withdrawal/Leave of Absence

The Herman Ostrow School of Dentistry recognizes that in some special instances it may be necessary or beneficial for a student to interrupt or discontinue dental education. A student wishing to withdraw from School or request a leave of absence must contact the Office of Academic Affairs for procedures to be followed. An approved leave of absence will not be granted for more than one year.

Students at the School of Dentistry who have not been formally dropped by the School, are considered enrolled each term unless they have submitted a letter of intent to withdraw. A student's verbal indication that he or she intends to withdraw or failure to settle a fee bill are not sufficient to eliminate the student from class rosters. Final course grades will be collected for students who do not have a letter of intent to withdraw on file with the Office of Academic Affairs.

A student who withdraws at any time during the first three weeks of a trimester will receive no grades for enrolled courses. A student who withdraws after three full weeks of an Academic Time Unit (ATU) will receive a mark of "W" for all enrolled courses not completed. Withdrawal is not permitted after the 12th week of a trimester.

Family Educational Rights and Privacy Act

The University of Southern California recognizes and acts in full compliance with regulations set in accordance with the Family Educational Rights and Privacy Act of 1974 (The Buckley Amendment). A student may have access to all records about him or her maintained by the university except those considered confidential under the act. Students of the School of Dentistry wishing to review records or to appeal for a change in those records should contact the Herman Ostrow School of Dentistry of USC Registrar. A small charge may be made to cover the time and costs of duplication of the record.

Tuition and Fees (Estimated)

Tuition at the Herman Ostrow School of Dentistry is charged on a flat fee basis for enrollment in the regular degree and advanced certificate programs of the school. Exceptions do not apply to students who have courses waived based on their prior education. In such cases, students are charged the standard flat fee for the program in which they are enrolled.

Auditors pay the regular tuition rate. Auditors are not required to participate in class exercises (discussions and examinations); they receive no grades or credit.

The information outlined here is for Herman Ostrow School of Dentistry fees and tuition deposits only. For information about Herman Ostrow School of Dentistry tuition and university fees, refer to the Tuition and Fees (Estimated), Fall 2017 section of this catalogue. The university reserves the right to assess new fees or charges as it may determine.

Processing Fee (not refundable):	
Domestic applicants	$85.00
Graduates of foreign dental schools or students requiring a student visa	145.00
Commitment Deposit	
Dentistry	3,000.00
Dental Hygiene	2,000.00
International Dental	3,000.00
Advanced Dental	1,000.00-1,500.00
Pre-Tuition Payment (refundable in accordance with the refund policy)	1,500.00

Mandatory Fees (School of Dentistry fees only; for other fees, refer to the Tuition and Fees (Estimated), Fall 2017 section of this catalogue.)	
CDA Dues	5.00
Doctoral dental and Advanced Standing Program for International Dentists students only; spring only.	
ASDA Dues	80.00
Doctoral dental program and Advanced Standing Program for International Dentists students only; fall only.	
Special Fees	
Transcript Fee	10.00
Gown Usage Fee	165.00
Disability Insurance (Doctoral, Advanced Standing Program for International Dentists and Advanced Certificate)	55.00
Scrubs (first year only)	350.00

Student Issue

Figures shown below are approximate. The Herman Ostrow School of Dentistry reserves the right to change fees at any time.

DDS Program

1st Year	Instruments and supplies	$9,595.00
	IMS Fee	4,224.00
2nd Year	Instruments and supplies	2,917.00
	IMS Fee	4,224.00
3rd Year	Instruments and supplies	300.00
	IMS Fee	4,224.00
4th Year	Instruments and supplies	300.00
	IMS Fee	2,816.00

Advanced Standing Program for International Dentists
Incoming

(Su 2018)	Instruments and supplies	$10,657.00
	IMS Fee	1,408.00
1st Year	Instruments and supplies	87.00
	IMS Fee	4,224.00
2nd Year	Instruments and supplies	300.00
	IMS Fee	2,816.00

Advanced Dentistry Programs

IMS Fee	Endodontics, 1st Year	$2,567.00
	Endodontics, 2nd Year	2,065.00
	Orthodontics, 1st Year	1,070.00
	Orthodontics, 2nd Year	915.00
	Orthodontics, 3rd Year	610.00
	Pediatric Dentistry, 1st Year	2,220.00
	Pediatric Dentistry, 2nd Year	0.00
	Periodontology, 1st Year	2,370.00
	Periodontology, 2nd Year	2,215.00
	Periodontology, 3rd Year	765.00
	Prosthodontics, 1st Year	2,567.00
	Prosthodontics, 2nd Year	2,018.00
	Prosthodontics, 3rd Year	610.00
	Orofacial Pain and Oral Medicine, 1st Year	2,173.00
	Orofacial Pain and Oral Medicine, 2nd Year	610.00
	Operative and Adhesive Dentistry, 1st Year	$2,567.00
	Operative and Adhesive Dentistry, 2nd Year	$2,065.00

Dental Hygiene Program

1st Year	Instruments and supplies	$3,695.00
	IMS Fee	1,506.00
	Textbooks	2,308.00
2nd Year	Instruments and supplies	224.00
	IMS Fee	1,004.00
	Textbooks	911.00

Financial Aid

Detailed information concerning financial aid programs available to dental students can be obtained by contacting the Herman Ostrow School of Dentistry of USC Office of Financial Aid at (213) 740-2841, uscsdfa@usc.edu or visit dentistry.usc.edu/admission.

Undergraduate Degree

Progressive Degree Programs

The following progressive degrees are available for students enrolled in the Dental Hygiene program: MPH at the Keck School of Medicine, and MA in Gerontology from the Davis School of Gerontology. Applicants to the program must have completed 64 units of course work and must submit their applications prior to completion of 96 units of course work. Applicants do not have to submit GRE scores, but are expected to have a minimum GPA of 3.0 at the time of application. The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and letters of recommendation from two USC faculty members. The requirements for both the bachelor's degree and the progressive degrees must be satisfied. For further details on progressive degree programs, see the Requirements for Graduation page.

Continuing Professional Education

The Herman Ostrow School of Dentistry of USC Office of Continuing Professional Education provides wide array of continuing education courses, national and international symposia, hands-on workshops, live patient experiences, on-line modules, webinars and travel and learn programs. These educational activities are designed to provide up-to-date and innovative concepts and trainings to dentists, dental hygienists, dental technicians and auxiliary personnel, and to provide the dental community with the opportunity for life-long learning from outstanding scholars. The Herman Ostrow School of Dentistry of USC is an ADA CERP (American Dental Association Continuing Education Recognition Program) and AGD (Academy of General Dentistry) Recognized Provider. Courses fulfill continuing education requirements of the dental boards at different states in the United States for re-licensure of dentists and allied dental professionals.

Courses are provided throughout the year on various subjects of dentistry: oral health, dental esthetics, oral medicine, physical diagnosis, dental materials, dental laboratory techniques, dental management, endodontics, periodontics, implants, oral surgery, restorative dentistry, fixed and removable prosthodontics, instrumentation, occlusion, oral pathology, dental hygiene, dental auxiliary education, patient education, pharmacology, principles of dental practice, radiology, sedation and emergencies.
Course schedule and brochure can be viewed online at dentalcontinuingeducation.usc.edu and online registration is available. Inquiries can be sent to Herman Ostrow School of Dentistry of USC Office of Continuing Professional Education, 925 West 34th Street, Room 201J, Los Angeles, CA 90089-0641, (213) 821-2127, FAX: (213) 740-3973, email: cedental@usc.edu.

Minor

Craniofacial and Dental Technology Minor

The Herman Ostrow School of Dentistry, the Viterbi School

of Engineering Department of Biomedical Engineering and the Dornsife College of Letters, Arts and Sciences Department of Biological Sciences jointly offer the minor in craniofacial and dental technology. This minor is designed to prepare engineering, pre-dental, pre-medical and biological sciences undergraduates to enter the dental biotechnology industry as well as to introduce them to recent innovations in craniofacial sciences and therapeutics. The course work introduces students to concepts in craniofacial histology and embryology, head-and-neck anatomy, genetics, biochemistry and biotechnology as well as applications to dental diagnostics, imaging and dental therapies (dental implants, restorative dentistry, craniofacial genetics).

This minor requires 16 core units and a minimum of 4 units of electives. Students who have not fulfilled prerequisite requirements for core or elective courses will have to take additional units, depending on their major. In addition, students must take at least 16 units not used for their major or offered by their major department.

Please see a biomedical engineering, biological sciences or Herman Ostrow School of Dentistry adviser for specific program requirements.

Core Required Courses, Upper Division

- DENT 412 Fundamentals of Craniofacial and Dental Technology Units: 3
- DHIS 310 Basic Tissues and Histology and Embryology Units: 2
- BISC 320L Molecular Biology Units: 4
- BISC 325 Genetics Units: 4 *
- BME 410 Introduction to Biomaterials and Tissue Engineering Units: 3 *

Total core units: 16

Electives

Enroll in at least two courses from the following:

- BISC 330L Biochemistry Units: 4 *
- BISC 403 Advanced Molecular Biology Units: 4 *
- BISC 406L Biotechnology Units: 4 *
- BISC 410 Applications of Molecular Biology to Medicine Units: 4 *
- BISC 435 Advanced Biochemistry Units: 4 *
- BME 404 Biomechanics Units: 3 *
- BME 416 Development and Regulation of Medical Products Units: 3
- BME 451 Fundamentals of Biomedical Microdevices Units: 3 *
- DENT 221 Introduction to Dentistry Units: 1
- ENGR 305 Engineering Biology Matters Units: 3
- HP 340L Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4
- MASC 310 Materials Behavior and Processing Units: 3

Total elective units: 4-8

Note:

**Prerequisite required*

Master's Degree

Geriatric Dentistry (MS)

The Master of Science in Geriatric Dentistry online program consists of a 36.5-month program leading to a master's degree in geriatric dentistry. The curriculum is designed to prepare students to work in the area of geriatric dentistry. The program consists of a series of didactic courses where the students will gain in-depth knowledge about older adults from a variety of perspectives that will include learning about the aging process and how it affects and is affected by social, behavioral and health factors commonly seen with aging. The program will focus on the most common medical and oral health conditions seen in older adults and their treatments, as well as cognitive changes, mental disorders, and social factors that will impact and thus require adjustments to oral health care delivery.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- GDEN 710 Knowledge Assessment for GDEN Students Units: 1
- GDEN 711a Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 711b Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 711c Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 711d Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 711e Case Portfolio Preparation for GDEN Students Units: .5,
- GDEN 712a Capstone Research Project for GDEN Students Units: .5
- GDEN 712b Capstone Research Project for GDEN Students Units: .5
- GDEN 712c Capstone Research Project for GDEN Students Units: .5
- GDEN 712d Capstone Research Project for GDEN Students Units: .5
- GDEN 713 Common Systemic Conditions in Older Patients Units: 2
- GDEN 714 Topics in Gerontology Units: 2
- GDEN 715 Geriatric Dentistry Issues Units: 2
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 710a Knowledge Assessment for OFPOM Residents Units: 1
- GDEN 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2

Total units: 30.5

Graduate Certificate

For Business

Geriatric Dentistry Graduate Certificate

The graduate certificate in geriatric dentistry program is designed to prepare practicing dentists and dental hygienists who have already completed their professional trainings in general or advanced dentistry or dental hygiene to acquire a greater understanding of gerontology and geriatrics. Dental hygienists must have a minimum of a baccalaureate degree in order to apply for the program. The program consists of a total of 12 unit courses delivered online and in-person in which the students will gain knowledge about older adults from a variety of perspectives, focusing on those topics that will have a direct impact on professional practice.

Clinical privilege status is not required for any of the course work. Students admitted to the non-degree certificate program are expected to enroll each semester until the program is completed.

There are seven required courses (6 online and one residential) and no electives. As part of the required curriculum, all students will attend USC for a two-week period during the summer trimester following completion of the didactic courses for a knowledge assessment course (GDEN 710). This course will consist of reviews, practical demonstrations and assessment activities.

Required Courses

- GDEN 710 Knowledge Assessment for GDEN Students Units: 1
- GDEN 711a Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 711b Case Portfolio Preparation for GDEN Students Units: .5
- GDEN 713 Common Systemic Conditions in Older Patients Units: 2
- GDEN 714 Topics in Gerontology Units: 2
- GDEN 715 Geriatric Dentistry Issues Units: 2
- GDEN 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2

Oral Pathology and Radiology Certificate

The Certificate in Oral Pathology and Radiology is a hybrid-online program with a total of 10 courses (13 academic units), specifically designed for the practicing professional who wants to improve skills and gain expertise to deliver the best care for patients with complex oral conditions. The certificate curriculum is designed with a series of didactic courses where students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of Oral Pathology and to use conventional and advanced imaging studies for the diagnostic process. The goal of this postdoctoral one-year certificate program is to give practicing dental or medical health care providers advanced clinical, didactic, and evidence-based education in the field of oral diagnostics, specifically oral pathology and radiology. With the onset of new diseases to dentistry and advancements in diagnostics and therapeutics in the last few decades, many clinicians may feel ill-prepared to comprehensively manage patients with oral lesions or patients with oral manifestations of complex medical conditions. Therefore, this program taught by expert USC Henry Ostrow School of Dentistry faculty is designed to provide clinicians with knowledge and confidence necessary to provide patient care.

The students participate in weekly, live, online sessions with faculty and other program residents, ensuring a collaborative and social learning experience. There are two-three courses per trimester, with two-four streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions). The program is primarily online but also includes a 10-day practical training conducted on-campus at USC, with skills development and competence evaluation. At the end of the program, the students present and defend a case portfolio.

Course List

- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OPR 701 Bone Pathology and Oral and Maxillofacial Radiology Units: 1
- OPR 702 Principles and Practice of Oral Medicine Units: 1
- OPR 703 General and Systemic Human Pathology Units: 1
- OPR 704 Oral Pathology and Maxillofacial Medicine Units: 3
- OPR 705 Oral Histopathology and Surgical Pathology Units: 2
- OPR 706 Evidence-Based Practice and Literature Review Units: 1
- OPR 730a Case Portfolio Preparation Units: 0.5
- OPR 730b Case Portfolio Preparation Units: 0.5
- OPR 732 Knowledge Assessment Units: 1

Orofacial Pain Certificate

The Certificate in Orofacial Pain is a hybrid program (face-to-face and online classes) with a total of nine courses (12.5 academic units), specifically designed for the practicing dentist who wants to improve skills and gain expertise to deliver the best care for patients with complex conditions. The certificate curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of orofacial pain, including masticatory musculoskeletal pain, neurogenic orofacial pain, temporomandibular disorders, headaches, orofacial motor disorders including orofacial dystonias and bruxism, intraoral, intracranial, extracranial and systemic disorders that cause orofacial pain.

Students will participate in weekly live webinar sessions with the faculty and other residents, ensuring a collaborative and social learning experience. There are two-three courses per trimester, with two-four streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions). The program is primarily online but also includes a 10-day practical training program conducted at the USC campus, with skills development and competence evaluation. At the end of the program, the students present and defend a case portfolio.

This program is consistent with the global vision of the University of Southern California, and looks for a worldwide presence. All students will need English language proficiency, but we will provide support for our Spanish speaking students. This is achieved by providing lectures with the option of closed captioning in Spanish and live-webinars both in English and Spanish.

Course List

Course List of the Orofacial Pain Certificate

- OFP 705 Neurogenic Based Oral and Facial Pains Units: 2
- OFP 706 TMD, Orthopedics, Rheumatology, and Physical Therapy Units: 2
- OFP 707 Pharmacology Series Units: 2
- OFP 710 Knowledge Assessment Units: 1
- OFP 723 Systems Physiology, Motor Disorders, and Sleep Apnea Units: 2
- OFP 724 Psychological and Psychometric Assessment Units: 2
- OFP 730a Case Portfolio Preparation Units: 0.5
- OFP 730b Case Portfolio Preparation Units: 0.5
- OFP 730c Case Portfolio Preparation Units: 0.5

Doctoral Degree

Dental Surgery (DDS)

The Doctor of Dental Surgery (DDS) program covers 11 consecutive 14-week trimesters. The course of study maximizes the interrelationship of all basic sciences and clinical detail sciences required by the Commission on Dental Accreditation of the American Dental Association.

USC's reputation for excellent preparation of its graduates for private practice has been enhanced by curriculum changes that permit students to begin clinical experience in their first year. At the same time, opportunity and encouragement are given to those who might elect to pursue careers in teaching and research.

Admission

The Herman Ostrow School of Dentistry of USC admits 144 students each year for the curriculum leading to the Doctor of Dental Surgery. Admission to the school is granted through the Office of Admissions, which receives and processes all applications, evaluates credentials and notifies applicants who qualify for entrance by forwarding letters of acceptance. Students are selected by the Admissions Committee, which bases its decision on consideration of an applicant's personal qualities, aptitude and superior scholarship necessary for the successful study and practice of dentistry. Candidates who have received or will receive a baccalaureate or higher degree will be considered more favorably than applicants who have fulfilled only minimum requirements. As a precondition of enrollment, accepted students must undergo a background screening and provide evidence of sound health and meet the school's health requirements.

Admission information may be obtained by mail, online or in person. Address inquiries to: Herman Ostrow School of Dentistry of USC, Office of Admissions, 925 W. 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841, email: uscsdadm@usc.edu or access the school's Website at dentistry.usc.edu.

Admission Requirements

Minimum entrance requirements include: (1) graduation from an accredited secondary school, with credit for at least 12 academic

units, including three in English, three in one laboratory science course, two in one foreign language and two in college preparatory mathematics; (2) a minimum of 60 semester units, or the equivalent completed or in progress, at the time of application, in an accredited college or university in the United States or Canada. A baccalaureate or higher degree is preferred. No more than 60 semester hours earned at a community college will be accepted and preference is given to candidates who complete the science prerequisites at a four-year institution; (3) required courses, semester hours with laboratory required: 8 units each — one year's completed course — of general biology, inorganic/general chemistry, organic chemistry, physics; other courses: English composition (8 units or one year), philosophy, history or fine arts (8 units or one year). All prerequisite course work must be completed with a grade of "C" or better; (4) it is strongly suggested that students take additional upper division courses. Biochemistry, human or comparative anatomy, embryology, histology, genetics, physiology, microbiology, immunology and economics are examples of recommended courses; (5) all students who apply for admission to the School of Dentistry are required to take the Dental Admission Test (DAT), given under the auspices of the Council on Dental Education of the American Dental Association. The Dental Admission Test must be taken no later than February 1 of the year for which formal application is made.

To expedite the admissions process, it is recommended that the DAT be taken during a testing period before filing formal application through the Associated American Dental Schools Application Service (AADSAS). Test scores more than three years old will not be accepted. Applicants should check with the Dental Admissions Office. Full information about the test is sent to all applicants upon request, or can be obtained from the Division of Educational Measurements, Council on Dental Education, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611. No action can be taken on the application until DAT scores have been received.

(6) An interview at the School of Dentistry is required of all applicants who appear qualified for consideration as determined by the Office of Admissions; (7) complete transcripts of undergraduate and graduate work, including degree notations, must be on file in the Office of Admissions by July 15 prior to enrolling; (8) residency requirements: as a private institution, USC seeks a culturally and geographically diverse population. Therefore, out-of-state applicants are evaluated and selected based on the same criteria as California residents.

No applicant will be denied admission on the basis of race, religion, creed or disability. All admitted students must provide evidence that functional health is sufficient to meet professional demands, both in the student role and as an entry-level practitioner.

Application Procedure

(1) An application form should be obtained from the Associated American Dental Schools Application Service (AADSAS) online at adea.org. (2) The AADSAS application form must be completed and returned to AADSAS. USC requires that the application be received by AADSAS no later than February 1 of the year in which enrollment is anticipated. Early application and file completion is recommended. Do not send the application form to USC directly. In addition to submitting the ADEA AADSAS application, applicants must submit DAT scores and one official transcript from every college/university attended directly to AADSAS. Application evaluation cannot begin until these items are received by ADEA AADSAS. (3) Applicants are required to pay a nonrefundable $85 processing fee, which should be forwarded directly to the Ostrow Office of Admissions (international students requiring a student visa must submit a $145 processing fee). (4) Notification from the Office of Admissions will be sent, indicating that the application has been received from AADSAS. (5) Candidates who are being seriously considered for acceptance will be sent an invitation for an interview and will be required to submit additional information. No interview can be granted unless the file is complete, including DAT scores. (6) Notification of acceptance will be sent by the Office of Admissions sometime after December 1. (7) A non-refundable commitment fee of $500 is required from admitted students by the deadline indicated in the acceptance letter to hold a place in the entering class. A second commitment fee of $1,000 is required by July 1. The final commitment fee of $1,500 is required by August 1. These non-refundable fees will be applied toward tuition upon enrollment. (8) Preregistration for the first year dental class is held before orientation. (9) All entering students are required to prepay $3,000 toward the initial tuition by July 1. (10) As a precondition of enrollment, accepted students undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and provide evidence of sound health and meet the school's health requirements.

Orientation

Students who have been accepted into the predoctoral dental program and who have reserved their place in the class will receive information on orientation during the first two weeks in July.

Orientation takes place prior to the first week of classes. The purpose of the orientation program is to acquaint incoming students with the school, its policies, programs, faculty and facilities. Incoming students receive financial counseling and receive their initial equipment issue during this orientation period.

Graduation Requirements

A student is eligible for the Doctor of Dental Surgery after successfully attaining the qualitative and quantitative level expected in the doctoral curriculum, specifically: has met the 2.0 GPA requirement for graduation; has no conditions existing at the termination of the final academic time unit that would qualify him or her for academic probation, clinical probation or academic disqualification; has no marks of "F," "IN" or "MG"; has passed Part I and Part II of the National Dental Board Examinations; has demonstrated the personal characteristics expected of a professional; has fulfilled his or her financial obligations as well as all other obligations and requirements for graduation.

In addition to meeting the academic requirements indicated above, students must have a completed administrative clearance form on file in the Office of Academic Affairs before a degree can be conferred. This administrative clearance indicates that the student has met other obligations to the university and to the student's patients.

Curriculum

The curriculum leading to the Doctor of Dental Surgery degree undergoes constant change to meet the challenges of modern dental practice.

Doctor of Dental Surgery — Learner-Centered Curriculum

Required Courses

- DPBL 501a Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 501b Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 501c Dental Problem Based Learning — Human Structure I Units: 3
- DPBL 502a Dental Problem Based Learning — Human Function I Units: 8
- DPBL 502b Dental Problem Based Learning — Human Function I Units: 8
- DPBL 502c Dental Problem Based Learning — Human Function I Units: 8
- DPBL 503a Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 503b Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 503c Dental Problem Based Learning — Human Behavior I Units: 2
- DPBL 504a Dental Problem Based Learning — Human Clinical Dentistry I Units: 4
- DPBL 504b Dental Problem Based Learning — Human Clinical Dentistry I Units: 4

- DPBL 504c Dental Problem Based Learning — Human Clinical Dentistry I Units: 4
- DPBL 511a Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 511b Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 511c Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 512a Dental Problem Based Learning — Human Function II Units: 5
- DPBL 512b Dental Problem Based Learning — Human Function II Units: 5
- DPBL 512c Dental Problem Based Learning — Human Function II Units: 5
- DPBL 513a Dental Problem Based Learning — Human Behavior II Units: 3
- DPBL 513b Dental Problem Based Learning — Human Behavior II Units: 3
- DPBL 513c Dental Problem Based Learning — Human Behavior II Units: 2
- DPBL 514a Dental Problem Based Learning — Human Clinical Dentistry II Units: 7
- DPBL 514b Dental Problem Based Learning — Human Clinical Dentistry II Units: 7
- DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II Units: 8
- DPBL 521a Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521b Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521c Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 522a Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522b Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522c Dental Problem Based Learning — Human Function III Units: 1
- DPBL 523a Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523b Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523c Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 531a Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 531b Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 532a Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 532b Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 533a Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 533b Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13
- DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13

Note:

For those individuals who are not familiar with the problem-based pedagogy which is an integrated curriculum, the content of the curriculum listed above is based on what was traditionally housed in the following courses.

Doctor of Dental Surgery — Traditional Program Curriculum

Required Courses

- AMED 502 Emergency Medicine Units: 2
- AMED 523 Pharmacosedation II Units: 1
- AMED 524 Pain and Anxiety Control Units: 2
- ANAT 521 Head and Neck Anatomy Units: 2
- ANAT 522 Systemic Human Anatomy Units: 3
- ANAT 523 Head and Neck Dissection Units: 1
- CMDT 501 Introduction to Community Dentistry Programs Units: 1
- CMDT 502a Contemporary Dental Practice Units: 2
- CMDT 502b Contemporary Dental Practice Units: 2
- CMDT 507a Ethical Issues in the Practice of Dentistry Units: 0
- CMDT 507b Ethical Issues in the Practice of Dentistry Units: 0
- CMDT 507c Ethical Issues in the Practice of Dentistry Units: 1
- CMDT 601 Mobile Clinic Units: 1
- DBIO 501 Biochemistry and Molecular Biology Units: 2
- DIAG 521 Principles of Oral Radiology Units: 2
- DIAG 522 Radiographic Techniques Units: 1
- DMAT 505 Dental Materials Update Units: 1
- DMAT 521a Dental Materials Units: 2
- DMAT 521b Dental Materials Units: 2
- DPHR 501 Pharmacology Units: 3
- ENDO 501 Clinical Endodontics Units: 1
- ENDO 502 Advanced Endodontics Units: 1
- ENDO 521 Preclinical Endodontics Units: 3
- ENDO 562a Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562b Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562c Clinic: Concentrated Early Endodontics Units: 0
- ENDO 562d Clinic: Concentrated Early Endodontics Units: 1
- ENDO 563a Clinic: Endodontic Therapy Units: 0, 1, 2
- ENDO 563b Clinic: Endodontic Therapy Units: 0, 1, 2
- FPRO 521 Preclinical Fixed Prosthodontics I Units: 3
- FPRO 522 Preclinical Fixed Prosthodontics II Units: 3
- FPRO 561a Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561b Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561c Clinic: Fixed Prosthodontics I Units: 0
- FPRO 561d Clinic: Fixed Prosthodontics I Units: 3
- FPRO 562a Clinic: Fixed Prosthodontics II Units: 0, 1, 2, 3
- FPRO 562b Clinic: Fixed Prosthodontics II Units: 0, 1, 2, 3
- GSPD 504 Dental Treatment of the Geriatric and Special Patient Units: 2
- GSPD 562a Clinic: Geriatric Dentistry Units: 0
- GSPD 562b Clinic: Geriatric Dentistry Units: 0
- GSPD 562c Clinic: Geriatric Dentistry Units: 1
- GSPD 563a Clinic: Special Patient Care Units: 0
- GSPD 563b Clinic: Special Patient Care Units: 0
- GSPD 563c Clinic: Special Patient Care Units: 1
- HBHV 501 Behavioral Skills in Dentistry Units: 1
- HBHV 502 Interactional Skills Units: 1
- HBHV 504 Patient Education and Management Units: 1
- HBHV 550 Communications in Clinical Dentistry Units: 1
- HBHV 561a Clinic: Behavioral Dentistry Units: 0
- HBHV 561b Clinic: Behavioral Dentistry Units: 0
- HBHV 561c Clinic: Behavioral Dentistry Units: 0
- HBHV 561d Clinic: Behavioral Dentistry Units: 0
- HBHV 561e Clinic: Behavioral Dentistry Units: 1
- INDD 501 Applied Growth and Development Units: 1
- INTB 504 Human Craniofacial Development and Genetics Units: 3
- INTB 521 Basic and Medical Microbiology Units: 2
- INTP 503a Evaluation of Scientific Information in Clinical Practice Units: 0, 1
- INTP 503b Evaluation of Scientific Information in Clinical Practice Units: 0, 1
- INTR 503 Preclinical Diagnosis and Treatment Planning Units: 2
- INTR 524a Clinical Practice Units: 0
- INTR 524b Clinical Practice Units: 0

- INTR 524c Clinical Practice Units: 0
- INTR 524d Clinical Practice Units: 0
- INTR 524e Clinical Practice Units: 0
- INTR 524f Clinical Practice Units: 3
- INTR 550a Introduction to Clinical Dentistry Units: 0, 1
- INTR 550b Introduction to Clinical Dentistry Units: 0, 1
- INTR 551a Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551b Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551c Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551d Clinical Diagnosis and Treatment Planning Units: 0
- INTR 551e Clinical Diagnosis and Treatment Planning Units: 1
- INTR 553a Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553b Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553c Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553d Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553e Clinic: Diagnosis and Treatment Planning Units: 0
- INTR 553f Clinic: Diagnosis and Treatment Planning Units: 2
- INTX 501a Integrated Basic and Applied Science I Units: 1
- INTX 501b Integrated Basic and Applied Science I Units: 1
- INTX 501c Integrated Basic and Applied Science I Units: 2
- INTX 501d Integrated Basic and Applied Science I Units: 2
- INTX 501e Integrated Basic and Applied Science I Units: 2
- INTX 501f Integrated Basic and Applied Science I Units: 2
- INTX 501h Integrated Basic and Applied Science I Units: 1
- INTX 502a Integrated Basic and Applied Science II Units: 1
- INTX 502b Integrated Basic and Applied Science II Units: 1
- INTX 502c Integrated Basic and Applied Science II Units: 2
- INTX 502d Integrated Basic and Applied Science II Units: 3
- INTX 502e Integrated Basic and Applied Science II Units: 1
- INTX 502f Integrated Basic and Applied Science II Units: 2
- MBIO 501 Immunology Units: 2
- OCCL 502 Occlusion Units: 1
- OCCL 521a Dental Morphology and Function Units: 3
- OCCL 521b Dental Morphology and Function Units: 2
- OCCL 522 Occlusion Laboratory Units: 1
- OMOD 501 Emergency Dental Treatment Units: 1
- OMOD 502 Chronic Orofacial Pain Units: 2
- OMOD 506 Infection Control Units: 1
- OMOD 551a Clinic: Physical Evaluation Units: 0
- OMOD 551b Clinic: Physical Evaluation Units: 0
- OMOD 551c Clinic: Physical Evaluation Units: 0
- OMOD 551d Clinic: Physical Evaluation Units: 1
- OMOD 562a Clinic: Hospital Dentistry Units: 0
- OMOD 562b Clinic: Hospital Dentistry Units: 0
- OMOD 562c Clinic: Hospital Dentistry Units: 0
- OMOD 562d Clinic: Hospital Dentistry Units: 1
- OMOD 563a Clinic: Emergency Dental Treatment Units: 0
- OMOD 563b Clinic: Emergency Dental Treatment Units: 0
- OMOD 563c Clinic: Emergency Dental Treatment Units: 0
- OMOD 563d Clinic: Emergency Dental Treatment Units: 0
- OMOD 563e Clinic: Emergency Dental Treatment Units: 0
- OMOD 563f Clinic: Emergency Dental Treatment Units: 1
- OPER 521a Preclinical Operative Dentistry I Units: 1, 2, 3
- OPER 521b Preclinical Operative Dentistry I Units: 1, 2, 3
- OPER 522 Preclinical Operative Dentistry II Units: 3
- OPER 561a Clinic: Operative Dentistry I Units: 0
- OPER 561b Clinic: Operative Dentistry I Units: 0
- OPER 561c Clinic: Operative Dentistry I Units: 0
- OPER 561d Clinic: Operative Dentistry I Units: 6
- OPER 562a Clinic: Operative Dentistry II Units: 0, 1, 2, 3, 4, 5, 6
- OPER 562b Clinic: Operative Dentistry II Units: 0, 1, 2, 3, 4, 5, 6
- ORTH 501a Seminar: Orthodontics Units: 0, 1
- ORTH 501b Seminar: Orthodontics Units: 0, 1
- ORTH 521 Preclinical Orthodontics Units: 2
- ORTH 561a Clinic: Orthodontic Therapy Units: 0
- ORTH 561b Clinic: Orthodontic Therapy Units: 0
- ORTH 561c Clinic: Orthodontic Therapy Units: 0
- ORTH 561d Clinic: Orthodontic Therapy Units: 0
- ORTH 561e Clinic: Orthodontic Therapy Units: 0
- ORTH 561f Clinic: Orthodontic Therapy Units: 2
- PEDO 501 Clinical Pediatric Dentistry Units: 1
- PEDO 521 Preclinical Pediatric Dentistry Units: 2
- PEDO 551a Clinic: Dentistry for Children I Units: 0
- PEDO 551b Clinic: Dentistry for Children I Units: 0
- PEDO 551c Clinic: Dentistry for Children I Units: 2
- PEDO 561a Clinic: Dentistry for Children II Units: 0
- PEDO 561b Clinic: Dentistry for Children II Units: 0
- PEDO 561c Clinic: Dentistry for Children II Units: 1
- PERI 502 Periodontal Diseases and Elements of Therapeutic Judgment Units: 2
- PERI 504 Advanced Periodontics Units: 1
- PERI 521 Periodontal Surgery Units: 2
- PERI 550a Clinic: Introductory Periodontal Therapy Units: 1
- PERI 550b Clinic: Introductory Periodontal Therapy Units: 1
- PERI 561a Clinic: Periodontal Therapy I Units: 0
- PERI 561b Clinic: Periodontal Therapy I Units: 0
- PERI 561c Clinic: Periodontal Therapy I Units: 0
- PERI 561d Clinic: Periodontal Therapy I Units: 1
- PERI 562a Clinic: Periodontal Therapy II Units: 0, 1, 2
- PERI 562b Clinic: Periodontal Therapy II Units: 0, 1, 2
- PTHL 501 Oral Pathology Units: 4
- PTHL 504a Seminar: Oral Pathology Units: 0
- PTHL 504b Seminar: Oral Pathology Units: 0
- REST 501 Preclinical Operative and Fixed Prosthodontics (Conjoint) Units: 2
- REST 503a Clinical Restorative Dentistry Units: 1
- REST 503b Clinical Restorative Dentistry Units: 1
- REST 504 Diagnosis and Treatment Planning Units: 1
- REST 521 Preclinical Operative/Fixed Prosthodontics Laboratory Units: 3
- REST 522 Aesthetics in Dentistry Units: 1
- RPRO 502 Removable Complete Prosthodontics Units: 1
- RPRO 503a Preclinical Removable Prosthodontics and Implants Units: 2
- RPRO 503b Preclinical Removable Prosthodontics and Implants Units: 1
- RPRO 510 Implant Dentistry Units: 1
- RPRO 513 Removable Partial Prosthodontics Units: 1
- RPRO 523a Preclinical Removable Prosthodontics and Implants Laboratory Units: 1
- RPRO 523b Preclinical Removable Prosthodontics and Implants Laboratory Units: 1
- RPRO 550 Removable Complete Prosthodontics Clinic I Units: 1
- RPRO 561a Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561b Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561c Clinic: Removable Complete Prosthodontics I Units: 0
- RPRO 561d Clinic: Removable Complete Prosthodontics I Units: 2
- RPRO 562a Clinic: Removable Complete Prosthodontics II Units: 0, 1, 2, 3
- RPRO 562b Clinic: Removable Complete Prosthodontics II Units: 0, 1, 2, 3
- RPRO 571a Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571b Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571c Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571d Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571e Clinic: Removable Partial Prosthodontics Units: 0
- RPRO 571f Clinic: Removable Partial Prosthodontics Units: 2
- SURG 501 Oral Surgery Units: 2
- SURG 562a Clinic: Oral Surgery I Units: 0
- SURG 562b Clinic: Oral Surgery I Units: 0
- SURG 562c Clinic: Oral Surgery I Units: 1
- SURG 563a Clinic: Oral Surgery II Units: 0
- SURG 563b Clinic: Oral Surgery II Units: 0
- SURG 563c Clinic: Oral Surgery II Units: 1
- SURG 564a Clinic: Hospital Oral Surgery Units: 0

- SURG 564b Clinic: Hospital Oral Surgery Units: 0
- SURG 564c Clinic: Hospital Oral Surgery Units: 0
- SURG 564d Clinic: Hospital Oral Surgery Units: 1

Note:
Five units of selective courses are required in addition to the above.

Advanced Standing Program for International Dentists Curriculum

Advanced Placement Doctoral Dental Degree

The Herman Ostrow School of Dentistry of USC offers a unique pathway for talented students to earn a bachelor's degree in Dental Hygiene (DH) on their way to a Doctor of Dental Science (DDS) degree. Successful candidates for the six-year DH to DDS Pathway will immediately transition to the DDS degree program following graduation from the Dental Hygiene program.

Admission Requirements

(1) Application materials for the American Dental Education Association Dental Hygiene Application Service (ADEA DHCAS) are due by March 1 of the year in which enrollment are desired. (2) Applicants must complete the Dental Hygiene prerequisite and USC General Education course work prior to entering the program. (3) The Dental Admissions Committee makes the final selection of students admitted for the pathway. Five to ten students are accepted each year. (4) Prior to enrollment in the DDS program, applicants must submit an application through the American Dental Education Association's Associated American Dental Schools Application Service (ADEA AADSAS). The AADSAS application must be submitted by the February 1 deadline during the applicant's senior year. Applicants must also take the Dental Admission Test (DAT) and achieve a score of 15 or higher in all tested categories. DAT results must be submitted by the applicant's senior year of Dental Hygiene studies.

Additional requirements include: Successful graduation from the Dental Hygiene program with a minimum overall GPA of 3.0; a letter of recommendation from the Dental Hygiene program director and recommendations from two additional USC faculty members; certification that the student has maintained the school's professional standards and ethical requirements.

Advanced Standing Program for International Dentists

This program is designed to teach qualified dentists from other countries the knowledge and skills available in the United States. Time necessary to complete the program depends upon the doctor's ability; a minimum of two years is usually required. About eight months will be devoted to fundamental, technical and academic procedures. The remaining time is devoted to clinical training as necessary to achieve graduation qualifications. Graduation from the Advanced Standing Program for International Dentists leads to a DDS degree but does not give automatic licensure to practice dentistry. However, graduates are eligible to take the State Board Dental Examinations in most of the United States. (A few states still require U.S. citizenship.)

Additional information may be requested from the Herman Ostrow School of Dentistry of USC, Office of Admissions , 925 W. 34th Street, Room 201, Los Angeles, CA 90089-0641, (213) 740-2841, email: uscsdadm@usc.edu or access the school's Website at dentistry.usc.edu.

Admission

Prospective students must apply to the Advanced Standing Program for International Dentists through the ADEA Centralized Application for Advanced Placement for International Dentists (ADEA CAAPID℠). The application is available online only. You can access the ADEA CAAPID℠ application at portal.caapid.org.

Selected applicants will be interviewed and tested in October and accepted based on the following requirements: (1) completion of the formal application (before August 15 for admission to the program in April). A $145 processing fee must accompany the application. (2) Successful completion of the National Board Part I examination of the American Dental Association (ADA). A score of 75 percent must be attained in each category. Higher scores are advantageous in evaluation of the candidate's academic level. (3) Applicants are strongly encouraged to submit scores from the National Board Part II and competitive scores on both the quantitative and verbal sections of the Graduate Record Examinations. For information about the GRE test visit ets.org/gre. (4) Applicants for the Advanced Standing Program for International Dentists must demonstrate English-language proficiency by submitting either Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) scores. Competitive applicants should submit an Internet Based TOEFL (iBT) score of 100, or an IELTS score of 7, with at least 6 on each band. Official scores must be received directly from the testing service and dated no earlier than two years (24 months) prior to the start of the student's intended first term at USC. For TOEFL, the institution code for USC is 4852 (no department code is required). To submit IELTS scores, please choose USC from the list of available institutions. Additional information about these exams can be found at ets.org for the TOEFL and at ielts.org for the IELTS. (5) A small group problem-based interview evaluation session with members of the School of Dentistry. (6) Two letters of recommendation from dental school faculty submitted with the CAAPID application. (7) A brief but accurate account of clinical experience and a personal statement submitted with the CAAPID application. (8) Documentary proof of license to practice from a Ministry of Health or proper governing body. (9) Satisfactory completion of and competence in the following academic and artistic entrance examinations to be given to invited applicants in October: (a) fixed prosthodontics (practical); (b) operative dentistry (practical). In addition, a separate written examination may be administered. (10) Complete official documents (transcripts) of all college and university course work, including dental education in the original language accompanied by certified English translation when necessary. (11) Certification of dental degree. Candidates chosen will be those who demonstrate the best qualifications in all academic and practical skills. (12) Submit a course-by-course World Education Services evaluation. (13) As a precondition of enrollment, accepted students must undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and all students must provide evidence of sound health and meet the school's health requirements.

Student Visas

The I-20 Student Visa is issued to the applicant only after complete admission and acceptance has been granted. Before the papers can be processed, the applicant must present a copy of the I-94 form (white sheet in the passport) and a notarized statement of financial support for tuition and expenses for one year ($120,000) to the Advanced Standing Program for International Dentists. These materials must be submitted at the time of application. The International Admission Office will issue the I-20 visa upon receipt and approval of these documents.

Financial Assistance

The United States government requires all international applicants to provide proof of ability to pay tuition and living expenses before a formal letter of admission or the forms needed to obtain a visa will be issued.

International students are not eligible to participate in U.S. federal financial aid programs. Please contact the Herman Ostrow School of Dentistry of USC Office of Financial Aid to discuss other financing options at (213) 740-2841, uscsdfa@usc.edu or visit usc.edu/admission/fa/loans/private.html.

Curriculum

Each candidate for the DDS degree should complete the course of instruction in two years, however, some individuals may need more time. The first four to eight months will be spent in preclinical exercises to acquaint the student with the fundamental technical procedures used at USC. The balance will be used for clinical procedures related to diagnosis and treatment of patients.

Grade Point Average Standards

Since this is a short program and highly concentrated, a GPA of 2.0 (A = 4.0) must be maintained each trimester. Therefore, each applicant will be provisionally accepted. If a doctor is unable to maintain an average GPA of 2.0, he or she will be asked to resign. Each trimester, Advanced Standing Prog1ram for International Dentists students are evaluated by the student professional performance evaluation committee. From these meetings, recommendations are made regarding advancement, special programs and disqualification.

Graduation Requirements

In order to receive the Doctor of Dental Surgery (DDS) degree, students in the Advanced Standing Program for International Dentists must: (1) successfully comple1ates that the student has met financial and other obligations to the university and to the student's patients.

Required Courses

- DPBL 511c Dental Problem Based Learning — Human Structure II Units: 2
- DPBL 512c Dental Problem Based Learning — Human Function II Units: 5
- DPBL 513c Dental Problem Based Learning — Human Behavior II Units: 2
- DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II Units: 8
- DPBL 521a Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521b Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 521c Dental Problem Based Learning — Human Structure III Units: 1
- DPBL 522a Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522b Dental Problem Based Learning — Human Function III Units: 1
- DPBL 522c Dental Problem Based Learning — Human Function III Units: 1
- DPBL 523a Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523b Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 523c Dental Problem Based Learning — Human Behavior III Units: 1
- DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III Units: 14
- DPBL 531a Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 531b Dental Problem Based Learning — Human Structure IV Units: 1
- DPBL 532a Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 532b Dental Problem Based Learning — Human Function IV Units: 1
- DPBL 533a Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 533b Dental Problem Based Learning — Human Behavior IV Units: 1
- DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13
- DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV Units: 13

Total units: 100

Department of Dental Hygiene

The mission of the USC Department of Dental Hygiene is to educate and prepare dental hygiene leaders for careers in a diverse and changing health care environment. Implicit in this is a desire to provide a liberal education as well as outstanding clinical experiences. The baccalaureate dental hygiene program is a combination of dental and dental hygiene sciences, supporting sciences and general education.

The curriculum reflects the core values of the profession in private and public health settings. The program is committed to creating a humanistic, educational environment that will facilitate the development of responsible, ethical, oral health professionals who are sensitive to the patient needs and competent in the dental hygiene process of care.

Educational and clinical services provided by dental hygiene students include dental health education, patient assessment, disease prevention and non-surgical periodontal therapy for a diverse population of patients. The program strives to produce graduates who will advance the profession of dental hygiene and improve dental health care through evidence-based research and scholarly activities. Finally, graduates are competent in self-assessment and scientific methodology in preparation for lifelong learning.

The Bachelor of Science degree in Dental Hygiene requires two academic years of pre-dental hygiene courses followed by two additional years of enrollment in the dental hygiene program.

Admission

Two applications are required, one for the USC Undergraduate Admission Office and one for the School of Dentistry. See the Undergraduate Education Admission section of this catalogue.

Admission to the dental hygiene program of the Herman Ostrow School of Dentistry of USC is granted through the Office of Dental Admissions that receives and processes all applications, evaluates credentials and mails letters of acceptance to applicants who qualify for entrance. Because of the university's selective admissions policy and limited enrollment, only those applicants are accepted who present evidence of intellectual promise and strong personal qualifications, including good moral character and sound health. Prior to enrollment, accepted students must provide evidence of sound health and meet the school's health requirements. (Before registration, the Student Health Service form, signed by the applicant's attending physician, must be filed with the Engemann Student Health Center.)

Application Procedure:

The American Dental Education Association Dental Hygiene Centralized Application Service (ADEA DHCAS) is the centralized application service for applicants to dental hygiene programs. Please review the instructions for the application at adea.org/dhcas. All applicants must select the "Entry Level Bachelor's" as a designation.

In order to begin the ADEA DHCAS application, every applicants will need an email address and a DentPin. The DentPin is a personal identification number used in place of the social security number. To receive a DentPin visit the American Dental Association website at ada.org/dentpin.

At the same time, applicants must apply and gain admission to the University of Southern California, which is granted in all cases by the USC Office of Admission. Applicants must submit a USC Transfer Application online through the Common Application at commonapp.org. Only a letter from the university Office of Admission grants official university admission.

Applications for the Bachelor of Science in Dental Hygiene should be filed well in advance of February 1 of the year in which the student wishes to be admitted. The program begins in the fall.

Although students may transfer to USC at any time and begin

prerequisite course work, the dental hygiene curriculum begins in the junior year. Admission to the university does not guarantee admission to the dental hygiene program.

Admission Requirements

Between 30 and 40 students are admitted each year for the curriculum that leads to the Bachelor of Science in Dental Hygiene.

The Committee on Admissions examines credentials and bases its decision on the objective evaluation of these factors: preprofessional training, evidence of scholarship and personal evaluation of the student.

Minimum entrance requirements include: graduation from an accredited secondary school and completion of the following courses, which may be transferred in from another college or university or taken at USC prior to bring admitted to the dental hygiene program.

General Biology

One semester with lab is required.

Anatomy

One semester with lab is required.

General Chemistry with Lab

One year is required.

English Composition

One year is required. Must include course work equivalent to WRIT 150 and one semester of any transferable English course.

General Physiology Lab

One semester is required.

General Microbiology

One semester is required.

Nutrition

One semester is required.

Introduction to Sociology

One semester is required.

General Psychology

One semester is required.

Public Speaking

One semester is required.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

All dental hygiene students must follow the university's general education requirements.

There is no minimum number of transfer units you must complete before applying to admissions. No foreign course work will be accepted. Dental hygiene prerequisites must be completed prior to the beginning of classes in the dental hygiene program and lower-division general education categories must be completed by the time of graduation. All prerequisite course work including required general education course work must be completed with a grade of "C" or better.

The following courses are not transferable: dental assisting, dental technology, secretarial science (typing, shorthand, etc.), or other technically or vocationally related courses.

All entrance requirements must be completed by June 15 preceding the September of admission, and complete final credentials must be on file in the Herman Ostrow School of Dentistry of USC and the USC Office of Admission by July 15 preceding enrollment. Notification of conditional acceptance will be sent by the Ostrow Office of Admissions after May 1.

Orientation

Students who have been accepted into the program and who have reserved their place in the class by paying the appropriate tuition deposit will be forwarded orientation materials by August 15.

Orientation is traditionally scheduled during the week before the first week of classes. The purpose of the program is to acquaint incoming students with the Herman Ostrow School of Dentistry, its policies, programs, faculty and facilities. Incoming students receive financial counseling and purchase their initial equipment issue as part of orientation activities.

Graduation Requirements

A student is eligible for the Bachelor of Science in Dental Hygiene after attaining the qualitative and quantitative level expected in the dental hygiene curriculum. This specifically includes: no marks of "F," "IN," "IP" or "MG"; no conditions existing at the termination of the final trimester that would result in academic probation, clinical probation or academic disqualification. In addition, each student must have demonstrated the characteristics expected of a health professional and have fulfilled the financial and other obligations required for graduation.

In addition to meeting the academic requirements indicated above, students must have a completed administrative clearance form on file in the Office of Academic Affairs before a degree can be conferred. This administrative clearance indicates that the student has met other obligations to the university and to the student's patients.

Progressive Degree Programs

The following progressive degrees are available for students enrolled in the Dental Hygiene program: MPH at the Keck School of Medicine and MA in Gerontology from the Davis School of Gerontology. Applicants to the program must have completed 64 units of course work and must submit their applications prior to completion of 96 units of course work. Applicants do not have to submit GRE scores, but are expected to have a minimum GPA of 3.0 at the time of application. The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and letters of recommendation from two USC faculty members. The requirements for both the bachelor's degree and the progressive degrees must be satisfied. For further details on progressive degree programs, see the Requirements for Graduation page.

DH to DDS Pathway

The Herman Ostrow School of Dentistry of USC offers a unique pathway for talented students to earn a bachelor's degree in Dental Hygiene (DH) on their way to a Doctor of Dental Science (DDS) degree. Successful candidates for the six-year DH to DDS Pathway will immediately transition to the DDS degree program following graduation from the Dental Hygiene program.

(1) Application materials for the American Dental Education Association Dental Hygiene Application Service (ADEA DHCAS) are due by **March 1** of the year in which enrollment is desired. The Common Application deadline for USC Undergraduate Admission is **February 1**.

Students must be admitted by both the university <u>and</u> the Herman Ostrow School of Dentistry.

(2) Applicants must complete the Dental Hygiene prerequisite <u>and</u> USC General Education course work prior to entering the program.

One of the most important factors in the selection process is the applicant's potential for, and interest in, pursuing a career as a primary care provider. Applicants must show exceptional academic ability, as demonstrated by achievement in pre-Dental Hygiene/ pre-dental prerequisite course work and the university's general education requirements. Applicants must also possess personal attributes such as initiative and responsibility. Additionally, applicants should have a demonstrated interest in working with people, as evidenced by health care-related experiences and participation in community and extracurricular activities.

(3) The Dental Admissions Committee makes the final selection of students admitted for the pathway. Five to ten students are accepted each year.

(4) Prior to enrollment in the DDS program, applicants must submit an application through the American Dental Education Association's Associated American Dental Schools Application Service (ADEA AADSAS). The AADSAS application must be submitted by the **February 1** deadline during the applicant's senior year. Applicants must also take the Dental Admission Test (DAT) and achieve a score of 15 or higher in all tested categories. DAT results must be submitted by the applicant's senior year of Dental Hygiene studies.

Additional requirements include:

- Successful graduation from the Dental Hygiene Program with a minimum overall GPA of 3.0
- A letter of recommendation from the Dental Hygiene program director and recommendations from two additional USC faculty members
- Certification that the student has maintained the school's professional standards and ethical requirements.

Master's Degree

Dental Hygiene (MS)

The Master of Science in Dental Hygiene is designed as an online twenty-month part- time program. The program is designed to educate graduate dental hygiene students to become leaders in the field who will help to advance the art and science of the discipline of dental hygiene. Students will learn how to integrate research findings into the dental hygiene process of care to form strategies to decrease oral disease risks and promote oral health among individuals, families and communities. The first three semesters are devoted to course work that progressively leads to the formation and acceptance of a project plan for implementation in the field in the final trimester.

All students will complete 19 units of required core course work, plus 7 additional units of elective studies in an area of emphasis, which supports their interests, and future career plans. Emphasis areas include education and geriatric dentistry courses in which the instruction will be offered through the Dental Hygiene program, while electives in geriatric dentistry will be offered primarily through existing graduate programs at the Herman Ostrow School of Dentistry.

Students will learn program planning, advanced research methodology and statistical data management, and apply these skills into the design and implementation of their project as the basis for their scholarly Capstone project. Students will demonstrate active learning through interactive online classes, peer teaching and the design and use of educational technology. Courses include online lectures, case studies, student written and oral presentations, student teaching and fieldwork.

Admission Requirements

All applicants to the Master of Science in Dental Hygiene program must satisfy the following general criteria:

- Successfully graduated from an accredited dental hygiene program in North America.
- Possess a baccalaureate degree in dental hygiene or related area from an accredited university.
- Minimum GPA: 3.0
- Submit three letters of recommendation: one from the undergraduate dental hygiene director and the other two from individuals who can attest to the your general character. These letters may be from professors, and/or an employer, a representative from a service organization, or from a respected member of the dental hygiene or dental profession.
- Submit a career statement
- Submit a current curriculum vitae or resume
- Applicants who meet these requirements will be invited to interview for the program. The interview may take place in person or through a live, interactive electronic communication.

Application Deadlines

In order to be reviewed, the application and required application materials must be **received by** the Division's Admissions Committee prior to **February 15** for a **fall trimester** start. Submit your application well in advance of the deadline and note that transcripts and other application materials may take three weeks or more to be processed by the Office of Admissions and then made available to our office. Please plan accordingly.

Applications received after **Feb 15** are also welcome and will be processed on a space available basis.

Application Procedures

Apply online by going to **usc.edu/admission/graduate/apply** at least **three weeks before** the departmental application deadline to allow adequate time for processing. Be sure to complete the supplemental portion that relates to dental hygiene. You also should arrange to have **transcripts and test scores sent to USC in time to meet this deadline**.

Materials to be submitted by applicants

- Send official transcripts from all colleges you have attended to:
  University of Southern California
  USC Office of Graduate Admission
  3601 South Flower Street Room 112
  Los Angeles, CA 90089-0915
- Nonrefundable application fee

Supplemental Materials to be submitted to:

Herman Ostrow School of Dentistry of USC
Office of Admissions Room 201
925 W. 34th Street
Los Angeles, CA 90089-0641

Supplemental materials include:

- Three letters of recommendation. Letters of recommendation must be in a sealed envelope with a signature across the back.
- Career statement
- Current résumé / curriculum vitae

Progressive Degree Programs

Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (AP units, IB units and course work taken prior to high school graduation are excluded.) Applicants must submit their application before completing 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. Applicants do not have to submit GRE scores but are expected to have at least a 3.0 GPA at the time of application.

The Application for Admission to a Progressive Master's Program must be approved by the deans of the bachelor's and the master's degree-granting schools at USC and submitted to the Degree Progress Department. An approved course plan proposal and letters of recommendation from two USC faculty members must be submitted with the application, with at least one of the recommendations coming from a faculty member in the student's bachelor's degree major department.

Degree Requirements

Required Courses

Satisfactory completion of a minimum of 26 units of course work at the 600 level or above to include a Capstone project, which consists of a comprehensive written scholarly report suitable fro publication and a defended oral presentation. A minimum grade point average of 3.0 on all graduate work is required.

- DHYG 600 Dental Hygiene Professional Issues Units: 2
- DHYG 601 Development of Systematic Investigations Units: 1
- DHYG 602 Research Methods and Biostatistics Units: 2
- DHYG 603 Learning Theories and Technology Units: 2
- DHYG 604 Health Advocacy Program Planning and Evaluation Units: 2
- DHYG 605 Professional Leadership in Program Development Units: 2
- DHYG 606 Multidisciplinary Population Health Management Strategies Units: 2
- DHYG 607 Knowledge Assessment Units: 1
- DHYG 608 Current Trends in Oral Healthcare Units: 1

- DHYG 609 Capstone Project Fieldwork Units: 1
- DHYG 610 Capstone Project Units: 2
- DHYG 611 Research Writing Units: 2

Area of Emphasis

Education

- DHYG 612 Dental Hygiene Curriculum and Program Design Units: 2
- DHYG 613 Laboratory and Clinical Course Development Units: 2
- DHYG 614 Dental Hygiene Student Teaching Practicum Units: 3

Geriatrics

- DHYG 615 Geriatric Healthcare Program Planning Units: 1
- GDEN 713 Common Systemic Conditions in Older Patients Units: 2
- GDEN 714 Topics in Gerontology Units: 2
- GDEN 715 Geriatric Dentistry Issues Units: 2

Craniofacial Biology

Herman Ostrow School of Dentistry of USC
DEN 218
(213) 740-1001 (323) 442-1728
FAX: (213) 740-2376
Email: paine@usc.edu
Director: Michael L. Paine, BDS, PhD

Faculty

Professors: Yang Chai, DDS, PhD; Casey Chen, DDS, PhD; Cheng-Ming Chuong, MD, PhD *(Medicine)*; Glenn Clark, DDS, PhD; Tina Jaskoll, PhD; Michael Melnick, DDS, PhD; Cedric Minkin, PhD; Mahvash Navazesh, DMD; Janet Moradian-Oldak, PhD; Michael Paine, BDS, PhD; Pragna Patel, PhD; Michael Schneir, PhD; Jorgen Slots, DDS, PhD; Malcolm Snead, DDS, PhD; David Warburton, MD *(Medicine)*
Associate Professors: Winston Chee, DDS; George Cho, DDS; Roger De Filippo, MD *(Medicine)*; Sillas Duarte, DDS, PhD; Kian Kar, DDS, MS; Robert Keim, DDS, PhD; Saravanan Ram, DDS; Glenn Sameshima, DDS, PhD; Wei Shi, MD, PhD *(Medicine)*; Arnold Tiber, DDS, PhD; Stephen Yen, DMD, PhD; Homayoun Zadeh, DDS, PhD
Assistant Professors: Ruchi Bajpai, MS, PhD; Ahmed El-Hashash, PhD; Denise Al-Alma, PhD; Reyes Enciso, PhD; Mark Frey, PhD *(Medicine)*; Dan Grauer, DDS, PhD; Ching-Ling Lien, PhD, *(Medicine)*; Amy Merrill-Brugger, PhD; Ramiro Murata, DDS, PhD; Laura Perin, PhD, *(Medicine)*; Parish P. Sedghizadeh, MS, DDS; Mark Urata, MD, DDS; Jian Xu, PhD; Yan Zhou, PhD

Craniofacial biology is concerned with the evolution, growth, structure and function of oral tissues and the oral region; and with the etiology and pathogenesis of numerous diseases and malformations. These involve studies at various levels of biological organization, from the molecular and subcellular to the organismic. Craniofacial biology comprises a large, rapidly increasing body of knowledge that has both clinical and academic importance. The objective of the program is primarily, but not exclusively, to prepare health science graduates for entry into careers in academic environments as clinical scholars or as members of multidisciplinary teams of health professionals in academic centers of clinical and basic health science research.

Admission Requirements

The graduate program in craniofacial biology offers academic graduate training to individuals with a Doctor of Dental Surgery (DDS), Medical Doctor (MD) or equivalent degree. Applicants with Bachelor of Science degrees in areas such as biology and chemistry are also encouraged to apply.

All applications are evaluated individually in search of the most promising students in terms of intellectual distinction and professional merit in the sciences and/or dentistry. Beyond this, the committee looks for academic trends, documented potential and evidence of good character. Priority consideration for admission is given to applications that are complete by December 1.

Applications

Formal application to the USC Office of Graduate Admission and the graduate program in craniofacial biology is required for Master of Science (MS) and Doctor of Philosophy (PhD) objectives. The Craniofacial Biology graduate programs are administered by the USC Graduate School whose catalogue provides additional information about specific application requirements and courses that must be completed in order to graduate.

Requirements for MS and PhD applications include:

- Statement of purpose.
- Three letters of recommendation describing academic abilities, personal attributes and research (if applicable).
- Original postsecondary transcripts from all schools attended.
- A grade point average (GPA) of 3.0 or higher on a 4.0 scale, and grades of A or B in science courses.
- Graduate Record Examinations (GRE) general test scores no older than five years.
- Test of English as a Foreign Language (TOEFL) is required for all applicants whose native language is not English to test their ability to use and understand English in an academic setting. Official scores must be received directly from the testing service and date no earlier than 2 years (24 months) prior to the start of the intended first term at USC.
- Personal interviews may be required.

The Master of Science requires a minimum GRE verbal score of 40 percent rank and quantitative score of 50 percent rank. For non-native English speakers, a minimum combined TOEFL score of 90 is required with no less than 20 on each section (reading, listening, speaking and writing). Most accepted students score higher than the minimum requirement.

The Doctor of Philosophy requires a minimum GRE verbal score of 60 percent rank and quantitative score of 60 percent rank. For non-native English speakers, a minimum combined TOEFL score of 100 is required with no less than 20 on each section (reading, listening, speaking and writing). Many accepted students score higher than the minimum requirement.

Progressive Degree Program

Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (AP units, IB units and course work taken prior to high school graduation are excluded.) Applicants must submit their application before completing 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. Applicants do not have to submit GRE scores but are expected to have at least a 3.0 GPA at the time of application. The application for admission to a progressive master's program must be approved by the deans of the bachelor's and the master's degree-granting schools at USC and submitted to the Degree Progress Department. An approved course plan proposal and letters of recommendation from two USC faculty members must be submitted with the application, with at least one of the recommendations coming from a faculty member in the student's bachelor's degree major department.

Master's Degree

Craniofacial Biology (MS)

This degree is under the jurisdiction of the Graduate School. Students should also refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School. The Master of Science

degree in craniofacial biology offers the clinician (DDS, MD or equivalent) the opportunity to obtain clinical research knowledge and skills in the area of craniofacial biology. Such training will include research into the causes of craniofacial diseases and anomalies, as well as normal development and function. The course of study is particularly directed toward those clinicians committed to pursuing a career in research and teaching.

Degree Requirements

A total of 32 units is required that includes eight courses in craniofacial biology, four units of 594ab Thesis and necessary units of 590 Thesis Research. All students must achieve a 3.0 grade point average in the craniofacial biology courses. Four core courses in craniofacial biology are required for all students: CBY 574 or PM 510L, CBY 579L, CBY 585 and CBY 671. The four remaining courses required may be selected from any offered by the craniofacial biology program or other graduate programs and selected by the students and their mentors to best support their research interests. All students are required to complete a thesis based on the student's research following a thesis protocol approved by a committee of craniofacial biology faculty. An advisory committee, comprising the research adviser and two additional faculty members, will establish thesis requirements to be completed by the student.

University Certificate

Craniofacial Biology Certificate

The Certificate in Craniofacial Biology is intended to provide dentists in post-graduate dental education with experience in graduate education and insight into the requirements to complete a graduate degree. This will provide the students with additional information relative to selecting academic careers. All certificate students must have a dental degree and have been admitted to a post-graduate dental education program sponsored by the Herman Ostrow School of Dentistry of USC.

Degree Requirements

A total of six CBY courses and 18 units of course work is required for the certificate. The six courses may be selected from the following list: CBY 573, CBY 574, CBY 575, CBY 576, CBY 579L, CBY 583, CBY 585, CBY 587, CBY 672, CBY 673, CBY 674. The credit received for these classes may be applied toward either the MS or PhD in Craniofacial Biology should the student decide later to pursue an advanced degree.

Admissions Criteria

Only residents enrolled in the following advanced dental education and specialty programs are eligible for the Certificate in Craniofacial Biology: General Practice Residency, Endodontics, Orofacial Pain/Oral Medicine, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontology, Prosthodontics. Residents must complete all admission requirements for dental advanced education programs and have been accepted to these programs in accordance with criteria established by the advanced dental education program faculty.

Doctoral Degree

Craniofacial Biology (PhD)

The Doctor of Philosophy degree in craniofacial biology is awarded under the jurisdiction of the Graduate School. Students should also refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School. This program is designed to provide health science-oriented training for the professional with interests in academic, as well as clinical, aspects of craniofacial biology. Appointment to the PhD program are designated each year for all semester admission.

New Student Orientation Committee

All new students seeking Master of Science and/or Doctor of Philosophy degree objectives will be assigned to an orientation committee. This committee will function to advise and guide new students through their first semester. Thereafter, each student will identify a mentor and assemble a qualifying exam committee.

Qualifying Exam Committee

During the second semester of study each graduate student should select a qualifying exam committee. The qualifying exam committee must include five faculty members who will be of assistance in the student's education. The student's mentor will serve as chair of the qualifying exam committee. One committee member must be a USC faculty member from outside the program. The graduate program director will be an *ex officio* member of all qualifying exam committees. The qualifying exam committee will monitor the student's progress, recommend readings or additional training, and determine when the student is ready for the qualifying examination. It is the student's responsibility to meet with the qualifying exam committee at least once during every semester of each academic year. The results of these formal meetings should be summarized by the student in a written statement and submitted to the program director each semester.

Screening Procedure

As soon as the student has satisfactorily completed the core courses and selected the committee, a screening meeting with the qualifying exam committee should be called. The screening procedure may consist of an oral examination; the student will outline his research progress and be examined on academic development. The committee may recommend that the student take specific additional course work and that readings in certain areas be initiated to remedy deficiencies. A brief report will be given to the student and included in his or her file. The student will meet with the committee each semester; they shall agree when the student is prepared to take the qualifying examination in the next semester or if the student should resign or be dropped from the program.

Course Requirements

A total of 60 units are required for the PhD Eight didactic courses at the graduate level are required. The core required CBY courses are CBY 574 or PM 510L, CBY 579L, CBY 585 and INTD 571. The remaining graduate-level courses may be selected from courses offered by any department, following consultation with the graduate mentor and graduate program director. It is highly recommended that PhD students take the PIBBS core curriculum on the Health Sciences Campus. Students must achieve a 3.0 GPA or better in their course work. Students with a Doctor of Dental Surgery or other professional degree may be granted waivers for having completed equivalent course work. It is the student's responsibility to obtain from the Graduate School the Request for Permission to Take the PhD Qualifying Examination form which must be signed by all committee members. This form must be completed 60 days before the qualifying examination.

Qualifying Examination

The PhD qualifying examination is offered during the fall or spring semesters. A written examination will cover specific subject areas of the core curriculum, as well as topics selected by the qualifying exam committee. After successfully completing all parts of the written examination, the student will prepare and submit an original research proposal to the qualifying exam committee which presents, in National Institutes of Health (NIH) format, the student's proposed dissertation research. If the submitted proposal is acceptable, an oral examination will be conducted. This examination will include a defense of the proposal and could also include material from the written examination and related topics. A student failing any part of the examination may be allowed one additional opportunity to pass that portion, at the discretion of the qualifying exam committee, within the regulations of the Graduate School governing the repetition of qualifying examinations.

Dissertation

The doctoral dissertation is to focus upon an original research

problem which reflects the creative scholarly abilities of the candidate and contributes to the general advancement of biological understanding, as well as to an understanding of the theoretical basis of disease and its treatment.

Defense of the Dissertation

An oral examination on a rough or final copy of the dissertation is conducted within one month following submission of the manuscript to the committee.

Advanced Programs in Dental Education

The Herman Ostrow School of Dentistry offers advanced dental education programs in dental hygiene, general dentistry, endodontics, general practice residency, operative and adhesive dentistry, orofacial pain, oral and maxillofacial surgery, pediatric dentistry, periodontology and prosthodontics, all leading to a certificate. The Herman Ostrow School of Dentistry in conjunction with the Graduate School also offers combined programs in operative dentistry and craniofacial biology, in orthodontics and craniofacial biology, in pediatric dentistry and craniofacial biology, and in periodontology and craniofacial biology leading to a Master of Science degree and a certificate. In conjunction with the Keck School of Medicine, the Herman Ostrow School of Dentistry offers a combined program leading to an MD degree and certificates in oral and maxillofacial surgery and orofacial pain. The Herman Ostrow School of Dentistry also offers an online master's degree in orofacial pain and oral medicine and geriatric dentistry. In addition to clinical seminars and clinical experience, students take basic science courses with advanced students from other departments.

The certificate curriculum consists of a core of basic science subjects plus clinical seminars and clinical experience. Elective subjects may also be selected by the student with the approval of the program director.

The estimated lengths of programs are as follows:

- Endodontics, 24 months
- General Practice Residency, 12 months
- Geriatric Dentistry (online Certificate), 12 months
- MS in Geriatric Dentistry (online), 37 months
- Operative and Adhesive Dentistry, 26 months
- Oral and Maxillofacial Surgery, 48 months
- Oral and Maxillofacial Surgery/MD, 72 months
- Orofacial Pain, 24 months
- MS in Orofacial Pain and Oral Medicine (online), 37 months
- Orthodontics, 34 months
- Pediatric Dentistry, 24 or 36 months
- Periodontology, 36 months
- Prosthodontics, 36 months

All programs will begin in June (date to be determined).

Admission Requirements

Applicants must hold the Doctor of Dental Surgery or Doctor of Medical Dentistry degree (or equivalent degree if educated oversees) and must present the appropriate degrees, approved transcripts and affidavits as prescribed by the Office of Dental Admissions and Student Affairs.

Admission Procedures

Prospective students must apply through the Postdoctoral Application Support Service (PASS) at adea.org/dental_education_pathways. The ADEA PASS application requires the submission of an essay, one or more Professional Evaluations, an Institution Evaluation from the dental school dean, and official dental school transcripts. The application cannot be processed until all required documents are submitted.

Applicants for the integrated MD degree/oral and maxillofacial surgery certificate program must apply through the American Medical College Application Service (AMCAS) here.

For selection and admission to the operative/CBY, periodontics/CBY, orthodontics/CBY, and pediatrics/CBY dentistry programs, applicants are required to take the Aptitude Section of the Graduate Record Examinations; and submit competitive scores on both the quantitative and verbal sections of the examination. Likewise, all applicants for the pediatric dentistry program must take and submit competitive GRE scores. Information about this examination can be found at ets.org/gre. The last acceptable test date is in September of the year preceding desired admission.

The following material is also required to complete the application: (1) payment of an $85 processing fee (graduates of foreign dental schools or students requiring a visa must submit a $145 processing fee) directly to the Herman Ostrow School of Dentistry Office of Admissions and Student Affairs; (2) applicants for General Dentistry, General Practice Residency, Orthodontic, Pediatric Dentistry and Oral Surgery programs must submit applicant agreement forms to the Postdoctoral Dental Matching Program. Information and forms can be obtained online at natmatch.com/dentres; (3) board scores Part I and Part II for all programs with the exception of the operative dentistry certificate and operative dentistry/CBY programs; MCATs are required for the Integrated MD degree/oral maxillofacial surgery certificate. GRE scores are required for operative dentistry/CBY, orthodontics, periodontics/CBY and pediatric/CBY programs. International students are required to take GREs for the two-year certificate program. These requirements may be waived at the discretion of the program director; (4) a biographical statement; (5) applicants may be asked to be available for an interview. If one is necessary, applicants will be contacted by the director of the individual advanced program; (6) applicants will be required to pay a non-refundable $1,500 tuition deposit upon notification of acceptance. (7) As a precondition to enrollment, accepted students must undergo a background screening conducted by Certiphi Screening, Inc. to help ensure patient safety and compliance with state laws and regulations and all students must provide evidence of sound health and meet the school's health requirements.

Timetable for Applications

Applications for admission to advanced programs must be received as follows:

- Endodontics, Sept. 1
- General Practice Residency, Oct. 15
- Geriatric Dentistry (online graduate certificate)
- Geriatric Dentistry (online Master of Science)
- Operative and Adhesive Dentistry, Nov. 1
- Oral and Maxillofacial Surgery, Oct. 1
- Orofacial Pain, Oct. 1
- Orofacial Pain and Oral Medicine (online Master of Science), Oct. 1
- Orthodontics, Oct. 1
- Pediatric Dentistry, Nov. 1
- Periodontology, Sept. 1
- Prosthodontics, Nov. 1

Completed applications and related information are reviewed first by the faculty of the department of interest. In selecting applicants for admission the faculty considers academic records and personal qualifications. Final approval for admission rests with the advanced education coordinating committee. Responsibility for advising the student after admission rests with the department chair.

Orientation

A departmental orientation session is usually held the first week of classes, beginning in late June. Incoming students are acquainted with the Herman Ostrow School of Dentistry, its policies, procedures, faculty and facilities.

Student Issue — Advanced Programs

Dental units in the school's clinics are equipped with Midwest Company type tubing and couplers for low and high speed air hand pieces. Advanced students must provide their own adapters to fit the school's couplers unless the students' present hand pieces are already

so modified. The Dental Bookstore will assist in such conversions, if necessary. The bookstore has some low speed air hand pieces available for purchase.

Students accepted into an advanced program should consult their program directors about needed equipment.

Master's Degree

Advanced Orofacial Pain and Oral Medicine (MS)

The Master of Science degree in orofacial pain and oral medicine program consists of a 36-month hybrid program (online and face-to-face) leading to a master's degree in orofacial pain and oral medicine (OFPOM). The curriculum is designed to provide practicing dentists with advanced knowledge and training in the areas of orofacial pain and oral medicine including sleep medicine.

The program consists of a series of 14 online didactic courses where the students will gain knowledge about the underlying science as well as the diagnosis, pathobiology and treatment of different oral and maxillofacial diseases and disorders. In addition to these courses, the student will attend USC for two weeks each summer during the three-year period for an additional three face-to-face assessment courses where they will be tested for knowledge acquisition using a set of objective standardized clinical examinations, oral interviews and written examinations. They will also be required to prepare a final portfolio of cases and conduct and present a research project report. During their visits to USC, the residents will gain experience diagnosing and treating patients in the USC OFOPM center.

During the year, the residents will attend weekly video conferences where online students are required to analyze, diagnose and prepare treatment plan cases that are posted for analysis. These cases will cover the following diseases: temporomandibular disorders; infectious, dysplastic, neoplastic proliferative, erosive and ulcerative oral and pharyngeal mucosal diseases. Students will also learn about and work with patients who have various salivary, neurogenic, osseous, and odontogenic infections, tumors and diseases including oral neuropathic pain, oral spasticity, migraine, tension type and chronic daily headache and sleep apnea disorders.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 710a Knowledge Assessment for OFPOM Residents Units: 1
- OFPM 710b Knowledge Assessment for OFPOM Residents Units: 1
- OFPM 721 Neurosciences for Dental Residents Units: 2
- OFPM 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 724 Psychological and Psychometric Assessment for Dental Residents Units: 2
- OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2
- OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents Units: 2
- OFPM 729a Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729b Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729c Capstone Project for OFPOM Residents Units: 0.5
- OFPM 729d Capstone Project for OFPOM Residents Units: 0.5
- OFPM 730a Case Portfolio Preparation by Online OFPOM Residents Units: 0.5
- OFPM 730b Case Portfolio Preparation by Online OFPOM Residents Units: 0.5
- OFPM 730c Case Portfolio Preparation by Online OFPOM Residents Units: 0.5
- OFPM 730d Case Portfolio Preparation by Online OFPOM Residents Units: 0.5
- OFPM 730e Case Portfolio Preparation by Online OFPOM Residents Units: 0.5

Total units: 32.5

University Certificate

Advanced Endodontics Certificate

The advanced endodontics certificate program is a 24-month course of study. The program provides advanced students with the academic background information and clinical experience necessary for the specialty practice of endodontics. The program also requires activities in research and teaching to expose the advanced students interested to these areas of endodontics.

Advanced students are encouraged to pursue Board Certification by the American Board of Endodontics and are prepared for the certification examinations.

Emphasis is also placed on the interaction of endodontics with other specialties and general dentistry.

The program in endodontics is accredited by the Commission on Dental Accreditation (CODA), which serves as the only nationally recognized accrediting body for dentistry and the related dental field. The Commission receives its accreditation authority from the acceptance of all stakeholders within the dentistry community and recognition by the United States Department of Education. Since its inception in 1937, the Commission and its predecessors have operated within the parameters of the ADA Bylaws. The Commission serves the profession and the public by establishing and applying high-quality standards for the accreditation of educational programs in dentistry, postgraduate general and specialty dentistry, and the allied dental professions.

Advanced Endodontics Curriculum

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- DHIS 701 Advanced Oral Histology Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- ENDO 521 Preclinical Endodontics Units: 3
- ENDO 701a Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701b Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701c Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 701d Seminar: Biological Basis of Endodontic Therapy Units: 1
- ENDO 702 Seminar: Advanced Clinical Endodontics Units: 2
- ENDO 703a Seminar: Review of Endodontic Literature Units: 1
- ENDO 703b Seminar: Review of Endodontic Literature Units: 1
- ENDO 703c Seminar: Review of Endodontic Literature Units: 1

- ENDO 703d Seminar: Review of Endodontic Literature Units: 1
- ENDO 704a Seminar: Surgical Endodontics Units: 2
- ENDO 704b Seminar: Surgical Endodontics Units: 2
- ENDO 705a Seminar: Endodontic Case Presentation Units: 4
- ENDO 705b Seminar: Endodontic Case Presentation Units: 4
- ENDO 710 Seminar: Endodontic Practice Management Units: 2
- ENDO 711 Alternatives in Endodontics Units: 4
- ENDO 761a Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761b Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761c Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761d Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761e Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 761f Clinic: Advanced Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each
- ENDO 790 Directed Research: Endodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PTHL 601 Advanced Oral Pathology Seminar Units: 2

Advanced Operative and Adhesive Dentistry Certificate

The Herman Ostrow School of Dentistry offers two programs in operative and adhesive dentistry: (1) a 26-month program leading to a Certificate in Advanced Operative and Adhesive Dentistry, and (2) a 26-month combined program leading to a Certificate in Advanced Operative and Adhesive Dentistry and Master of Science in Craniofacial Biology.

The programs provide students with in-depth scientific knowledge and clinical experience in operative and adhesive dentistry, including cutting-edge technologies in esthetic oral rehabilitation, digital workflow, CAD/CAM technologies, dental biomaterials and implant dentistry. In addition, the programs offer students teaching experience through assisting the learning activities of the Doctor of Dental Surgery Program.

Biomaterials research is an integral part of the curriculum for both programs. Students of the combined program of Certificate in Operative and Adhesive Dentistry/Master of Science in Craniofacial Biology must complete an original research project to fulfill a thesis requirement.

The combined program in Advanced Operative and Adhesive Dentistry Certificate / Master of Science in CBY requires grade point average (GPA) of 3.0 or higher, a minimum GRE verbal score of 40 percent rank and quantitative score of 50 percent rank. For non-native English speakers, a minimum combined TOEFL score of 90 is required with no less than 20 on each section (reading, listening, speaking and writing). Most accepted students score higher than the minimum requirement. More information on the MS in CBY can be obtained at http://catalogue.usc.edu/schools/dentistry/graduate/

The clinical, research, and teaching experiences will prepare graduates for future academic careers in dental research and education, as well as career options in dental related public organizations and private corporations.

Advanced Operative and Adhesive Dentistry Certificate

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- OPER 702aL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 702bL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 704a Operative Dentistry Literature Review Units: 1
- OPER 704b Operative Dentistry Literature Review Units: 1
- OPER 704c Operative Dentistry Literature Review Units: 1
- OPER 704d Operative Dentistry Literature Review Units: 1
- OPER 704e Operative Dentistry Literature Review Units: 1
- OPER 704f Operative Dentistry Literature Review Units: 1
- OPER 705L Dental Photography Units: 1
- OPER 706 Operative Implant Dentistry Units: 1
- OPER 715aL Applied Adhesion Sciences Units: 2
- OPER 715bL Applied Adhesion Sciences Units: 2
- OPER 715cL Applied Adhesion Sciences Units: 2
- OPER 725a Cariology Units: 1
- OPER 725b Cariology Units: 1
- OPER 735aL Research Methodology Units: 2
- OPER 735bL Research Methodology Units: 2
- OPER 780a Treatment Planning in Operative Dentistry Units: 2
- OPER 780b Treatment Planning in Operative Dentistry Units: 2
- OPER 780c Treatment Planning in Operative Dentistry Units: 2
- OPER 780d Treatment Planning in Operative Dentistry Units: 2
- OPER 780e Treatment Planning in Operative Dentistry Units: 2
- OPER 780f Treatment Planning in Operative Dentistry Units: 2
- OPER 780h Treatment Planning in Operative Dentistry Units: 2
- OPER 795a Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795b Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795c Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795d Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795e Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795f Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 721a Principles of Occlusion Units: 2

Advanced Operative and Adhesive Dentistry Certificate/MS, Craniofacial Biology

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 579L Craniofacial Molecular Genetics Units: 4
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 594a Master's Thesis Units: 2
- CBY 594b Master's Thesis Units: 2

- CBY 671 Epistemology and Ethos of Bioscience Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- DMAT 701 Advanced Biomaterials Units: 2
- OPER 702aL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 702bL Advanced Dental Morphology for Esthetic Restorations Units: 3
- OPER 704a Operative Dentistry Literature Review Units: 1
- OPER 704b Operative Dentistry Literature Review Units: 1
- OPER 704d Operative Dentistry Literature Review Units: 1
- OPER 704e Operative Dentistry Literature Review Units: 1
- OPER 704f Operative Dentistry Literature Review Units: 1
- OPER 705L Dental Photography Units: 1
- OPER 715aL Applied Adhesion Sciences Units: 2
- OPER 715bL Applied Adhesion Sciences Units: 2
- OPER 715cL Applied Adhesion Sciences Units: 2
- OPER 725a Cariology Units: 1
- OPER 725b Cariology Units: 1
- OPER 735aL Research Methodology Units: 2
- OPER 735bL Research Methodology Units: 2
- OPER 780a Treatment Planning in Operative Dentistry Units: 2
- OPER 780b Treatment Planning in Operative Dentistry Units: 2
- OPER 780c Treatment Planning in Operative Dentistry Units: 2
- OPER 780d Treatment Planning in Operative Dentistry Units: 2
- OPER 780e Treatment Planning in Operative Dentistry Units: 2
- OPER 780f Treatment Planning in Operative Dentistry Units: 2
- OPER 780h Treatment Planning in Operative Dentistry Units: 2
- OPER 795a Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795b Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795c Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795d Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795e Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- OPER 795f Clinic: Advanced Operative Dentistry Units: 1, 2, 3
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 721a Principles of Occlusion Units: 2

Total units: 162

Advanced Oral and Maxillofacial Surgery

The advanced education program in oral and maxillofacial surgery is a continuous 48-month course of study that prepares the graduate for the practice of oral and maxillofacial surgery. The program in oral surgery is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the requirements of the American Association of Oral and Maxillofacial Surgeons.

The program is conducted at the Herman Ostrow School of Dentistry and at the LAC+USC Medical Center. The course provides graduates with the necessary background for certification by the American Board of Oral and Maxillofacial Surgery. Certificates are awarded upon successful completion of the 48-month course.

Advanced Oral and Maxillofacial Surgery Curriculum

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 704c Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- PTHL 701 Clinicopathologic Conference Units: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
- SURG 701a Seminar: Advanced Oral Surgery Units: 2
- SURG 701b Seminar: Advanced Oral Surgery Units: 2
- SURG 702a Seminar: Review of the Oral Surgery Literature Units: 2
- SURG 702b Seminar: Review of the Oral Surgery Literature Units: 2
- SURG 708a Orthognathic Surgery Units: 2
- SURG 708b Orthognathic Surgery Units: 2
- SURG 761a Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761b Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761c Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 761d Clinic: Advanced Oral Surgery Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763a Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763b Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763c Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- SURG 763d Clinic: Advanced Hospital Oral Surgery and Anesthesia Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Advanced Oral Medicine Certificate

The Herman Ostrow School of Dentistry's 24-month, certificate residency program in advanced oral medicine trains one to two residents per year to be expert clinicians in oral medicine with an emphasis on orofacial pain. The program is fully accredited by the Commission on Dental Accreditation (CODA) of the American Dental Association (ADA). The certificate curriculum is designed with a series of didactic courses where students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of oral medicine. The field of oral medicine is concerned with the diagnosis and treatment of oral mucosal diseases and infections, burning mouth, immunopathologic diseases, neoplastic diseases, osseous diseases including bisphosphonate osteonecrosis, salivary gland disorders and dysfunction, pharmacologic-related and systemic disorders that cause oral disease. The courses and clinical experiences covered in the intensive two-year program are listed below.

Required courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- OFPM 701 CPR, Blood and Airborne Infections and Common Emergencies for Dental Residents Units: 1
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 703 Local Anesthesia, Minor Surgery and Biopsy Procedures for Dental Residents Units: 1
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 721 Neurosciences for Dental Residents Units: 2
- OFPM 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 724 Psychological and Psychometric Assessment for Dental Residents Units: 2
- OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2

- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2
- OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents Units: 2
- OFPM 728 Case Presentations by OFP-OM Residents Units: 2

Advanced Orofacial Pain Certificate

The Herman Ostrow School of Dentistry's 24-month, certificate residency program in advanced orofacial pain trains one to two residents per year to be expert clinicians in orofacial pain with an emphasis on oral medicine.

The program has received initial accreditation from the Commission on Dental Accreditation (CODA) of the American Dental Association (ADA). The certificate curriculum is designed with a series of didactic courses where students will gain knowledge about the diagnosis, pathobiology and treatment of different oral diseases in the field of orofacial pain. The field of orofacial pain encompasses masticatory musculoskeletal pain, neurogenic orofacial pain, sleep disorders related to orofacial pain, temporomandibular disorders, headaches, orofacial motor disorders including orofacial dystonias and bruxism, intraoral, intracranial, extracranial and systemic disorders that cause orofacial pain. The courses and clinical experiences covered in the intensive two-year program are listed below.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- OFPM 701 CPR, Blood and Airborne Infections and Common Emergencies for Dental Residents Units: 1
- OFPM 702a Soft Tissue Disease for Dental Residents Units: 1
- OFPM 702b Soft Tissue Disease for Dental Residents Units: 2
- OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents Units: 1
- OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents Units: 2
- OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents Units: 2
- OFPM 707 Pharmacology Series for Dental Residents Units: 2
- OFPM 709 Headaches for Dental Residents Units: 1
- OFPM 721 Neurosciences for Dental Residents Units: 2
- OFPM 722 Internal Medicine and Systemic Disease for Dental Residents Units: 2
- OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents Units: 2
- OFPM 724 Psychological and Psychometric Assessment for Dental Residents Units: 2
- OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents Units: 2
- OFPM 726 Immunology and Immunosuppression for Dental Residents Units: 2
- OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents Units: 2
- OFPM 728 Case Presentations by OFP-OM Residents Units: 2

Advanced Orthodontics Certificate

The advanced orthodontics certificate program is a 34-month course of study leading to a certificate in orthodontics and a Master of Science degree in craniofacial biology. The program in orthodontics is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. Upon completion of all requirements, the graduate is eligible for examination and certification by the American Board of Orthodontics.

The program has as its primary mission the preparation and training of residents for clinical practice in the specialty of orthodontics. This is achieved through a broad, in-depth curriculum designed to develop proficiency in clinical orthodontics with a solid foundation in fundamental and advanced biological and mechanical principles. Graduate-level courses in the basic sciences are the core didactic component of the program. Research is also an integral part of the program, and each resident must complete an original research project to fulfill a thesis requirement.

Advanced Orthodontics/Craniofacial Biology Curriculum

Required Courses

- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 578 Pathological Conditions of the Craniofacial Complex Units: 3
- CBY 579L Craniofacial Molecular Genetics Units: 4
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 594a Master's Thesis Units: 2 *
- CBY 594b Master's Thesis Units: 2 *
- CBY 594z Master's Thesis Units: 0 *
- CBY 671 Epistemology and Ethos of Bioscience Units: 2
- ORTH 701a Cephalometrics: Growth and Development Units: 2, 3, 4
- ORTH 701b Cephalometrics: Growth and Development Units: 2, 3, 4
- ORTH 702 Seminar: Review of the Orthodontic Literature Units: 5
- ORTH 703a Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703b Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703c Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703d Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703e Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703f Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703h Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 703i Seminar: Advanced Orthodontics Units: 2, 3, 4, 5, 6, 7, 8 each
- ORTH 704a Seminar: Orthodontics in Theory and Practice Units: 2 **
- ORTH 704b Seminar: Orthodontics in Theory and Practice Units: 2 **
- ORTH 704c Seminar: Orthodontics in Theory and Practice Units: 2 **
- ORTH 705a Orthodontic Practice Management Units: 2
- ORTH 705b Orthodontic Practice Management Units: 2
- ORTH 705c Orthodontic Practice Management Units: 2
- ORTH 706 Surgical Orthodontics Units: 2
- ORTH 707 Interdisciplinary Aesthetic Treatment Units: 2
- ORTH 708 Information Technology in Orthodontic Practice Units: 2
- ORTH 709 Advanced Information Technology in Orthodontic Practice Units: 2
- ORTH 721 Biomechanics and Orthodontic Technic Units: 8
- ORTH 751a Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751b Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751c Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751d Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751e Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751f Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- ORTH 751h Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

- ORTH 751i Clinic: Advanced Orthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2

Note:

**Students will be re-enrolled in CBY 594z until completion of the thesis. Tuition will be charged in each trimester of enrollment beyond Summer Session II.*
***Elective course*

Advanced Pediatric Dentistry Certificate

The advanced pediatric dentistry certificate program is a 24-month course of study designed to provide students with the background information and clinical experience necessary for the practice of pediatric dentistry. The program in pediatric dentistry is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the educational requirements of the American Board of Pediatric Dentistry.

First-year studies emphasize advanced pediatric dentistry theory and clinical treatment of the "healthy" child. Students develop a sound basis in genetics, growth and development, nonpharmacologic and pharmacologic behavior guidance, physical evaluation, research methodology and statistics, interceptive orthodontics, prevention and a review of the pediatric dentistry literature. Second year studies concentrate on oral health care of children with physical, medical, intellectual and emotional disabilities. The second year student serves as a hospital-based resident at Children's Hospital Los Angeles, Long Beach Memorial Medical Center/Miller Children's Hospital or Children's Hospital of Orange County. Residents also rotate to Rancho Los Amigos National Rehabilitation Center. Students gain experience in performing operating room procedures, oral conscious sedation, participating on interdisciplinary/multidisciplinary teams, providing emergency treatment and treating children with medical disabilities and pathologies in the hospital environment.

In addition to the two-year program, opportunities are available to combine the basic certificate program with a master's or doctoral degree in Craniofacial Biology (CBY).

The purpose of the combined pediatric dentistry/craniofacial biology program is to prepare highly qualified specialists in pediatric dentistry who can assume leadership positions in dental education, service to the community, dental research and oral health care of children with developmental disabilities and medically compromising conditions. The structured curriculum of this three-year program offers a strong didactic component in basic biological science and in clinical sciences as well as intensive clinical pediatric dentistry training.

An individual who elects to apply to the combined program in craniofacial biology and advanced pediatric dentistry would submit a simultaneous application to the Herman Ostrow School of Dentistry and the Graduate School. See the Craniofacial Biology section of this catalogue for further information. The first year of the program would be spent in craniofacial biology and the second and third years spent in the pediatric dentistry program. After successful completion of the craniofacial biology program the student would be reviewed by the Pediatric Dentistry Admissions Committee and admitted into the certificate program. The student must satisfactorily complete the Master of Science program to be eligible for the Pediatric Dentistry Certificate.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- ADNT 706 Seminar: Diseases of Childhood Units: 2
- ADNT 707 Behavior of the Child Patient Units: 2
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PEDO 701a Seminar: Advanced Pediatric Dentistry Units: 8, 9, 10, 11, 12, 13, 14, 15 each
- PEDO 701b Seminar: Advanced Pediatric Dentistry Units: 8, 9, 10, 11, 12, 13, 14, 15 each
- PEDO 702a Comprehensive Review of Pediatric Dentistry Units: 5, 6, 7 each
- PEDO 702b Comprehensive Review of Pediatric Dentistry Units: 5, 6, 7 each
- PEDO 703a Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703b Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703c Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703d Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 703e Interceptive Orthodontics Units: 2, 3, 4, 5 each
- PEDO 704a Prevention in Pediatric Dentistry Units: 2
- PEDO 704b Prevention in Pediatric Dentistry Units: 2
- PEDO 705 Pediatric Diseases Units: 2
- PEDO 706 Dental Care for Pediatric Patients with Disabilities Units: 2
- PEDO 707 Seminar: Cleft Palate Rehabilitation Units: 1, 2, 3, 4, 5, 6, 7, 8, 9
- PEDO 708 Practice Management Units: 1
- PEDO 709 Conscious Sedation in Pediatric Dentistry Units: 1
- PEDO 721 Pediatric Physical Evaluation Units: 2
- PEDO 761a Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761b Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761c Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761d Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 761e Clinic: Advanced Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each *
- PEDO 771a Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771b Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771c Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771d Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771e Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 771f Clinic: Hospital Pediatric Dentistry Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each *
- PEDO 772a Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772b Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772c Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772d Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 772e Clinic: Interceptive Orthodontics Units: 1, 2, 3 each
- PEDO 773 Hospital Pediatric Clinics Units: 2, 3, 4
- PEDO 774 Clinical Genetics in Pediatric Dentistry Units: 9
- PEDO 790a Directed Research: Pediatric Dentistry Units: 1, 2, 3, 4, 5, 6 each
- PEDO 790b Directed Research: Pediatric Dentistry Units: 1, 2, 3, 4, 5, 6 each

Note:

**In addition to the required courses, a combined minimum of 36 units of PEDO 761 and PEDO 771 must be satisfactorily completed, as directed by the program director.*

Advanced Periodontology Certificate

The advanced periodontology program offers two options: (1) a 36-month, 183-unit course of study leading to a certificate of

clinical training in periodontology, or (2) a dual 36-month, 183-unit program leading to both a certificate of clinical training in periodontology and a Master of Science in Craniofacial Biology. The program in periodontology is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation, and the United States Department of Education. The program also meets the educational requirements of the American Board of Periodontology. Preparation for the certification process is an integral part of the curriculum, and all graduates are expected to achieve diplomate status of the American Board of Periodontology.

The curriculum provides a sound foundation in those basic sciences and medical sciences with direct application to clinical periodontology and implantology. Emphasis is placed on evidence-based clinical practice in order to select appropriate therapies rooted in scientific evidence in order to achieve predictable outcomes.

The USC Advanced Periodontology Program has a strong clinical component. Residents will acquire expertise in diagnosis and treatment of patients with periodontal diseases by controlling inflammation, regeneration of the periodontium where appropriate or replacement of hopeless teeth with dental implants. Residents receive extensive training in reconstruction of alveolar bone and soft tissues using advanced methods necessary for esthetic and functional periodontal and implant reconstruction. During the course of the study, periodontology residents work very closely with other disciplines in delivering complex interdisciplinary patient care. Clinical experience in pharmacosedation will also be provided.

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703j Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- CBY 576 Biochemical Aspects of Periodontal Disease Units: 3
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CBY 674 Advanced Oral Microbiology Units: 2
- DHIS 701 Advanced Oral Histology Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PERI 701a Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 701b Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 702a Seminar: Periodontal Treatment Procedures Units: 2
- PERI 702b Seminar: Periodontal Treatment Procedures Units: 2
- PERI 704a Seminar: Periodontal Therapy Units: 2 each
- PERI 704b Seminar: Periodontal Therapy Units: 2 each
- PERI 704c Seminar: Periodontal Therapy Units: 2 each
- PERI 704d Seminar: Periodontal Therapy Units: 2 each
- PERI 704e Seminar: Periodontal Therapy Units: 2 each
- PERI 704f Seminar: Periodontal Therapy Units: 2 each
- PERI 704h Seminar: Periodontal Therapy Units: 2 each
- PERI 704i Seminar: Periodontal Therapy Units: 2 each
- PERI 704j Seminar: Periodontal Therapy Units: 2 each
- PERI 708 Seminar: Clinical Basis of Periodontics Units: 4
- PERI 710 Clinical Periodontal Photography Units: 1
- PERI 711 Occlusal Therapy in Periodontics Units: 2
- PERI 713a Treatment Planning in Periodontics Units: 2 each
- PERI 713b Treatment Planning in Periodontics Units: 2 each
- PERI 713c Treatment Planning in Periodontics Units: 2 each
- PERI 713d Treatment Planning in Periodontics Units: 2 each
- PERI 713e Treatment Planning in Periodontics Units: 2 each
- PERI 713f Treatment Planning in Periodontics Units: 2 each
- PERI 713h Treatment Planning in Periodontics Units: 2 each
- PERI 713i Treatment Planning in Periodontics Units: 2 each
- PERI 713j Treatment Planning in Periodontics Units: 2 each
- PERI 716a Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 716b Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 750 Advanced Periodontal Instrumentation Units: 3
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2
- PERI 761a Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761b Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761c Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761d Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761e Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761f Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761h Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761i Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761j Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 710c Implant Dentistry Units: 1
- REST 710d Implant Dentistry Units: 1
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782d Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782e Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Total units: 183

Advanced Prosthodontics Certificate

The program in advanced prosthodontics is a 36-month course of study designed to teach didactic and clinical skills leading to competency in the specialized practice of prosthodontics. The program provides a basic science foundation, incorporating studies

in physical diagnosis, anatomy, oral pathology, pharmacology and oral biology. Proficiency in fixed, removable and implant prosthodontics will be developed during the course of study from a practical and didactic aspect. There is a strong emphasis on applying principles of esthetics toward oral reconstructions and implant prosthodontics. Periodontally compromised patients are frequently encountered, so the program is closely allied with the advanced program in periodontology. Treatment planning and integrated care with allied specialties is a strength of the program. Additionally a there is a strong emphasis on usage of digital dentistry from a diagnostic and treatment planning perspective. Then carrying this forward to design and fabrication of restorations using Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) for patients. This includes usage of intra oral and extraoral scanners and fabricating restorations on site and remote sites.

In addition to developing clinical skills, the program requires a research methodology course and a research project.

Clinical experience in implant placement and didactic study in maxillofacial prosthetics are offered: students who want more experience in clinical care may devote more time to treating these patients. The program in advanced prosthodontics is accredited by the Commission on Dental Accreditation, a special accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. The program also meets the requirements of the American Board of Prosthodontics. A certificate is awarded upon successful completion of the program.

Required Courses

- ADNT 701 Research Methodologies in Dentistry Units: 2
- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- DMAT 701 Advanced Biomaterials Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 701 Orientation to Advanced Prosthodontics Units: 5
- REST 702a Seminar: Treatment Planning Units: 2 each
- REST 702b Seminar: Treatment Planning Units: 2 each
- REST 702c Seminar: Treatment Planning Units: 2 each
- REST 702d Seminar: Treatment Planning Units: 2 each
- REST 702e Seminar: Treatment Planning Units: 2 each
- REST 702f Seminar: Treatment Planning Units: 2 each
- REST 702h Seminar: Treatment Planning Units: 2 each
- REST 702i Seminar: Treatment Planning Units: 2 each
- REST 703a Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703b Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703c Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703d Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703e Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703f Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 703h Seminar: Review of the Prosthodontic Literature — Fixed Units: 1 each
- REST 704a Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704b Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704c Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704d Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704e Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704f Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 704h Seminar: Review of the Prosthodontic Literature — Removable Units: 1 each
- REST 705 Advanced Fixed Prosthodontics Techniques Units: 1
- REST 706 Advanced Complete Denture Techniques Units: 1
- REST 708a Dental Ceramics, Color, and Aesthetics Units: 2
- REST 708b Dental Ceramics, Color, and Aesthetics Units: 2
- REST 709a Seminar: Removable Partial Dentures Units: 1, 2
- REST 709b Seminar: Removable Partial Dentures Units: 1, 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 712 Maxillofacial Prosthodontics Units: 2
- REST 721a Principles of Occlusion Units: 2
- REST 721b Principles of Occlusion Units: 2
- REST 761a Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761b Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761c Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761d Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761e Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761f Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761h Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761i Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 761j Clinic: Advanced Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 781 Clinic: Maxillofacial Prosthetics Units: 1, 2, 3, 4, 5, 6, 7, 8
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 790 Directed Research: Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

General Practice Residency

The General Practice Residency program consists of a 12-month first-year, full-time residency program, which is designed in conformance with the guidelines of the Council on Dental Education and the Commission on Dental Accreditation of the American Dental Association. The program is structured to increase diagnostic acumen, general knowledge and clinical ability in dentistry.

The program is conducted primarily at the Los Angeles County + USC Medical Center, one of the nation's largest teaching hospitals, and at the Veterans Administration Los Angeles Ambulatory Care facility in downtown Los Angeles. Some of the training is also conducted at Rancho Los Amigos Medical Center, West Los Angeles Veterans Administration Hospital, the Herman Ostrow School of Dentistry of USC and other community facilities.

The program emphasizes the treatment of a wide range of oral health disorders, medical considerations related to dental care, the ability to treat medically compromised and disabled patients and teaches how to provide dental care in a hospital environment interacting with health care providers of various disciplines. Inherent in the year of training, a philosophy of practice addresses the medical psychosocial and oral health care needs of the patient.

The program in general practice is accredited by the American Dental Association's Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education.

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ENDO 702 Seminar: Advanced Clinical Endodontics Units: 2
- GPR 601 Hospital Dentistry I Units: 1
- GPR 603a Dental Ethics Units: .5,
- GPR 603b Dental Ethics Units: .5,
- GPR 603c Dental Ethics Units: .5,
- GPR 603d Dental Ethics Units: .5,
- GPR 604a Practice Management Units: .5,
- GPR 604b Practice Management Units: .5,
- GPR 604c Practice Management Units: .5,
- GPR 604d Practice Management Units: .5,
- GPR 605a Review of General Dentistry Literature Units: 1
- GPR 605b Review of General Dentistry Literature Units: 1
- GPR 605c Review of General Dentistry Literature Units: 1
- GPR 605d Review of General Dentistry Literature Units: 1
- GPR 611a Emergency Medicine Units: .5,
- GPR 611b Emergency Medicine Units: .5,
- GPR 611c Emergency Medicine Units: .5,
- GPR 611d Emergency Medicine Units: .5,
- GPR 622 Forensic Dentistry Units: 1
- GPR 701 Treating Medically Compromised Dental Patients Units: 1
- GPR 702 General Dentistry Overview Units: 1
- GPR 705a Periodontal Treatment Procedures Units: .5,
- GPR 705b Periodontal Treatment Procedures Units: .5,
- GPR 705c Periodontal Treatment Procedures Units: .5,
- GPR 705d Periodontal Treatment Procedures Units: .5,
- GPR 706a Treatment Planning Units: 1
- GPR 706b Treatment Planning Units: 1
- GPR 706c Treatment Planning Units: 1
- GPR 706d Treatment Planning Units: 1
- GPR 710a Oral and Maxillofacial Surgery Units: 1
- GPR 710b Oral and Maxillofacial Surgery Units: 1
- GPR 710c Oral and Maxillofacial Surgery Units: 1
- GPR 710d Oral and Maxillofacial Surgery Units: 1
- GPR 711a Implantology Units: 1
- GPR 711b Implantology Units: 1
- GPR 722 Occlusion, TMJ Dysfunction, Orofacial Pain Units: 1
- GPR 733a Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733b Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733c Advanced and Maxillofacial Prosthodontics Units: .5,
- GPR 733d Advanced and Maxillofacial Prosthodontics Units: .5,
- PTHL 601 Advanced Oral Pathology Seminar Units: 2

Total units: 40

Integrated MD Degree/Oral and Maxillofacial Surgery Certificate Program

The Herman Ostrow School of Dentistry of USC and the Keck School of Medicine of USC offer a continuous 72-month integrated course of study leading to a medical degree in addition to a certificate in oral and maxillofacial surgery that prepares the graduate for the practice of oral and maxillofacial surgery. The program is fully integrated and will include advanced placement into the established medical school curriculum.

During the first three years, the student will function in the capacity of a medical student as well as a resident in the oral and maxillofacial surgery program. After the completion of the medical school curriculum, the MD degree will be awarded. This is required before the student can continue in the general surgery internship portion of the program. At the completion of the surgical internship, the student is qualified for medical licensure. During the fourth through sixth year, all required rotations and surgical training will be completed to fulfill the educational requirements of the Commission of Dental Accreditation of the American Dental Association and the American Association of Oral and Maxillofacial Surgeons.

The program is conducted at the Schools of Dentistry and Medicine and at the LAC+USC Medical Center. The course of study provides the graduates with the necessary background for certification by the American Board of Oral and Maxillofacial Surgery. The oral and maxillofacial surgery certificates are awarded upon successful completion of the entire 72-month course.

Dual Degree

Advanced Periodontology Certificate/Master of Science, Craniofacial Biology

Required Courses

- ADNT 702 Physical Diagnosis Units: 2
- ADNT 703a Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703b Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703c Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703d Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703e Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703f Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703h Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703i Seminar: Combined Treatment Planning Units: 2 each
- ADNT 703j Seminar: Combined Treatment Planning Units: 2 each
- ADNT 704a Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 704b Oral Biology Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each
- ADNT 710 Internship: Dental Education Units: 1, 2, 3, 4, 5
- AMED 750a Physical Evaluation and Anesthesia Units: 2
- AMED 750b Physical Evaluation and Anesthesia Units: 2
- AMED 750c Physical Evaluation and Anesthesia Units: 1
- ANAT 701 Advanced Head and Neck Anatomy Units: 1
- CBY 574 Statistical Methods in Bioexperimentation Units: 3
- CBY 575 Biologic Basis of Oral-facial Disease Units: 3
- CBY 576 Biochemical Aspects of Periodontal Disease Units: 3
- CBY 579L Craniofacial Molecular Genetics Units: 4
- CBY 582L Laboratory Methods Units: 3
- CBY 585 Systematic Research Writing Units: 3
- CBY 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

- CBY 594a Master's Thesis Units: 2
- CBY 594b Master's Thesis Units: 2
- CBY 671 Epistemology and Ethos of Bioscience Units: 2
- CBY 674 Advanced Oral Microbiology Units: 2
- DHIS 701 Advanced Oral Histology Units: 2
- DPHR 701 Advanced Pharmacology Units: 1
- PERI 701a Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 701b Seminar: Review of Current Periodontal Literature Units: 2, 3
- PERI 702a Seminar: Periodontal Treatment Procedures Units: 2
- PERI 702b Seminar: Periodontal Treatment Procedures Units: 2
- PERI 704a Seminar: Periodontal Therapy Units: 2 each
- PERI 704b Seminar: Periodontal Therapy Units: 2 each
- PERI 704c Seminar: Periodontal Therapy Units: 2 each
- PERI 704d Seminar: Periodontal Therapy Units: 2 each
- PERI 704e Seminar: Periodontal Therapy Units: 2 each
- PERI 704f Seminar: Periodontal Therapy Units: 2 each
- PERI 704h Seminar: Periodontal Therapy Units: 2 each
- PERI 704i Seminar: Periodontal Therapy Units: 2 each
- PERI 704j Seminar: Periodontal Therapy Units: 2 each
- PERI 708 Seminar: Clinical Basis of Periodontics Units: 4
- PERI 710 Clinical Periodontal Photography Units: 1
- PERI 711 Occlusal Therapy in Periodontics Units: 2
- PERI 713a Treatment Planning in Periodontics Units: 2 each
- PERI 713b Treatment Planning in Periodontics Units: 2 each
- PERI 713c Treatment Planning in Periodontics Units: 2 each
- PERI 713d Treatment Planning in Periodontics Units: 2 each
- PERI 713e Treatment Planning in Periodontics Units: 2 each
- PERI 713f Treatment Planning in Periodontics Units: 2 each
- PERI 713h Treatment Planning in Periodontics Units: 2 each
- PERI 713i Treatment Planning in Periodontics Units: 2 each
- PERI 713j Treatment Planning in Periodontics Units: 2 each
- PERI 716a Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 716b Seminar: Special Topics in Periodontal Disease Units: 3
- PERI 750 Advanced Periodontal Instrumentation Units: 3
- PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective Units: 2
- PERI 761a Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761b Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761c Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761d Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761e Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761f Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761h Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761i Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PERI 761j Clinic: Advanced Periodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- PTHL 601 Advanced Oral Pathology Seminar Units: 2
- REST 710a Implant Dentistry Units: 1
- REST 710b Implant Dentistry Units: 1
- REST 710c Implant Dentistry Units: 1
- REST 710d Implant Dentistry Units: 1
- REST 782a Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782b Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782c Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782d Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each
- REST 782e Clinic: Implant Prosthodontics Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each

Total units: 183

USC School of Dramatic Arts

One of the premier dramatic arts schools in the United States, the USC School of Dramatic Arts uniquely blends artistic training in a conservatory environment with outstanding faculty and the full academic experience found only within a major research university. This close-knit, supportive environment offers students the freedom to explore their artistic passions. Through programs of the highest caliber, as well as initiatives that provide access to professional experience, students are prepared for leadership in every facet of dramatic arts.

The school also attracts a wide range of guest speakers and lecturers, including some of the most distinguished talents from stage, screen and television. The location of the campus, literally in the center of the entertainment industry, makes the USC School of Dramatic Arts distinctive among colleges and universities in the United States.

Graduates of the school work professionally in all aspects of the entertainment industry. The school's faculty are dynamic teachers who are also artists working at the highest level of their profession.

The breadth of learning opportunities offered at the school prepares students for the spectrum of careers in the dramatic arts. The School of Dramatic Arts strives to instill confidence, integrity, excellence and artistic sensitivity into each of its students — traits that are essential to success in any field.

Drama Center 104
(213) 740-1286
FAX: (213) 740-8888
Email: sdainfo@usc.edu
dramaticarts.usc.edu

Administration

David Bridel, *Dean*
Sharon M. Carnicke, PhD, *Associate Dean*
Velina Hasu Houston, PhD, *Associate Dean*
Oliver Mayer, MFA, *Associate Dean*

Faculty

Distinguished Professor: Velina Hasu Houston, PhD
Professors: Sharon M. Carnicke, PhD; Meiling Cheng, DFA; Oliver Mayer, MFA; Madeline Puzo
Associate Professors: Luis Alfaro; Sibyl Wickersheimer, MFA
Assistant Professors: Carla Della Gatta, PhD; Takeshi Kata, MFA; Tom Ontiveros, MFA
Professors of Theatre Practice: Andrei Belgrader, MFA; Natsuko Ohama; Andy Robinson
Associate Professors of Theatre Practice: Philip G. Allen; Brent Blair, PhD; Paula Cizmar; Elsbeth M. Collins; Anita Dashiell-Sparks, MFA; John DeMita, MFA; Christina Haatainen-Jones; Joseph Hacker, MFA; Duncan Mahoney; Mary-Joan Negro; Louise Peacock, PhD; Jack Rowe; Stephanie Shroyer, MFA; Eric Trules; David Warshofsky, MFA
Assistant Professors of Theatre Practice: Kathleen Dunn-Muzingo, MFA; Melinda C. Finberg, PhD; Laura Flanagan, MFA; Randle Mell
Adjunct/Part-Time Faculty of Theatre Practice: Tony Abatemarco; Rob Adler; Robert Bailey; Michael Bateman; VP Boyle; Thomas Brown; Tom Buderwitz; Anne Burk, MFA; Frank Catalano, MPW; Andi Chapman, MFA; Emily Chase; Anastasia Coon, MFA; Caitlyn Conlin; Gregg T. Daniel, MFA; Debra De Liso, MFA; Frank Dwyer, MA; Kirstin Eggers; Wayne Federman; Dan Fishbach; Khanisha Foster; Alan Freeman, MFA; Jeff Flowers, MFA; Parmer Fuller, PhD; Terry Gordon, MFA; Jeanette Harrison; Mireya Hepner, MFA; Leslie Ishii; Michael Keenan; Mary K Klinger; Edgar Landa; Vicki Lewis; Jack Lovick; Heather Lyle, MM; Jennifer Maisel, MFA; Babette Markus; Kevin McCorkle; Lauren Murphy, MFA; Ntare Guma Mbaho Mwine, MFA; Jeremiah O'Brian; Se Oh; Patrick Pankhurst; Leah Piehl, MFA; John Rubinstein; Brett Ryback; Dan Shaner; Christopher Shaw; Judith Shelton; Jennifer Snoeyink; Zachary Steel; Julie Welch; Elizabeth Wong, MFA
Courtesy Joint Appointments: Thomas G. Cummings, PhD; Larry E. Greiner, PhD (Emeritus); Bruce Smith, PhD
Emeritus Professors: Don Llewellyn, MFA; Eve Roberts, MFA; Robert R. Scales, PhD; James Wilson, MFA

General Information

Degree Programs

The School of Dramatic Arts offers professional and academic degrees at the Bachelor and Master of Fine Arts levels. USC offers two degree programs to undergraduate students interested in the study of theatre arts. The professional degree programs, the Bachelor of Fine Arts (BFA) in Acting, Design, Sound Design, Stage Management and Technical Direction, offer a conservatory approach to training for students committed to pursuing careers in the professional theatre, film and television industries. The Bachelor of Arts degree program (BA) incorporates a broad, general education in addition to a thorough study of drama. The Bachelor of Arts in Visual and Performing Arts Studies provides students with a broad understanding of the various disciplines. The School of Dramatic Arts also offers minor programs in applied theatre arts, theatre, musical theatre, performing arts studies, comedy (performance) and playwriting.

Bachelor of Arts

The Bachelor of Arts (BA) degree is ideal for students who want a broad education in addition to production and performance experience. The degree is offered in cooperation with the USC Dornsife College of Letters, Arts and Sciences.

Bachelor of Fine Arts

Acting for Stage, Screen and New Media: The BFA acting degree is a four-year professional training program that connects the foundation of classical theatre with innovative training for the contemporary performing artist, including on-camera techniques, voice over, motion capture, the digital landscape for actors and much more. An emphasis on professional development and networking culminates this groundbreaking new degree offering in the heart of Hollywood, which promises to be the standard-bearer for the next generation of acting programs. An audition is required for admission. The BFA acting program is highly competitive.

Design: The BFA program in design incorporates study in scenic, lighting and costume design. An interview is required for admission.

Sound Design: The BFA program in sound design offers the student a combination of technical, management and design training in sound design. The student is also introduced to sound recording and mixing through a series of courses offered by the USC Thornton School of Music. Students begin using this training as early as the second semester of the second year of enrollment. The skills acquired in the classroom are further explored through sound design assignments on School of Dramatic Arts public productions in each subsequent semester of the student's program. Students in the sound design program build and design the sound component for the majority of the School of Dramatic Arts' productions under the supervision of a professional staff of designers and theatre technicians. An interview is required for admission.

Stage Management: The BFA program in stage management offers the student a combination of technical, management and design training. Students begin using this training as early as the first year of enrollment. The skills acquired in the classroom are further explored through stage management assignments in each year of the student's program. An interview is required for admission.

Technical Direction: The BFA program in technical direction incorporates the study of theatrical design with training in the professional skills needed to execute stage designs. An interview is required for admission.

Students in the design, stage management, and technical direction programs design, stage manage, and build the majority of the School of Dramatic Arts' productions under the supervision of a professional staff of designers and theatre technicians.

Bachelor of Arts in Visual and Performing Arts Studies

The Bachelor of Arts in Visual and Performing Arts Studies is an interdisciplinary degree offered jointly by the School of Dramatic Arts, the School of Architecture, the School of Cinematic Arts, the Roski School of Art and Design, the Thornton School of Music, and the Dornsife College of Letters, Arts and Sciences.

Minor Programs

Theatre: This general minor in theatre invites students to explore the many facets of this exciting field. Students have the opportunity to take a variety of classes in acting, applied theatre arts, applied theatre arts/education, playwriting, literature, stage management, directing, costume design and production. The curriculum is very flexible and encourages students to develop a primary interest for upper-division course work. All minor students are eligible to participate in performance and production projects.

Applied Theatre Arts: The minor in applied theatre arts addresses the theory and practice of applying theatre arts in non-traditional settings with emphases that include education, therapy and social change.

Comedy: The minor in comedy (performance) is a 20-unit minor that focuses on the theory and practice of comedy-making from the performer's perspective. Beginning with a foundation in the history of comic performance, and supplemented by courses in the fundamentals of acting and performance, the progression of the minor offers students a comprehensive theoretical and experiential education in the many differing disciplines of comedy.

Musical Theatre: The minor in musical theatre, interdisciplinary in nature, is a 27-unit program incorporating the study of acting, dance or movement, vocal arts and related musical subjects presented in association with the USC Thornton School of Music.

Performing Arts Studies: The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society.

Playwriting: The minor in playwriting presents undergraduate students who are not theatre majors with a concentration in the discipline of playwriting as a means for broadening and deepening expression using the literary and performing arts. This minor offers a foundation for extended expression in dramatic writing and creative writing genres in general.

Master of Fine Arts

The Master of Fine Arts with a major in theatre requires 48–64 units of course work at the 400 or 500 level. The areas of emphasis include acting, theatrical design, dramatic writing and directing. These programs provide a high level of practical experience. To ensure this, the number of students accepted in each area of emphasis is strictly limited. An interview is required for admission.

Master of Arts, Applied Theatre Arts

The Master of Arts in Applied Theatre Arts explores the intersection of theatre arts and cultural fieldwork, encompassing the fields of theatre and therapy, theatre in education and theatre for social change/community-based theatre. Practitioners of applied theatre arts supplement their work as classroom teachers, therapists, social workers, case managers, community organizers and social activists.

Auditions and Entrance to the Degree Programs

Admission to the various degree programs is granted through the university's regular admission procedures in conjunction with the School of Dramatic Arts supplementary application procedure. See the Admission section of this catalogue, Undergraduate and Graduate.

Admission to the BA program is determined by academic record, experience in theatre, and information required on the USC application for admission and the School of Dramatic Arts supplementary application. Students applying for the BA program must contact the School of Dramatic Arts directly to obtain the supplementary application.

In addition to submitting a USC application for admission, a dramatic arts supplementary application and an inperson audition are required for the BFA and MFA programs. Auditions are held during January and February. Applicants should contact the School of Dramatic Arts directly to obtain supplementary application materials and to arrange for their audition.

The acting audition requires two monologues: one contemporary and one classical (preferably verse).

Auditions and interviews for all programs are held in major cities around the country including Los Angeles, Chicago and New York.

Students wishing to transfer from a community college or another four-year college or university into the Bachelor of Fine Arts curriculum must present training equivalent to their level of transfer or be prepared to take remedial work in acting, voice, movement, dramatic literature and stagecraft.

Admission to the BFA Design/Technical Direction, Stage Management and Sound Design and MFA programs is based on a personal interview and/or review of a portfolio. In addition, the student must submit a USC application for admission and a dramatic arts supplementary application.

Applicants for the design programs must present a portfolio of their work at the time of their interview with the design faculty.

Interviews are held beginning in January for the following fall semester.

Admission to full graduate standing will be granted after the satisfactory completion of one semester. A satisfactory test score on the Graduate Record Examinations and a satisfactory grade point average are also required.

Application materials and details about audition dates and locations may be obtained from the Office of Admissions and Recruitment, School of Dramatic Arts, University of Southern California, Los Angeles, CA 90089-0791, (213) 740-1286.

International Study

In conjunction with Sarah Lawrence College and the British American Drama Academy, USC students have the opportunity to study theatre in London. For additional information, see International Study Options.

Degree Requirements

Minor Programs

Minor in Musical Theatre

The minor in musical theatre, interdisciplinary in nature, is a 27-unit program incorporating the study of acting, dance or movement, vocal arts and related musical subjects. Admission to the minor requires an audition for music but not for theatre. See the USC Thornton School of Music for requirements.

Bachelor's Degree

Acting for the Stage, Screen and New Media (BFA)

The BFA degree is a four-year, 132-unit, professional training program offering a vital and contemporary approach to the study of acting. The program comprises an integrated sequence of training in acting, voice, movement, camera, motion capture, the Web, voice-over, games and new media, and includes multiple opportunities for performance on stage, screen and new media platforms. The curriculum is based on the belief that an actor's emotional, imaginative, vocal and physical resources must be developed and prepared with maximum experience and flexibility for a fast-changing and challenging modern workplace. This training is combined with course work in critical and historical studies and technical theatre. An audition is required for admission. The BFA in Acting for Stage, Screen and New Media program is unique and highly competitive.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be

placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Acting Courses for Emphasis (80 Units)

- THTR 105 Introduction to Screen Acting Units: 2
- THTR 115a Movement I Units: 2
- THTR 115b Movement I Units: 2
- THTR 120aL Acting I Units: 2
- THTR 120b Acting I Units: 2
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 140a Voice I Units: 2
- THTR 140b Voice I Units: 2
- THTR 215a Movement II Units: 2
- THTR 215b Movement II Units: 2
- THTR 220a Intermediate Acting I Units: 2
- THTR 220b Intermediate Acting I Units: 2
- THTR 240a Voice II Units: 2
- THTR 240b Voice II Units: 2
- THTR 250 Camera and Improvisation Units: 2
- THTR 305a Directing Units: 4
- THTR 315a Physical Theatre I Units: 2
- THTR 315b Physical Theatre I Units: 2
- THTR 320a Intermediate Acting II Units: 2
- THTR 320b Intermediate Acting II Units: 2
- THTR 340a Intermediate Voice Units: 2
- THTR 340b Intermediate Voice Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 units required)
- THTR 410 The Digital Actor Units: 2
- THTR 411 The Business of Acting Units: 2
- THTR 415 Physical Theatre II Units: 2
- THTR 420a Senior Project Units: 2
- THTR 420b Senior Project Units: 2
- THTR 427 Audition Technique for Film, Television and New Media Units: 2
- THTR 440 Advanced Voice Units: 2
- THTR 464 An Actor's Reel Units: 2
- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 471 Senior Showcase Units: 2
- THTR 475 Acting on Camera: The Collaborative Process Units: 4
- THTR 480a Performance for Camera Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 (2 units required)

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A Courses

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B Courses

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Total Units: 132

Theatre (BA)

The Bachelor of Arts with a major in theatre is a comprehensive theatre degree offered in cooperation with the USC Dornsife College of Letters, Arts and Sciences. Candidates for the degree must complete the university general education requirements in addition to the courses in the major prescribed by the School of Dramatic Arts. A total of 128 units is required for completion of the degree.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses (13 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 305a Directing Units: 4

One course (3 units) from:

- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 231a Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 335 Scenic Construction Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4

- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required Upper Division Theatre Electives: 25

General Education Units: 36

Elective Units: 38

Total Units: 128

Theatre, Acting Emphasis, (BA)

The BA Emphasis in Acting is designed specifically to increase the versatility of its students so they are better educated, prepared and equipped to enter the professional arena of stage, film, television and new media.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses For Acting Emphasis (51 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 105 Introduction to Screen Acting Units: 2
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 152 Introduction to Scene Study Units: 2
- THTR 216 Movement for Actors Units: 2
- THTR 250 Camera and Improvisation Units: 2
- THTR 252a Intermediate Acting I Units: 2
- THTR 252b Intermediate Acting I Units: 2
- THTR 305a Directing Units: 4
- THTR 342a Basic Voice Units: 2
- THTR 352a Intermediate Acting II Units: 2
- THTR 354 Acting Shakespeare Units: 2

One course (3 units) from:

- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 231a Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 335 Scenic Construction Units: 3

Select 10 units from the following:

- THTR 342b Basic Voice Units: 2
- THTR 352b Intermediate Acting II Units: 2
- THTR 454 Acting Shakespeare II Units: 2
- THTR 480a Performance for Camera Units: 2
- THTR 408a Dialects Units: 2
- THTR 464 An Actor's Reel Units: 2

Select 10 units from the following:

- THTR 316 Advanced Movement for Actors Units: 2
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (2 Units Required)
- THTR 408b Dialects Units: 2
- THTR 410 The Digital Actor Units: 2
- THTR 411 The Business of Acting Units: 2
- THTR 417 Stage Combat Units: 2
- THTR 419 Alexander Technique for Performers Units: 2
- THTR 424 The Stage Artist as Entrepreneur Units: 2
- THTR 427 Audition Technique for Film, Television and New Media Units: 2
- THTR 442 Voice-over Acting Units: 2
- THTR 452a Advanced Acting Units: 4
- THTR 475 Acting on Camera: The Collaborative Process Units: 4
- THTR 480b Performance for Camera Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required General Education Units: 36

Elective Units: 25

Total Units: 128

Theatre, Design Emphasis, (BA)

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses For Design Emphasis (38-39 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 130 Introduction to Theatrical Production Units: 2
- THTR 230 Communicating Theatrical Design Concepts Units: 3
- THTR 305a Directing Units: 4
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (2 Units Required)

Select two courses (5-6 units) from:

- THTR 231a Costume Construction Units: 3
- THTR 232 Stage Lighting Units: 3
- THTR 236 Stage Sound Units: 2

Select 18 units from the following:

- THTR 231b Costume Construction Units: 3
- THTR 303 Projection Design I Units: 3
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 336 Introduction to Sound Design Units: 3
- THTR 402 Projection Design II Units: 3
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 432a Scene Design II Units: 3
- THTR 432b Scene Design II Units: 3
- THTR 433a Costume Design II Units: 3
- THTR 433b Costume Design II Units: 3
- THTR 434a Lighting Design II Units: 3
- THTR 434b Lighting Design II Units: 3
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 436 Sound for Theatre Units: 3
- THTR 441 Advanced Sound Design Units: 3
- THTR 409 Advanced Drafting: Vectorworks Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take onc course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

Required General Education Units: 36

Elective Units: 37-38

Total Units: 128

Theatre, Design Emphasis, (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Design Emphasis (74 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 241 Methods and Materials Units: 2
- THTR 305a Directing Units: 4
- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 units required)
- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 (4 units required)

One Course (3 units) from:

- THTR 231b Costume Construction Units: 3
- THTR 409 Advanced Drafting: Vectorworks Units: 3

Three courses (9 units) from:

- THTR 213 Corset Construction Units: 3
- THTR 303 Projection Design I Units: 3
- THTR 437 Scene Painting Units: 3
- THTR 439 Stage Properties Units: 3

Two courses (6 units) from:

- THTR 432a Scene Design II Units: 3
- THTR 433a Costume Design II Units: 3
- THTR 434a Lighting Design II Units: 3

- THTR 402 Projection Design II Units: 3

One course (3 units) from:

- THTR 432b Scene Design II Units: 3
- THTR 433b Costume Design II Units: 3
- THTR 434b Lighting Design II Units: 3

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 2

Total Units: 128

Theatre, Sound Design Emphasis, (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Sound Design Emphasis (71 units)

- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 236 Stage Sound Units: 2
- THTR 241 Methods and Materials Units: 2
- THTR 305a Directing Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 336 Introduction to Sound Design Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (5 Units Required)
- THTR 409 Advanced Drafting: Vectorworks Units: 3
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 436 Sound for Theatre Units: 3
- THTR 441 Advanced Sound Design Units: 3
- THTR 497 Advanced Theatre Practicum Units: 2 (4 Units Required)

One course (4 units) from:

- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 5

Total Units: 128

Theatre, Stage Management Emphasis, (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Stage Management Emphasis (60 units)

- MPKS 150a Beginning Piano Units: 2
- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 232 Stage Lighting Units: 3
- THTR 305a Directing Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 336 Introduction to Sound Design Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 Units Required)
- THTR 430 Stage Management II Units: 3
- THTR 443 Production Management Units: 4
- THTR 453 Taking it on the Road and Beyond Units: 4
- THTR 491 Theatre Organization and Administration Units: 4
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2

One course (4 units) from:

- THTR 330 Scene Design I Units: 4
- THTR 331 Costume Design I Units: 4

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Electives Units: 16

Total: 128

Theatre, Technical Direction Emphasis, (BFA)

Bachelor of Fine Arts

The Bachelor of Fine Arts in Theatre provides four years of intensive training at the undergraduate level including design, sound design, stage management and technical direction. A total of 128 units of course work is required for the degree, including a 16-unit Critical Studies core in addition to a minimum of 60-74 Theatre units depending on the requirements for each emphasis.

All BFA Theatre majors are required to earn a grade point average of 2.75 (A = 4.0) in their theatre courses each semester. BFA students who fail to earn a GPA of 2.75 in their theatre courses will be placed on probation the following semester. Students who remain on probation for a consecutive second semester will be disqualified from the BFA program.

A student disqualified from continued study in the BFA program for failing to meet the GPA standards outlined above will be given the option of transferring into the BA program.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Courses for the Technical Direction Emphasis (68 units)

- THTR 101 Introduction to Acting Units: 4
- THTR 131a Advanced Theatrical Production Units: 2
- THTR 131b Advanced Theatrical Production Units: 2
- THTR 132a Art of Theatrical Design Units: 2
- THTR 132b Art of Theatrical Design Units: 2
- THTR 232 Stage Lighting Units: 3
- THTR 236 Stage Sound Units: 2
- THTR 241 Methods and Materials Units: 2

- THTR 303 Projection Design I Units: 3
  or
- THTR 336 Introduction to Sound Design Units: 3
- THTR 330 Scene Design I Units: 4
- THTR 332 Lighting Design I Units: 4
- THTR 333 Stage Management I Units: 3
- THTR 335 Scenic Construction Units: 3
- THTR 397 Theatre Practicum Units: 1, 2, 3, 4 (6 Units Required)
- THTR 409 Advanced Drafting: Vectorworks Units: 3
- THTR 425 Dynamics of Technical Theatre Units: 3
- THTR 431 Seminar in Theatre Design Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 437 Scene Painting Units: 3
- THTR 438 Technical Theatre Units: 3
- THTR 439 Stage Properties Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 497 Advanced Theatre Practicum Units: 2 (2 Units Required)

Critical Studies Core (16 units)

Complete the two required courses below. In addition, take one course from List A and one course from either List A or B.

- THTR 125 Text Studies for Production Units: 4
- THTR 225g Theatre Across History and Cultures Units: 4

List A

- THTR 310 Comedy and Diversity Units: 4
- THTR 312 LGBTQ Theatre Units: 4
- THTR 395m Drama as Human Relations Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 456 Latinx Theatre Units: 4
- THTR 460 Asian and Asian American Theatre: Identity and Aesthetics Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

List B

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 400 Eco-Theatre: Art and Science in Contemporary Plays Units: 4
- THTR 401 Contemporary Theatre in a Changing World Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 404 Acting Theory Units: 4

General Education Units: 36

Elective Units: 8

Total Units: 128

Visual and Performing Arts Studies (BA)

The Bachelor of Arts in Visual and Performing Arts Studies is an interdisciplinary degree offered jointly by the Kaufman School of Dance, the School of Dramatic Arts, the School of Architecture, the School of Cinematic Arts, the Roski School of Art and Design, the Thornton School of Music, and the Dornsife College of Letters, Arts and Sciences. Candidates for the degree must complete the university general education requirements in addition to the courses in the major. Students in this major complete a core of required courses that provides them with a broad understanding of the various disciplines. The work in the major is completed by choosing courses from a wide array of course offerings from all the participating schools. A total of 128 units is required for completion of the degree.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major may also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Required Core Courses (Survey of the Arts)

- AHIS 120gp Foundations of Western Art Units: 4
- ARCH 304x Intensive Survey: Prehistory to the Present Units: 4
- CRIT 150gp Histories of Art, Design and Visual Culture Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- DANC 280g Introduction to Dance as an Art Form Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- THTR 125 Text Studies for Production Units: 4

Total: 28

Case Studies in the Arts:

12 units of upper division course work from the following:

Architecture:

- ARCH 314 History of Architecture: Contemporary Issues Units: 3
- ARCH 432 People, Places and Culture: Architecture of the Public Realm Units: 4
- ARCH 440m Literature and the Urban Experience Units: 4
- ARCH 444 Great Houses of Los Angeles Units: 4
- ARCH 454 Contemporary Asian Architecture Units: 4

Cinematic Arts:

- CTAN 451 History of Animation Units: 2
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 394 History of the American Film, 1977–present Units: 4
- CTCS 406 History of American Television Units: 4
- CTCS 407 African American Cinema Units: 4
- CTCS 409 Censorship in Cinema Units: 4
- CTCS 411 Film, Television and Cultural Studies Units: 4
- CTCS 412 Gender, Sexuality and Media Units: 4
- CTCS 414 Latina/o Screen Cultures Units: 4
- ENGL 371g Literary Genres and Film Units: 4
- PHIL 446 Aesthetics and the Film Units: 4

Fine Arts:

- AHIS 319 Mesoamerican Art and Culture Units: 4
- AHIS 321 Greek Art and Archaeology Units: 4
- AHIS 322 Roman Art and Archaeology Units: 4
- AHIS 330 Medieval Art Units: 4
- AHIS 343 Renaissance Art Units: 4
- AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present Units: 4
- AHIS 368 Modern Art I: 1700–1850 Units: 4
- AHIS 369 Modern Art II: 1851–1940 Units: 4
- AHIS 370g Modern Art III: 1940 to the Present Units: 4
- AHIS 373g History and Theory of Photography Units: 4
- AHIS 384 Early Chinese Art Units: 4
- AHIS 385 Later Chinese Art Units: 4
- CRIT 350gw Global Art, Design and Visual Culture since 1960 Units: 4
- ART 362 Ideas in Intermedia Units: 4

Music:

- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4

- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Theatre:

- COLT 354 Revolutions in Theater Units: 4
- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 403 The Performing Arts Units: 4
- THTR 405m Performing Identities Units: 4
- THTR 406 Theatre on the Edge Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4
- THTR 481 From The Border to Broadway Units: 4

Other Courses:

- COLT 381 Psychoanalysis and the Arts Units: 4
- PHIL 445 Philosophy of the Arts Units: 4

Overseas Study Opportunities:

- FREN 432 French Theatre Units: 4 (Paris Semester)
- SPAN 464 Introduction to Contemporary Spanish Theatre Units: 4 (Madrid Center)

Minor

Applied Theatre Arts Minor

Applied theatre arts is a field of study addressing the theory and practice of applying theatre arts in nontraditional settings with emphases that include education, therapy and social change. The minor in applied theatre arts (ATA) addresses the theory and practice of applying theatre skills in these environments to promote engaged and enlivened interactive critical thinking and community development from a performative perspective. ATA minors learn how to turn passive spectators into more active participants through the process of theatre.

Courses taken for this minor may not duplicate requirements for a student's major or other minor program requirements:

Foundation Skills Courses (8 Units)

It is recommended these be taken first:

- THTR 101 Introduction to Acting Units: 4
- THTR 305a Directing Units: 4

ATA Focus Courses (12 Units)

It is recommended these be taken after foundation skills courses:

- THTR 468 Theatre in Education Units: 4
- THTR 477 Theatre and Therapy Units: 4
- THTR 488mw Theatre in the Community Units: 4

Comedy (Performance) Minor

The minor in comedy (performance) is a 20-unit minor that focuses on the theory and practice of comedymaking from the performer's perspective. Beginning with a foundation in the history of comic performance, and supplemented by courses in the fundamentals of acting and performance, the progression of the minor offers students a comprehensive theoretical and experiential education in the many differing disciplines of comedy.

Required Courses (12 units)

- THTR 122 Improvisation and Theatre Games Units: 2
- THTR 197g Comedy and Performance Units: 4
- THTR 316 Advanced Movement for Actors Units: 2
- THTR 322 Improv 2: Advanced Improv Units: 2
- THTR 474 Introduction to Stand Up Comedy Units: 2

Required Elective Courses (8 units)

- THTR 313 Comedy of Manners Units: 4
- THTR 422 Improv 3: Long Form Improvisation Units: 2
- THTR 423 Magic Units: 2
- THTR 442 Voice-over Acting Units: 2
- THTR 467 Going Viral: Performance for New Media Units: 2
- THTR 469 Satire and Parody in Performance Units: 2
- THTR 470 Sketch Comedy for Theatre Units: 2
- THTR 473 Sketch Comedy in Performance Units: 2
- THTR 482 Stand Up 2: Honing Your Act Units: 2
- THTR 483 Characters of Comedy Units: 2
- THTR 484 Acting in Television Commercials Units: 2

Performing Arts Studies Minor

The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. The minor in performing arts studies is a 20-unit program.

Required Courses

Required capstone course:

- THTR 403 The Performing Arts Units: 4

Plus four to six courses (16 units) from the following list

The additional 16 units must be completed outside of the student's school. At least 4 units must be selected from each school.

- CTCS 190g Introduction to Cinema Units: 4
- CTCS 200g History of the International Cinema I Units: 4
- CTCS 201 History of the International Cinema II Units: 4
- CTCS 392 History of the American Film, 1925–1950 Units: 4
- CTCS 393 Postwar Hollywood, 1946-1962 Units: 4
- CTCS 404 Television Criticism and Theory Units: 4
- CTCS 464 Film and/or Television Genres Units: 4
- CTCS 469 Film and/or Television Style Analysis Units: 4
- DANC 170 Choreography and Performance Units: 2
- DANC 280g Introduction to Dance as an Art Form Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- THTR 201 Introduction to the Theatre Units: 4
- THTR 300 Introduction to Modern Drama Units: 4
- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 404 Acting Theory Units: 4
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2

Total units required: 20

Playwriting Minor

The minor in playwriting presents undergraduate students who are not theatre majors with a concentration in the discipline of playwriting as a means for broadening and deepening expression using the literary and performing arts. This minor offers a foundation for extended expression in dramatic writing and creative writing genres in general; fostering skills in research, development, communication, collaboration and craftsmanship in the process of preparing a play for its realization on stage. The minor in playwriting is a 20-unit program.

Required Courses

- THTR 101 Introduction to Acting Units: 4 or
- THTR 125 Text Studies for Production Units: 4

- THTR 305a Directing Units: 4
- THTR 365 Playwriting I Units: 4
- THTR 366 Playwriting II Units: 4
- THTR 479 Solo Performance Units: 4

Theatre Minor

This general minor in theatre invites students to explore the many facets of this exciting field. Students have the opportunity to take a variety of classes in acting, playwriting, literature, stage management, directing, costume design and production. The curriculum is very flexible and encourages students to develop a primary interest for upper-division course work. All minor students are eligible to participate in performance and production projects.

Required Courses

- THTR 101 Introduction to Acting Units: 4 or
- THTR 125 Text Studies for Production Units: 4

- THTR 130 Introduction to Theatrical Production Units: 2

One of the following:

- THTR 301 Greek and Roman Theatre Units: 4
- THTR 302 Shakespeare in His World Units: 4
- THTR 313 Comedy of Manners Units: 4
- THTR 314 Advanced Topics in Modern Drama Units: 4
- THTR 476mw African American Theatre, Dance, and Performance Units: 4

Required upper-division THTR electives: 14

Required theatre units: 24

Master's Degree

Applied Theatre Arts (MA)

The Master of Arts in Applied Theatre Arts explores the intersection of theatre and cultural fieldwork, encompassing the fields of theatre and therapy, theatre in education and theatre for social change/community-based theatre. This combined area of study weaves all three disciplines together under the aegis of training practitioners in the *art* of popular theatre with primarily marginalized communities. Practitioners of applied theatre arts supplement their work as classroom teachers, therapists, social workers, case managers, community organizers and social activists to engage public groups to obtain their goals and desires by using the tools of theatre to expedite dialogue and foster an atmosphere of greater critical consciousness and increased agency. A written and oral examination is required upon completion of course work.

International Study

All students will participate in an international externship during the summer following their academic year. This externship takes place in an approved overseas site where the practice of applied theatre arts is well established, with whom the university has a contractual agreement for supervised observation. This externship intends to provide a supervisory, logistical and theoretical container for students to explore cultural fieldwork in the international arena.

Curricula for the Master of Arts Degree

Applied Theatre Arts

- THTR 505 Staging Community-based Theatre Units: 3
- THTR 521 Engaging Community Narratives Units: 3
- THTR 544 Embodied Poetics Units: 2
- THTR 568 Popular Theatre for Education and Development Units: 3
- THTR 577 Theatre and Therapy for Cultural Fieldwork Units: 3
- THTR 578 Theatre of the Oppressed: Theory, Games, and Techniques Units: 4
- THTR 579 Writing Culture Units: 3
- THTR 586a Applied Theatre Arts: Los Angeles Residency Units: 2
- THTR 586b Applied Theatre Arts: Los Angeles Residency Units: 2
- THTR 587 Liberation Arts and Community Engagement — Theory Units: 4
- THTR 588 Liberation Arts and Community Engagement — Praxis Units: 3
- THTR 592a Participatory Action Research for Community-based Theatre Units: 2
- THTR 592b Participatory Action Research for Community-based Theatre Units: 2
- THTR 598 Applied Theatre Arts: International Externship Units: 2

Total Required Units: 38

Theatre (MFA)

The Master of Fine Arts in theatre allows the choice of an area of emphasis in theatre performance studies including acting, directing, dramatic writing or theatrical design.

Seventy-two units of study at the 400- or 500-level are required for the acting emphasis, 72 units for the dramatic writing emphasis and 48 units for the directing and theatrical design emphases. Regardless of the emphasis, at least two-thirds of the units must be at the 500 level or higher. In design, instead of a conventional thesis, the MFA student completes a final project in the area of design and defends it orally before the design faculty. A grade point average of 3.0 must be achieved in all graduate work taken in the School of Dramatic Arts. Graduate candidates whose undergraduate degrees are in disciplines other than theatre may be required to satisfy undergraduate prerequisites in theatre as determined by School of Dramatic Arts faculty.

Curricula for the Master of Fine Arts Degree

Acting Emphasis

- THTR 480a Performance for Camera Units: 2
- THTR 480b Performance for Camera Units: 2
- THTR 504 The Art of Collaboration and Ensemble Units: 2
- THTR 515a Advanced Movement Units: 2
- THTR 515b Advanced Movement Units: 2
- THTR 515c Advanced Movement Units: 2
- THTR 515d Advanced Movement Units: 2
- THTR 515e Advanced Movement Units: 2
- THTR 520a Advanced Acting Units: 4
- THTR 520b Advanced Acting Units: 4
- THTR 520c Advanced Acting Units: 2
- THTR 520d Advanced Acting Units: 4
- THTR 520e Advanced Acting Units: 2
- THTR 529a Textual Studies for Performance Units: 4
- THTR 529b Textual Studies for Performance Units: 4
- THTR 540a Advanced Voice Diction Units: 2
- THTR 540b Advanced Voice Diction Units: 2
- THTR 540c Advanced Voice Diction Units: 2
- THTR 540d Advanced Voice Diction Units: 2
- THTR 540e Advanced Voice Diction Units: 2
- THTR 540f Advanced Voice Diction Units: 2
- THTR 541 Diction and Dialects Units: 2
- THTR 542 Singing for Actors Units: 2
- THTR 571 Professional Seminar Units: 2
- THTR 575 Creative Production Projects Units: 6
- THTR 597 Theatre Practicum Units: 1, 2, 3, 4 (8 Units Required)

Total units: 72

Directing Emphasis

- THTR 520a Advanced Acting Units: 4
- THTR 520b Advanced Acting Units: 4
- THTR 525 Seminar in Contemporary Theatre Units: 4
- THTR 528 Seminar in Dramatic Analysis Units: 4
- THTR 555 Directing Fundamentals Units: 2
- THTR 556a Directing Units: 2
- THTR 556b Directing Units: 2
- THTR 558a Design for Directors Units: 2
- THTR 558b Design for Directors Units: 2
- THTR 567a Studies in Playwriting Units: 4
- THTR 591 Seminar in Producing Theatre Units: 4
- THTR 593 MFA Project Units: 2
- Electives by advisement Units: 10

Total units: 48

Theatrical Design Emphasis

Two courses from:

- THTR 550a Seminar in Scene Design Units: 3
- THTR 552a Seminar in Costume Design Units: 3
- THTR 553a Seminar in Lighting Design Units: 3

Two continuing courses from:

- THTR 550b Seminar in Scene Design Units: 3
- THTR 552b Seminar in Costume Design Units: 3
- THTR 553b Seminar in Lighting Design Units: 3

One remaining course from:

- THTR 550a Seminar in Scene Design Units: 3
- THTR 552a Seminar in Costume Design Units: 3
- THTR 553a Seminar in Lighting Design Units: 3

All of the following:

- THTR 407a Drawing and Rendering for the Theatre Units: 2
- THTR 407b Drawing and Rendering for the Theatre Units: 2
- THTR 435 Advanced Theatrical Drafting Units: 3
- THTR 493a Periods and Styles Units: 2
- THTR 493b Periods and Styles Units: 2
- THTR 593 MFA Project Units: 2

Two seminars, one of which must be

- THTR 528 Seminar in Dramatic Analysis Units: 4 (8 Units Required)

400- or 500-level electives

- 400- or 500-level electives by advisement, 5 units of which must be at the 500 level Units: 10

Total units: 48

Dramatic Writing Emphasis

- CTWR 513 Writing the Short Script Units: 2
- CTWR 514a Basic Dramatic Screenwriting Units: 2
- CTWR 514b Basic Dramatic Screenwriting Units: 2
- THTR 500 Dramaturgical Perspectives and Approaches Units: 2 , max 10
- THTR 501 Poetry and Prose into Drama Units: 4
- THTR 506 Advanced Creating Characters Units: 2
- THTR 527 Writing the Pacific Rim: Global and Western Dramatic Writing Units: 4
- THTR 529a Textual Studies for Performance Units: 4
- THTR 566 Dramatic Writing Studio Units: 4 (4 Units Required), max 20
- THTR 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 Units Required), max 4
- THTR 596 Thesis Development and Attainment Units: 2 , max 10

  Electives Units: 10

Total units: 72

A minimum of 72 units of graduate course work must be completed prior to the degree being granted. Thesis Requirement: The student is required to complete a thesis portfolio consisting of four theatre projects: (1) a fulllength original play, (2) a full-length original play or an adaptation, (3) a full-length screenplay, (4) a project that is either a play of any length, or a short subject or feature length script, a set of television speculative scripts (either in three half-hour short form of drama from the same TV program or a set of characters; or one-hour long form) or an interdisciplinary/multimedia project (approved in advance by the dramatic writing faculty.) An oral defense and review by program faculty and the developing portfolio is required when the student has completed two-thirds of the program, generally in the fall term of the student's third year.

USC Rossier School of Education

The USC Rossier School of Education is one of the world's premier centers for the study of urban education. The school is committed to preparing teachers, researchers, counselors, administrators and curricular specialists for leadership positions. The mission of the USC Rossier School of Education is to improve learning in urban education locally, nationally and globally. Urban areas often face challenges associated with equity and access, poverty, density, mobility and immigration, environmental degradation and strained social conditions around housing, health care and crime. Urban education takes place in many contexts including pre-kindergarten through high school, human services, higher education and workplace settings.

We seek to transform urban education by:

- Leading the search for innovative, efficacious and just solutions by engaging in collaborative translational research.
- Preparing and developing educational leaders who are change agents committed to urban education and who possess the competencies needed to address complex educational and social issues.
- Creating mutually beneficial partnerships to ensure our work is field-based and incorporates a diversity of perspectives and experiences.

Our vision is a world where every student, regardless of personal circumstance, is able to learn and succeed. We believe that USC Rossier, as a top-tier research institution, has the responsibility and the ability to train the education leaders and to develop the innovative practices inclusive of equity and access that will help realize this vision.

The Rossier School of Education is committed to our four academic themes of leadership, diversity, learning and accountability that guide all academic, research and service efforts within our school.

The USC Rossier Commitment

At USC Rossier, we stand by our students and graduates. From our classrooms to your career, our commitment to your success is unwavering. We prepare our graduates to be change agents, and equip them with the critical thinking and problem-solving skills necessary to assess challenges and implement creative solutions. If at any point in your career you're faced with an issue in which you could benefit from the professional guidance of our expert faculty, we encourage you to take advantage of the USC Rossier Commitment. A dedicated team of faculty members will work with you to identify the issue and develop a strategic plan of action to facilitate your success.

USC Rossier School of Education
Waite Phillips Hall 301
(213) 740-0224
info@rossier.usc.edu

Administration

Karen Symms Gallagher, PhD, *Dean, holder of the Emery Stoops and Joyce King Stoops Dean's Chair in Education*
Jerome Lucido, PhD, *Associate Dean for Strategic Enrollment Services*
Lawrence O. Picus, PhD, *Associate Dean for Faculty Affairs*
Gale Sinatra, PhD, *Associate Dean for Research*
Kathy Stowe, EdD, *Associate Dean for Academic Programs*
Carla Wohl, *Associate Dean for External Relations*
Teri Adams, *Assistant Dean of Administration and Finance*
Kate O'Connor, *Assistant Dean for Professional Development*

Faculty

Emery Stoops and Joyce King Stoops Dean's Chair in Education: Karen Symms Gallagher, PhD
Clifford H. and Betty C. Allen Professorship in Urban Education: Shaun R. Harper, PhD
Irving R. and Virginia Archer Melbo Chair in Educational Administration: Rudy Castruita, EdD
Katzman/Ernst Chair in Educational Entrepreneurship, Technology and Innovation: Alan Arkatov
Leslie Wilbur and Norma Lash Wilbur-Evelyn Kieffer Professor of Higher Education, University Professor: William G. Tierney, PhD
Professors: Ron Avi Astor, PhD *(Dworak-Peck)*; Estela Mara Bensimon, EdD; Karen Symms Gallagher, PhD; Shaun R. Harper, PhD; Henry Jenkins, PhD *(Annenberg)*; Adrianna Kezar, PhD; Franklin Manis, PhD *(Dornsife)*; Harold F. O'Neil Jr., PhD; Daphna Oyserman, PhD *(Dornsife)*; Gary Painter, PhD *(Price)*; Lawrence O. Picus, PhD; Gale Sinatra, PhD; John B. Slaughter, PhD *(Engineering)*
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Professors of Clinical Education: Mary Andres, PsyD; Rudy Castruita, EdD; Ruth Chung, PhD; Ginger Clark, PhD; Michael Escalante, EdD; Robert Filback, PhD; Raymond John Gallagher, PhD; Pedro Garcia, EdD; Kimberly Hirabayashi, PhD; Sandra N. Kaplan, EdD; Anthony B. Maddox, PhD; Azad Madni, PhD *(Viterbi)*; Tracy Poon Tambascia, EdD; Eugenia Mora-Flores, EdD; Maria Ott, EdD; Margo Pensavalle, EdD; Mark Power Robison, PhD; Darlene Robles, PhD; Julietta Shakhbagova, PhD; Julie Slayton, JD, PhD; Kathy Stowe, EdD; Melora Sundt, PhD; Kristan Venegas, PhD; Adlai Wertman, MBA *(Marshall)*; Kenneth Yates, EdD
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Assistant Professors of Clinical Education: Lynne Goldfarb, PhD; Briana Hinga, PhD; Jaimie Hoffman, EdD; Cathy Krop, PhD; Artineh Samkian, EdD
Associate (Teaching) Professors of Clinical Education: Kimberly Ferrario, PhD; Corinne Hyde, EdD
Assistant (Teaching) Professors of Clinical Education: Monique Datta, EdD; Ekaterina Moore, PhD
Professor of Research: Jerome Lucido, PhD
Associate Research Professors: Zoë Corwin, PhD; Lindsey Malcom-Piqueux, PhD
Research Assistant Professor: Yasemin Copur-Gencturk, PhD
Senior Lecturer: Kate O'Connor
Senior Fellow: Douglas Lynch, PhD
Emeritus Professors: Earl Carnes, PhD; Richard Clark, EdD; Myron H. Dembo, PhD; Mike Diamond, PhD *(Marshall)*; Robert Ferris, EdD; Mabel E. Hayes, PhD; Edward J. Kazlauskas, PhD; Frederick Knirk, EdD; Steven Krashen, PhD; Johanna K. Lemlech, EdD; James Magary, PhD; Merle Marks, EdD; William G. Millington, EdD; William F. O'Neill, PhD; Donald E. Polkinghorne, PhD; William M. Rideout, Jr., PhD; Robert Rueda, PhD; Audrey J. Schwartz, EdD; Robert A. Smith, PhD; Eddie Williams, EdD; Kathleen Wulf, PhD
Emeritus Professor of Clinical Education: Stuart E. Gothold, EdD; Dennis Hocevar, PhD
Emeritus Professor of Clinical Psychology: Rodney K. Goodyear, PhD
Stoops Dean and Cooper Chair Emeritus: Guilbert C. Hentschke, PhD
Emeritus Associate Professor of Clinical Education: William Maxwell, PhD
Research Professor Emeritus of Education: Allen Munro, PhD

Minor and Degree Programs

The Rossier School of Education offers the following degree programs: Master of Arts, Teaching; Master of Arts, Teaching: Teaching English to Speakers of Other Languages; Master of Education, Teacher Leadership; Master of Education, Educational Counseling; Master of Education, Learning Design and Technology;

Master of Education, Postsecondary Administration and Student Affairs; Master of Education, School Counseling; Master of Education, School Leadership; Master of Marriage and Family Therapy; Doctor of Education/Master of Business Administration (EdD/MBA); Doctor of Education (EdD); Organizational Change and Leadership (EdD); Global Executive (EdD); and Doctor of Philosophy (PhD) in Urban Education Policy.

The Rossier School of Education also offers minors in Education and Society, The Dynamics of Early Childhood, and Teaching English to Speakers of Other Languages (TESOL).

Graduate Degrees

Admission

Applicants for admission to graduate degree programs must have a bachelor's degree or its equivalent from an accredited institution. Admission to graduate programs in the Rossier School of Education is highly selective and competitive. A grade point average of 3.0 (A = 4.0) is usually expected as well as satisfactory scores on the Graduate Record Examinations (GRE) General Test for select programs as well as letters of recommendation. Specific prior degree, testing, and recommendation requirements vary by program. For specific information on admission and application procedures, contact the Office of Admissions and Scholarship, (213) 740-0224 or info@rossier.usc.edu.

For more details on how to apply, please visit: rossier.usc.edu/admissions/

Satisfactory Academic Progress

Students must maintain a grade point average of 3.0 (A = 4.0) or better to stay in good academic standing. Consistent with USC's overall policies for graduate students, factors other than satisfactory grades may also be taken into consideration in decisions regarding a student's continuation in a graduate degree program. These factors include satisfactory performance in fieldwork or credentialing requirements, or meeting program-defined professional standards, which are communicated to students at the beginning of the program.

Students who do not earn or maintain a 3.0 (A = 4.0) grade point average in an academic term will be given an academic warning in the following term. Students may also be given an academic warning if they have not fulfilled non-GPA related requirements, as defined by their degree program. The academic warning provides notification that the student is subject to dismissal. A student who is not in good academic standing is subject to dismissal, and may be dismissed from a program whenever, in the judgment of the associate dean for academic programs and the program director of the program in question, it is unlikely that the student will successfully complete his or her program.

Time Limit for Degree Completion

The time limit for completing a master's degree is five years. The time limit for completing a doctoral degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctorate, the time limit for completion is six years.

The time limit begins with the first course at USC applied toward a specified degree and ends the semester during which all requirements are met.

A primary consideration of the setting of time limits is the currency of the course work and research with respect to the date the degree is to be conferred. Equally important is the concern that the faculty members serving as advisers or committee members be available to the student for the duration of graduate studies at USC.

Occasionally a student finds it impossible to comply with prescribed time limits for completion of a degree. If a significant delay is likely to occur, the student must make arrangements in advance by petitioning for an extension of time. Such petitions will be considered when there is clear justification based on sound academic or critical personal reasons. An academic department may grant an extension of up to one year at a time for a maximum of two years.

Doctoral Degrees

The Rossier School of Education offers the Doctor of Philosophy in Urban Education Policy (PhD) and the Doctor of Education (EdD). Both doctoral programs place strong emphasis on the acquisition of inquiry skills and on the collaborative and interdisciplinary study of issues mutually engaging to both students and the Rossier School of Education faculty members. Both degrees emphasize the acquisition of appropriate research and inquiry skills, but the application of these skills is expected to differ. The EdD student is trained to use inquiry skills to solve contemporary problems, while the PhD student is trained to contribute to the general and theoretical knowledge about educational issues. The EdD is administered by the Rossier School of Education; the PhD is administered by the Graduate School.

PhD students must *also* consult The Graduate School section of this catalogue for regulations and requirements pertaining to the degree.

Credential Programs

A credential is a license issued by the California Commission on Teacher Credentialing (CCTC) to persons wishing to legally teach or perform certain other professional services in California's public schools. USC is one of several institutions authorized to recommend qualified persons to the CCTC for receipt of credentials.

There are two categories of credentials offered in the Rossier School: teaching and service. Requirements for these credentials may be obtained by calling the appropriate phone number listed below. *Credential requirements may change due to state law*. Students are advised to consult periodically with the Rossier School of Education for current credential requirements.

Teaching Credentials

California has a two-tier credential structure. A five-year Preliminary Credential is the first credential issued after an individual meets basic credential requirements. Upon successful completion of the MAT program candidates are recommended for a Preliminary Credential. Internships and Induction programs that lead to Clear Credentials are currently satisfied under the purview of your district of employment. All Preliminary Credentials from the MAT include the English Language Learner Authorization (previously known as a CLAD certificate) and authorization of specialized use of technology in educational settings as mandated by the State of California.

Multiple Subject Teaching (MST) authorizes the holder to teach in a self-contained classroom such as the classrooms in most elementary schools. A teacher authorized for multiple subject instruction may be assigned to teach in any self-contained classroom (preschool, grades K–12 or many subjects within a self-contained classroom). This classroom situation is generally found in preschool and elementary grades or in classes organized primarily for adults. In addition, the holder of a Multiple Subject Teaching Credential may serve in a core or team teaching setting.

Single Subject Teaching (SST) authorizes the holder to teach a specific subject(s) named on the credential in departmentalized classes such as those in most middle schools academic area. This classroom situation is generally found in middle and senior high schools. A teacher authorized for single subject instruction may be assigned to teach any subject on his or her authorized fields at any grade level: preschool, grades K–12 or in classes organized primarily for adults.

Education Specialist Credential (ES) authorizes the holder to conduct Educational Assessments related to student's access to the academic core curriculum and progress toward meeting instructional academic goals, provide instruction and Special Education Support to individuals in the area of specialization listed on the credential. Currently the ES curriculum in the MAT program prepares candidates to work with students who have Mild/Moderate Disabilities (M/M). This preliminary ES credential will also authorize candidates to provide instructional services to students with autism within the M/M specialty area setting.

All Preliminary Credential teacher candidates must meet the following requirements in order to be recommended/endorsed for a teaching credential: Basic Skills Competency, Content Subject Matter Competency, successful completion of all MAT course work (including Healthy Environments Assessment), evidence of successful completion and passing of the TPA (Teaching Performance Assessment), U.S. Constitution requirement, and verification of training in cardiopulmonary resuscitation (CPR) that covers infant, child and adult CPR skills.

Teacher certification rules and requirements vary greatly by state. Completion of a CCTC-approved program does not guarantee certification or licensure in another state. Prospective teacher candidates are strongly advised to learn about their state's requirements. The USC Credential Office will provide support and program verification information as appropriate and necessary during the direct licensure application process to states outside of California. See online.usc.edu/state-disclosures/.

For inquiries, contact the MAT@USC office at (213) 743-2127.

Services Credentials

The *Administrative Services Credential* authorizes the holder to provide a variety of services in grades 12 and below, including preschool, and in classes organized primarily for adults. USC recommends candidates for the Preliminary Administrative Services Credential. This credential is offered through the School Leadership Academy. For more information please contact professional.development@rossier.usc.edu.

The *Clear Pupil Personnel Services Credential:* Candidates in the Master's Degree in Social Work program have the option to earn a Clear Pupil Personnel Services Credential, which authorizes the holder to provide both of the following services:

- School Child Welfare and Attendance in grades 12 and below, including preschool, and in programs organized primarily for adults: access appropriate services from both public and private providers, including law enforcement and social services; provide staff development to school personnel regarding state and federal laws pertaining to due process and child welfare and attendance laws; address school policies and procedures that inhibit academic success; implement strategies to improve student attendance; participate in school-wide reform efforts; and promote understanding and appreciation of those factors that affect the attendance of culturally diverse student populations.
- School Social Work in grades 12 and below, including preschool, and in programs organized primarily for adults: assess home, school, personal and community factors that may affect a student's learning; identify and provide intervention strategies for children and their families, including counseling, case management, and crisis intervention; consult with teachers, administrators and other school staff regarding social and emotional needs of students; and coordinate family, school and community resources on behalf of students.

For inquiries, contact the USC Suzanne Dworak-Peck School of Social Work at 1.877.700.4MSW (1.877.700.4679)

Special Programs

Professional Development

The Office for Professional Development offers a variety of credential, non-degree and certificate programs for aspiring and current professional educators and administrators in both fully customized and open enrollment programs.

Areas of expertise include English Language Development; Literacy; Differentiated Curriculum; Gifted Education; School Site Leadership Development; School District Leadership; and School Business Management.

Certificate programs are offered in online, face-to-face, and blended formats and include:

- Reading and Literacy Added Authorization Program
- Differentiated Curriculum for Gifted and High-Ability Learners Program
- Differentiating the Common Core Standards Program
- School Business Management Certificate Program
- Equity Educators Certificate
- Urban Superintendents Academy
- School Leadership Academy: Preliminary Administrative Credential.

Professional Development also offers the annual in-person:

- Summer Gifted Institute and Teacher Demonstration School
- Secondary Writing Instruction Institute, a K-12 Writing Institute
- Writing Institute: Educators enhance your own style and approaches.

New programs launching include Early Childhood Education, Individualized Learning Experiences for Educators.

The office also offers national programs customized specifically for districts, including personalized coaching, classroom demonstration lessons, curriculum instruction and consultation responding to standards (Common Core, NGSS, ELD, VAPA) and International Teacher Training Institutes customized for student teachers, faculty, administrators and scholars seeking immersion in an American Education environment. Many Professional Development Courses offer Continuing Education Units (CEUs) for successful completion.

For further information, contact the Office for Professional Development at (213) 740-8536. You can also visit rossier.usc.edu/programs/pd/.

Minor

Education and Society Minor

The education and society minor seeks to examine education and its role in society. The minor is intended to help students develop broad perspectives on the purposes and forms of education and schooling, including the purpose and history of schooling; the provision of equitable opportunities for all; the factors impacting teaching, learning and achievement; and the development of engaged citizenship for more just societies through education. Students enrolled in this minor will gain multiple perspectives on education locally, nationally and internationally, including technology's role in educational outcomes. The minor provides resources for students who may want to pursue careers in education after graduation — teaching, educational advocacy through nonprofits or non-governmental organizations, university research, policymaking or educational entrepreneurship.

Upper-Division Requirements

- EDUC 421 Global Issues: Impact on Educational Outcomes Units: 4
- EDUC 422 Social Change, Difference and Access to Schooling Units: 4
- EDUC 423 Unrealized Promise and Hope for Education in 21st Century Units: 4
- EDUC 426 Educational Inquiry Units: 4

Teaching English to Speakers of Other Languages (TESOL) Minor

The Rossier School of Education offers an interdisciplinary minor in Teaching English to Speakers of Other Languages (TESOL). This minor is targeted to those undergraduates who wish to gain expertise in the field of English as a Second Language (ESL) or English as a Foreign Language (EFL) teaching. The minor in TESOL also prepares students for short- and long-term careers in ESL and EFL teaching in both U.S. and international contexts.

While students can combine the TESOL courses with any major, the curriculum will particularly benefit students in linguistics, English, foreign languages, communication, international studies and other related fields. However, with its emphasis on language and culture, as well as its focus on effective teaching and inquiry, the minor in TESOL will complement almost any field of study.

Units required to complete minor: 16

Upper-Division Requirements (12 Units)

- EDUC 411 Foundation of TESOL Units: 4
- EDUC 412 Instructional Methods in TESOL Units: 4
- EDUC 426 Educational Inquiry Units: 4

Required Elective Course (4 Units)

At least one of the following upper-division courses needs to be completed:

- LING 375 Sociolinguistics Units: 4 *
- LING 405 Child Language Acquisition Units: 4
- LING 410 Second Language Acquisition Units: 4 *
- EDUC 421 Global Issues: Impact on Educational Outcomes Units: 4
- EDUC 422 Social Change, Difference and Access to Schooling Units: 4
- EDUC 423 Unrealized Promise and Hope for Education in 21st Century Units: 4

Note:

*LING 210 is a prerequisite for LING 375 and LING 410 .

Please contact the program office with any questions at nelsonmm@rossier.usc.edu.

The Dynamics of Early Childhood Minor

The Dynamics of Early Childhood minor is intended to facilitate students' understanding of the historical implications that guide what we know and how we use the information we know related to the development of young children. The noted ideologies of theorists such as Dewey, Froebel, Pestalozzi and others will be examined from the perspectives of professions such as journalist, cinematographer, sociologist and psychologist. The effects of sources of entertainment such as children's books, films and television programs as well as consumer products such as toys will be studied in order to determine the "power" and effects they have on our developmental understandings and designs of educational needs for young children. Students will be encouraged to pursue a self-selected investigation of early childhood in order to be able to contribute as a professional, a family member, and an educator to address the roles and importance of young children in our society.

Four-Course Program:

- EDUC 427 Vectors that Influence Early Childhood Development Units: 4
- EDUC 428 The Effects of Curriculum and Institution on Early Childhood Units: 4
- EDUC 429 Early Childhood and Contemporary Society Units: 4
- EDUC 430 Early Childhood: Action Research Focus Units: 4

Master's Degree

Alternative Certification Master of Arts in Teaching, Multiple Subject

The Alternative Certification Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential while teaching full-time in an approved K-12 school district. Two programs are available: Multiple Subject and Single Subject. The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 675 Literacy Development and Instruction in Elementary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Additional course work for the Bilingual Authorization

- EDUC 558 Culture Learning in Schools: Latino Units: 3

Alternative Certification Master of Arts in Teaching, Single Subject

The Alternative Certification Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential while teaching full-time in an approved K-12 school district. Two programs are available: Multiple Subject and Single Subject. The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 676 Literacy Development and Instruction in Secondary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Additional course work for the Bilingual Authorization

- EDUC 558 Culture Learning in Schools: Latino Units: 3

Educational Counseling (MEd)

The Master of Education degree in Educational Counseling is designed for individuals seeking a career or advancement opportunities in postsecondary education as an academic or outreach counselor. The degree includes a theoretical and practical background in student affairs and counseling.

The program meets current requirements for postsecondary counseling positions in the California state system, particularly for those who wish to work in the public community college system. A minimum of 48 units is required.

Required Courses

- EDCO 503 Ethical and Legal Issues in Counseling Units: 3
- EDCO 541 Theories in Counseling Units: 3
- EDHP 500 Foundations of Higher, Adult, and Professional Education Units: 3
- EDHP 552 The Politics of Difference Units: 3
- EDHP 563 Student Affairs Work in College Units: 3
- EDHP 580 The Community College Units: 3
- EDHP 587 Fieldwork in Higher, Adult, and Professional Education Units: 1, 2, 3, 4, 5, 6, 7, 8 (3 Units Required)

- EDHP 593a Master's Seminar Units: 2 and
- EDHP 593b Master's Seminar Units: 2

or

- EDHP 594a Master's Thesis Units: 2 and

- EDHP 594b Master's Thesis Units: 2

- EDHP 687 Student Development in Higher Education Units: 3
- EDPT 502 Learning and Individual Differences Units: 3
- EDUC 500 The Counseling Process Units: 3
- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 547 Career Development: Theory and Process Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 609 Academic Advising in Postsecondary Education Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3

Learning Design and Technology (MEd)

The Master's in Learning Design and Technology program is designed for people who want to significantly improve learning and performance outcomes within their organization. Graduates will be prepared to design, implement, and evaluate learning environments and outcomes for various formal (e.g., K-12 and higher education), non-formal (e.g., corporate, military and government organizations) and informal settings (e.g., museums, science centers and public spaces). The program draws from learning and motivation research, as well as knowledge of how to leverage technology, to design face-to-face, technology-enabled, and blended learning experiences. Through the project-based capstone, students will gain practical experience by designing a learning experience or evaluating an existing learning design. The program consists of 30 units and is delivered online only.

Required Courses

- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 503 Learning and Motivation Units: 3
- EDUC 589 Human Lifespan Development Units: 3
- EDUC 591 Diversity: Power, Equity and Inclusion Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 582 Assessment and Evaluation Units: 2
- EDUC 595 Instructional Design Units: 3
- EDUC 579 Media Selection and Evaluation Units: 2
- EDUC 586 Design of Learning Environments Units: 3
- EDUC 587 Master's Studio A Units: 2
- EDUC 588 Master's Studio B Units: 4

Marriage and Family Therapy (MMFT)

The program for the Master of Marriage and Family Therapy is offered for those students seeking to prepare for the practice of marriage and family therapy. Students who complete this specialized professional degree program and who fulfill the additional state-mandated requirements are eligible for the State of California's Marriage and Family Therapy license. A minimum of 60 units is required.

Required Courses

- EDCO 541 Theories in Counseling Units: 3
- EDUC 500 The Counseling Process Units: 3
- EDUC 507 Professional Identity, Law and Ethics for Counselors Units: 3
- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 515 Theories of Marriage and Family Therapy Units: 3
- EDUC 544 Measurement Procedures for Counselors Units: 3
- EDUC 546 Psychopathology for Marriage and Family Therapy Units: 3
- EDUC 547 Career Development: Theory and Process Units: 3
- EDUC 553 Psychopharmacology and the Effects of Substance Abuse Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 583 Counseling through the Lifespan Units: 3
- EDUC 633 Child and Elder Abuse and Domestic Violence Units: 2
- EDUC 634 Couples Counseling Units: 3
- EDUC 635 Psychotherapy with Children and Adolescents Units: 3
- EDUC 636 Perspectives on Human Sexuality Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3
- EDUC 638 Cross-Cultural Counseling: Research and Practice Units: 3
- EDUC 644 Practicum in Counseling Units: 3
- EDUC 645a Fieldwork in Counseling Units: 3
- EDUC 645b Fieldwork in Counseling Units: 3
- EDUC 646a Marriage and Family Therapy Capstone: Leadership Project Units: 1
- EDUC 646b Marriage and Family Therapy Capstone: Leadership Project Units: 1

Multiple Subject (MAT)

The Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential (credential track) or to strengthen their ability to facilitate learning for all students in a K–12 environment (non-credential track). Three programs are available: Multiple Subject, Single Subject and Single Subject (Music Education).

Multiple Subject

The MAT Multiple Subject is designed for those interested in teaching at the elementary level. The credential option requires a minimum of 32 units; the non-credential option requires a minimum of 28 units.

The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Additional course work for the Bilingual Authorization:

- EDUC 558 Culture Learning in Schools: Latino Units: 3

Multiple Subject Credential

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 675 Literacy Development and Instruction in Elementary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4

Non-Credential Track

- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2

Postsecondary Administration and Student Affairs (MEd)

The Master of Education, Postsecondary Administration and Student Affairs provides current and prospective professionals working in various capacities within two-year, four-year and professional postsecondary institutions with the theoretical foundation and practical applications to excel in a variety of higher education administrative and students services positions (academic advising and support services). Students will have an opportunity to develop an area of proficiency such as student affairs, athletic administration or academic advising. A minimum of 41 units of graduate-level course work is required.

Required Courses

- EDHP 500 Foundations of Higher, Adult, and Professional Education Units: 3

- EDHP 551 Applied Educational Ethnography Units: 3
- EDHP 552 The Politics of Difference Units: 3
- EDHP 563 Student Affairs Work in College Units: 3
- EDHP 587 Fieldwork in Higher, Adult, and Professional Education Units: 1, 2, 3, 4, 5, 6, 7, 8 (3 Units Required)

- EDHP 594a Master's Thesis Units: 2 and
- EDHP 594b Master's Thesis Units: 2
  or
- EDUC 616 Higher Education Seminar Units: 3

- EDHP 657 Management of Student Services in Higher Education Units: 3
- EDHP 679 Legal Issues in the Administration of Higher Education Units: 3
- EDHP 687 Student Development in Higher Education Units: 3
- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 570 Research Methods and Data Analysis Units: 3
- Approved electives Units: 9

School Counseling (MEd)

The Master of Education, School Counseling is geared toward socially responsible individuals who are aware that many of the issues pupils confront have societal origins. Designed to prepare educators interested in becoming school counselors in grades pre-K through grade 12, successful candidates will obtain the Master of Education, School Counseling degree along with USC recommendation for the Pupil Personnel Services School Counseling Credential. Forty-nine units of course work, 100 clock hours in a practicum experience and 600 clock hours of supervised field experience are required.

Required Courses

- EDCO 503 Ethical and Legal Issues in Counseling Units: 3
- EDCO 505 Counseling and Collaborative Consultation in the School Setting Units: 3
- EDCO 541 Theories in Counseling Units: 3
- EDCO 574 School Counseling Practicum Units: 1, 2 (2 Units Required)
- EDCO 575 School Counseling Field Experience Units: 1, 2, 3, 4 (4 Units Required)
- EDUC 500 The Counseling Process Units: 3
- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 511 Introduction to Counseling Units: 3
- EDUC 520 Counseling for College and Career Readiness I Units: 2
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 600 Counseling for College and Career Readiness II Units: 2
- EDUC 607 Role of School Counselors in Student Learning and Motivation Units: 3
- EDUC 608 School Connectedness, Climate, and Classroom Management Units: 2
- EDUC 612 Application of Human Development Theory in School Counseling Units: 3
- EDUC 618 School Counseling Professional Portfolio Units: 2
- EDUC 621 Measurement and Evaluation for School Counselors Units: 3
- EDUC 637 Group Counseling: Theory and Process Units: 3
- EDUC 638 Cross-Cultural Counseling: Research and Practice Units: 3

School Leadership (MEd)

School leadership matters. The Master of Education in School Leadership will prepare educational leaders with the knowledge and skills to lead effectively in urban school settings and to accelerate student achievement. Graduates will demonstrate that they can create a high achievement school culture and solve complex performance problems in K–12 schools by being able to advocate for a shared community-driven vision; create a high performance school culture and educational goals; collect data to diagnose causes of achievement gaps; plan appropriate research-based solutions; gather and manage resources; effectively communicate the plan to school administration, faculty, staff and community; and provide support for implementing, monitoring and evaluating progress toward achieving school improvement. All courses are taught through field-based experiences where problems are solved in real work settings, applying research to practice. Students who graduate from the program will be ready to work within the constantly evolving educational landscape of California and other states. A national trip is integrated into the program's curriculum.

The program is open to teachers, counselors, psychologists and other school-based personnel who have worked for a minimum of two years in such positions. Two letters of recommendation are required.

The program is only available online.

Required Courses

- EDUC 508 Creating Communities of Interest Units: 2
- EDUC 533 School Leadership: Theory and Practice Units: 3
- EDUC 537 Leading with the Community and Culture in Context Units: 3
- EDUC 538 Entrepreneurial School Leadership Units: 2
- EDUC 548 Data-Driven Leadership for Schools Units: 3
- EDUC 549 Supervising Instruction for Optimal Learning Units: 3
- EDUC 570 Research Methods and Data Analysis Units: 3
- EDUC 604 National Perspective on School Leadership Units: 1
- EDUC 641 Human Capital and School Organization Units: 3
- EDUC 643 Advancing Community Support through Social Media Units: 2
- EDUC 647 School Leadership Seminar Units: 2
- EDUC 648a Apprenticeship in School Administration and Leadership Units: 2
- EDUC 648b Apprenticeship in School Administration and Leadership Units: 2

Single Subject (MAT)

The Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential (credential track) or to strengthen their ability to facilitate learning for all students in a K–12 environment (non-credential track). Three programs are available: Multiple Subject, Single Subject and Single Subject (Music Education).

Single Subject

The MAT Single Subject is designed for those interested in teaching at the secondary level. The emphasis offers specializations in English, science (biological sciences, chemistry, geoscience or physics), mathematics and social science. The credential option requires a minimum of 32 units; the non-credential option requires a minimum of 28 units.

The Multiple Subject and Single Subject emphases are available online.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Additional course work for the Bilingual Authorization:

- EDUC 558 Culture Learning in Schools: Latino Units: 3

Single Subject Credential Track

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 676 Literacy Development and Instruction in Secondary Education Units: 3
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4

Non-Credential Track

- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2

Single Subject (Music Education) (MAT)

The Master of Arts in Teaching is designed for individuals who wish to complete requirements for a California preliminary teaching credential (credential track) or to strengthen their ability to facilitate learning for all students in a K–12 environment (non-credential track). Three programs are available: Multiple Subject, Single Subject and Single Subject (Music Education).

Single Subject (Music Education)

The MAT Single Subject (Music Education) offers two tracks: choral/general and instrumental. A minimum of 35 units is required.

Core Courses

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3
- EDUC 674 Identifying and Teaching to Student Differences Units: 3
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2
- EDUC 679 Blended Learning Experiences for Students in Urban Schools Units: 2

Additional course work for the Bilingual Authorization:

- EDUC 558 Culture Learning in Schools: Latino Units: 3

Single Subject (Music Education)

- EDUC 512 Reading and Writing Methods for Secondary Teaching Units: 2

Additional course work for Instrumental Track

Additional course work for Choral/General Track

Teacher Leadership (MEd)

The Master of Education in Teacher Leadership provides current teachers with an in-depth exposure to pedagogy and teacher leadership development. The curriculum is designed to challenge experienced teachers to utilize technology in student-centered ways to improve learning outcomes, provide access to advanced interdisciplinary pedagogical practice, develop their capacity to initiate leadership with peers around improving instruction, and increase their understanding of successful instruction for learners with diverse needs.

Applicants to the program should have significant teaching experience. Public school teachers must hold a current teaching credential; private school teachers without a credential must be able to demonstrate at least three years of full-time teaching experience. Two letters of recommendation are required.

There are four areas of concentration in the Teacher Leadership program: (1) Differing Abilities, which focuses on understanding the range of learner needs in today's classroom; (2) Education Specialist Credential, for graduates of the Rossier MAT program seeking to add a Mild/Moderate Disabilities authorization; (3) Secondary Curriculum concentration provides Social Studies and English teachers with methods for integrating the arts, literacy and civics; and (4) Teaching Science, Technology, Engineering, and Mathematics (STEM) provides an opportunity for teachers to foster and engage in an advanced, interdisciplinary study of instruction in STEM.

Degree Requirements

The Teacher Leadership program requires a minimum of 32 units including required core courses and completion of a concentration area.

Required Core

- EDUC 506 New Media Literacies in High Needs Schools Units: 2
- EDUC 516 Framing the Social Context of High Needs Schools Units: 3
- EDUC 518 Application of Theories of Learning to Classroom Practice Units: 3
- EDUC 529 Political and Academic Issues Affecting Gifted Students Units: 3
- EDUC 550 Multimedia Literacy Units: 3
- EDUC 564 Teacher Leadership Units: 2
- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 573 Introduction to Special Education Units: 3

Concentration Areas

Students select a concentration area from one of the following:

Differing Abilities

- EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students Units: 3
- EDUC 575 Assessment and Curriculum for Students with Disabilities Units: 3
- EDUC 576 Establishing and Maintaining an Effective Classroom Ecology Units: 3

Education Specialist Credential

- EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students Units: 3
- EDUC 574 Collaboration, Families and Case Management Units: 3
- EDUC 575 Assessment and Curriculum for Students with Disabilities Units: 3
- EDUC 576 Establishing and Maintaining an Effective Classroom Ecology Units: 3
- EDUC 577 Guided Practice: Mild/Moderate Disabilities Units: 3

The Secondary Curriculum

- EDUC 552 Literacies in the Content Area Units: 3
- EDUC 557 Civics Education Units: 3
- EDUC 578 Integrating the Arts into the Secondary Curriculum Units: 3

Teaching Science, Technology, Engineering, and Mathematics (STEM)

- EDUC 555 STEM Education in Secondary Classrooms Units: 3
- EDUC 559 Discourse Analysis and Technology in STEM Classrooms Units: 3
- EDUC 580 Transforming STEM Education into Teaching Science Units: 3

Teaching English to Speakers of Other Languages (World Masters in Language Teaching) (MAT)

The USC Rossier School of Education partners with the School of Humanities and Social Sciences at the Hong Kong University of Science and Technology (UST) and with Yonsei University's Department of Korean Language and Literature to offer an innovative dual master's degree program in teaching English and teaching Chinese or Korean as part of its World Master in Language

Teaching Program.

Qualified students will complete course work both at USC and at one of the partner universities, spending part of their time at UST or Yonsei University and part of their time at USC. Upon satisfying all program requirements at the two institutions, two master's degrees will be awarded, one degree conferred by USC in the area of English teaching, and one conferred by UST in teaching Chinese or by Yonsei University in teaching Korean.

USC Degree		Partner University Degree
USC Rossier School of Education Degree Master of Arts in Teaching, Teaching English to Speakers of Other Languages (MAT-TESOL), with an option for individuals to complete requirements for a California preliminary Single Subject teaching credential, with specialization in World Language: English Language Development or World Language: LOTE (Language Other Than English).		UST School of Humanities and Social Sciences Degree: Master of Arts in International Language Education (MAILE), with one of two specializations: Teaching Chinese as a Second Language (TCSL) or Teaching English as a Second Language (TESL). OR Yonsei University Department of Korean Language and Literature Degree: Master of Arts in Korean Language and Literature with an option to pursue a Korean Language Teaching license

Admissions

Students wishing to pursue this dual master's program must satisfy all application requirements for both the USC Rossier School of Education and the selected partner university.

Program Completion

Once candidates apply and are accepted to the program, they must complete all requirements for both degrees. Upon completion of both degree requirements, the two degrees will be conferred. For this dual degree, 6 units of pre-approved course work taken at UST or Yonsei University may be transferred and applied to the degree requirements at USC. Students who elect to receive only the USC degree must change their degree objective from this dual degree program to a different degree objective in the Rossier School of Education.

Residence

This is a two-year campus based program during which students spend part of their time at UST or Yonsei and part of their time at USC.

Language Requirements

USC: All courses at USC will be taught in English. Minimum TOEFL/IELTS scores are required for admission.

UST: All courses at UST will be taught in English. Minimum TOEFL/IELTS scores are required for admission. For the Teaching Chinese as a Second Language concentration at UST, minimum proficiency in Chinese must be demonstrated.

Yonsei University: While some courses will be taught in Korean at Yonsei, accommodations will be provided for non-Korean speakers who wish to complete the degree. Minimum TOEFL/IELTS scores are required for admission to both programs. Those students pursuing the additional option to obtain a Korean Language Teaching license at Yonsei must demonstrate academic proficiency in Korean.

Program of Study

The USC Master of Arts in Teaching – Teaching English to Speakers of Other Languages is a 24 unit degree (28 units for the credential track). Students in the World Masters in Language Teaching program may transfer in 6 units from UST or Yonsei University coursework and therefore complete 18 units (22 units for the credential track) at USC. Students must also complete 18 units at UST or 15 units at Yonsei University (18 units for those pursuing the Korean language teaching license). Students begin with a fall semester at UST or Yonsei University, then complete two semesters at USC (Spring and Fall), before returning to UST or Yonsei University for their final spring semester. The total program is completed in approximately 21 months.

USC Required Courses

- EDUC 510 Theories of Language Learning and Teaching Units: 3
- EDUC 521 Assessment and Instruction for Diverse Language Learners Units: 3
- EDUC 596 English Language Learning Design, Teaching and Technology Units: 3
- EDUC 639 Approaches and Strategies for Language Teaching Units: 4
- EDUC 649 Teaching Practice to Support Language Learners Units: 4
- EDUC 655 Social Foundations of Language Education Units: 4
- EDUC 656 Applied Linguistics for English Language Educators Units: 3

USC Required Courses for Credential Track Only

- EDUC 660a Clinical Practice Seminar in Language Teaching Units: 2
- EDUC 660b Clinical Practice Seminar in Language Teaching Units: 2

Note:

Six units are taken a the partnering institution: Hong Kong University of Science and Technology or Yonsei University and applied to the USC MAT, Teaching English to Speakers of Other Languages.

Teaching, Teaching English to Speakers of Other Languages (MAT)

The Master of Arts in Teaching English to Speakers of Other Languages (MA TESOL) is designed to equip aspiring and practicing English language teachers, domestic and international, to successfully provide English language instruction for children, youth or adults in the United States or abroad. The degree has a non-credential track (minimum of 24 units) and a credential option (minimum of 28 units). The program may be completed on campus or online.

Required Courses

- EDUC 510 Theories of Language Learning and Teaching Units: 3
- EDUC 521 Assessment and Instruction for Diverse Language Learners Units: 3
- EDUC 596 English Language Learning Design, Teaching and Technology Units: 3
- EDUC 639 Approaches and Strategies for Language Teaching Units: 4
- EDUC 649 Teaching Practice to Support Language Learners Units: 4
- EDUC 655 Social Foundations of Language Education Units: 4
- EDUC 656 Applied Linguistics for English Language Educators Units: 3

Credential Option

- EDUC 660a Clinical Practice Seminar in Language Teaching Units: 2
- EDUC 660b Clinical Practice Seminar in Language Teaching Units: 2

Graduate Certificate

Gifted Education Certificate

Aligned with USC Rossier's mission to serve high-need students in urban centers, the Certificate in Gifted Education provides graduates of the Master of Arts in Teaching program with the competencies to respond to the needs, interests and abilities of gifted students in either homogeneous or heterogeneous regular classrooms or specific school environments defined for gifted and high-ability students.

The Certificate in Gifted Education enables graduates to recognize the manifestations of giftedness among cultural, linguistic and economically diverse students in urban schools, to facilitate the identification of underrepresented students as gifted and to provide differentially appropriate curriculum for them.

MAT Credential Track

Required Courses

- EDUC 529 Political and Academic Issues Affecting Gifted Students Units: 3
- EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students Units: 3

Credential Track

- EDUC 673 Applications of Curriculum and Pedagogy, Part A Units: 4
- EDUC 677 Applications of Curriculum and Pedagogy, Part B Units: 4

MAT Non-Credential Track

Required Courses

- EDUC 529 Political and Academic Issues Affecting Gifted Students Units: 3
- EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students Units: 3

Non-Credential Track

- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 678 Applying Knowledge and Strategies for Teaching All Students Units: 2

MAT TESOL

Required Courses

- EDUC 529 Political and Academic Issues Affecting Gifted Students Units: 3
- EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students Units: 3

Credential and Non-Credential Tracks

- EDUC 639 Approaches and Strategies for Language Teaching Units: 4
- EDUC 649 Teaching Practice to Support Language Learners Units: 4

School Counseling Certificate

The School Counseling Certificate program is designed for students enrolled in the Master of Marriage and Family Therapy (MMFT) program or the Educational Counseling (EC) program who wish to complete additional requirements to earn USC recommendation for a Pupil Personnel Services: School Counseling Credential. Application information is available in the Master's Program Office.

Required Courses

- EDCO 505 Counseling and Collaborative Consultation in the School Setting Units: 3
- EDCO 574 School Counseling Practicum Units: 1, 2
- EDCO 575 School Counseling Field Experience Units: 1, 2, 3, 4 (4 Units Required)
- EDUC 511 Introduction to Counseling Units: 3
- EDUC 520 Counseling for College and Career Readiness I Units: 2
- EDUC 600 Counseling for College and Career Readiness II Units: 2
- EDUC 607 Role of School Counselors in Student Learning and Motivation Units: 3
- EDUC 608 School Connectedness, Climate, and Classroom Management Units: 2
- EDUC 618 School Counseling Professional Portfolio Units: 2
- EDUC 621 Measurement and Evaluation for School Counselors Units: 3

Special Education Certificate

The Certificate in Special Education provides graduates of the Rossier School of Education with the competencies to respond to the needs, interests and abilities of special needs students in either regular classrooms or specific school classrooms defined for students with documented learning differences. It widens the range of the graduates' knowledge about teaching and learning allowing them to compete in the contemporary professional marketplace. A certificate in special education is mandatory in some states, and in other states, it is a criterion for consideration to teach special needs students in any type of learning environment. The certificate may be completed concurrently with requirements for the MAT or the ME in Teacher Leadership. It is also available online.

Required Courses

- EDUC 573 Introduction to Special Education Units: 3
- EDUC 574 Collaboration, Families and Case Management Units: 3
- EDUC 575 Assessment and Curriculum for Students with Disabilities Units: 3
- EDUC 576 Establishing and Maintaining an Effective Classroom Ecology Units: 3
- EDUC 577 Guided Practice: Mild/Moderate Disabilities Units: 3

STEM Education Certificate

Aligned with the Rossier School of Education mission to serve the changing landscape of high needs and urban school districts, two STEM certificate programs are available to strengthen the instructional skills of novice and current teachers at the elementary or secondary level, so that they can have a positive impact on student learning in mathematics and the sciences. Both certificates widen graduates' knowledge about teaching and learning in order to compete in the contemporary professional marketplace.

Applicants must be currently enrolled in the MAT, ME in Teacher Leadership or capstone option of the MAT, or have a prior Master of Teaching degree and demonstrate three years of teaching experience.

Certificate in Elementary STEM Education (Internal Applicants)*

Required Courses

- EDUC 550 Multimedia Literacy Units: 3
- EDUC 581 STEM Education from a Project-Based Learning Approach Units: 3
- EDUC 584 Facilitating Creativity and Innovation in STEM Classrooms Units: 3
- EDUC 585 Action Research Project Units: 3

Certificate in Elementary STEM Education (External Applicants)**

Required Courses

- EDUC 550 Multimedia Literacy Units: 3
- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 581 STEM Education from a Project-Based Learning Approach Units: 3

- EDUC 584 Facilitating Creativity and Innovation in STEM Classrooms Units: 3
- EDUC 585 Action Research Project Units: 3

Certificate in Secondary STEM Education (Internal Applicants)*

Required Courses

- EDUC 550 Multimedia Literacy Units: 3
- EDUC 555 STEM Education in Secondary Classrooms Units: 3
- EDUC 559 Discourse Analysis and Technology in STEM Classrooms Units: 3
- EDUC 580 Transforming STEM Education into Teaching Science Units: 3

Certificate in Secondary STEM Education (External Applicants)**

Required Courses

- EDUC 550 Multimedia Literacy Units: 3
- EDUC 555 STEM Education in Secondary Classrooms Units: 3
- EDUC 559 Discourse Analysis and Technology in STEM Classrooms Units: 3
- EDUC 569a Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 569b Capstone Portfolio in Learning and Instruction Units: 2
- EDUC 580 Transforming STEM Education into Teaching Science Units: 3

Note:

**Internal Applicants are students enrolled in the MAT Program*
***External Applicants are students not admitted to USC or enrolled in the MAT Program who wish to complete the certificate.*

Dual Degree

Doctor of Education/Master of Business Administration (EdD/MBA)

The Rossier School of Education and the USC Marshall School of Business jointly offer a dual degree program that emphasizes educational leadership and management competencies across the wide variety of educationrelated organizations in the public, non-profit and for-profit sectors and is designed to prepare students to assume executive leadership positions in these organizations, including schools, universities, educating businesses, regional, state and federal education agencies, education research institutions, and private foundations with education missions. Graduates of the EdD in Educational Leadership/MBA program will be prepared to significantly improve the scope and quality of educational services to targeted populations through the application of management skills to the field of education and of education principles to business enterprises.

A total of 90 units is required for the dual degree: 48 units in the Marshall School of Business and 42 units in the Rossier School of Education.

Students must apply to both the Marshall School of Business and the Rossier School of Education.

Doctoral Degree

Doctor of Education (EdD)

The Doctor of Education (EdD) is a three-year degree program that equips practitioner-scholars with the skills needed to lead high-performing organizations, connect research with practice and help all students to learn. The program is geared toward working professionals who aspire to be leaders in urban education. Admission requires a master's degree and a minimum of three years of work experience in a related field.

Preliminary Review

The EdD preliminary review must be passed before the student has completed more than 21 units. Passing the preliminary review is prerequisite to continuing in the program.

Advisement Committee

The student selects a three-member advisement committee in consultation with the adviser upon applying to take the qualifying examination.

The committee chair must have a full-time appointment in the Rossier School of Education. One member of the committee may be a faculty member elsewhere or a full-time professional educator holding a doctorate and with strength in the area of the dissertation topic, if nominated by the committee chair and approved by the director of the EdD program.

Areas of Concentration

There are four areas from which students must select a specialization: K–12 Leadership in Urban School Settings, Educational Psychology, Higher Education Administration and Teacher Education in Multicultural Societies.

Unit Requirement

The EdD requires completion of 60 units of course work. A maximum of 4 project units (764 Consulting Project) may be applied toward the degree. Students admitted with Advanced Standing complete a minimum of 43 units.

Core Program

EdD students are required to complete 13 units of core course work:

- EDUC 522 Challenges in Urban Education: Accountability Units: 3
- EDUC 523 Challenges in Urban Education: Diversity Units: 3
- EDUC 524 Challenges in Urban Education: Leadership Units: 3
- EDUC 525 Challenges in Urban Education: Learning Units: 3
- EDUC 605 Framing Educational Leadership Units: 1
- EDUC 764a Consulting Project Units: 1
- EDUC 764b Consulting Project Units: 1
- EDUC 764c Consulting Project Units: 1
- EDUC 764d Consulting Project Units: 1

Additional Information

Methods

All EdD students must complete EDUC 532 Inquiry Methods I and EDUC 536 Inquiry Methods II for a total of 6 units.

Research

Students must complete 6 units of research course work (EDUC 792 Critique of Research in Education and EDUC 790 Research).

Electives

In consultation with assigned advisers, students take 14 units of elective course work.

Admission to Candidacy

Admission to candidacy is a formal action taken by the faculty of the Rossier School of Education. That action is based upon passing the qualifying examination.

Doctoral Capstone

A doctoral capstone based upon identifying and addressing a problem of practice in the candidate's domain of focus is required. An acceptable capstone must show technical mastery of a special field and skills of a practitioner-scholar. The student must be enrolled in 764 Consulting Project each fall and spring semester after admission to candidacy until the capstone has been approved. A minimum of two semesters (4 units-764a&b and 764c&d concurrently) is required. Enrollment in 764 prior to admission to candidacy is not permitted and such registration is invalid.

Global Executive (EdD)

The Global Executive EdD prepares tomorrow's transformational educational leaders, policy makers, administrators and change agents for their challenging task of improving individual and national educational outcomes. The curriculum is designed to enhance the

professional experience of senior educational leaders and policy makers by:

- Increasing their understanding of global trends and the implications of those trends for their work;
- Challenging them to utilize evidence and theory-based approaches in problem solving;
- Developing their capacity to effectively use complex data in decision making; and
- Providing access to key leaders and leading education scholars.

The program will focus on achieving large-scale improvements across educational systems through strategic use of policy, innovative practice and assessment. The curriculum stresses the examination of educational solutions from around the world as participants work with their own, local challenges.

Classes are delivered in Los Angeles and international locations. The total units required for the degree is 60. A maximum of 4 project units (EDUC 764a, EDUC 764b, EDUC 764c, EDUC 764d, EDUC 764z) may be applied toward the degree. Students admitted with advanced standing complete a minimum of 50 units.

Preliminary Review:

The Global Executive EdD preliminary review must be passed before the student has completed more than 18 units. Passing the preliminary review is prerequisite to continuing in the program.

Required Courses

- EDUC 619 Framing Educational Leadership in a Global Context Units: 4
- EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship Units: 2
- EDUC 623 Understanding Research That Informs Leadership Units: 3
- EDUC 624 Educational Organizations: Governance and Finance I Units: 2
- EDUC 626 Fostering Entrepreneurship in Educational Systems Units: 2
- EDUC 627 Education Performance Problems: Role of Learning Units: 3
- EDUC 628 Educational Organizations: Governance and Finance II Units: 2
- EDUC 629 Consulting Practicum Context Analysis Units: 3
- EDUC 631 Locating Educational Performance Problems Units: 3
- EDUC 723 Evaluating and Assessing Educational System Outcomes Units: 3
- EDUC 724 Creating Policy Alternatives for Educational Settings Units: 3
- EDUC 725 Analyzing Organizational Change and Its Effectiveness Units: 3
- EDUC 726 Making Choices: Deciding Among Policy Alternatives Units: 3
- EDUC 727 Implementing Policy in Educational Systems Units: 3
- EDUC 728 Global Trends: Emerging Ideas, Emerging Markets Units: 3
- EDUC 729 Assessing Policy Impact in Educational Settings Units: 3
- EDUC 764a Consulting Project Units: 1
- EDUC 764b Consulting Project Units: 1
- EDUC 764c Consulting Project Units: 1
- EDUC 764d Consulting Project Units: 1
- EDUC 764z Consulting Project Units: 0
- EDUC 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1 Unit Required)
- Additional course work to be approved by program faculty Units: 10

Organizational Change and Leadership (EdD)

The Education Doctorate in Organizational Change and Leadership is a three-year degree program that prepares current and future leaders to create conditions that foster continuous improvement in themselves and their organizations. It emphasizes how learning occurs informally and formally in workplaces and serves as a mechanism for change and innovation in organizations and systems. Arranged by four topical streams – problem solving, leadership, dispositions of leaders and reflection – the program seeks to attract a diverse student body of current and emerging leaders who are interested in fostering learning that leads to systemic improvement in their workplaces. The primary emphasis will be on those individuals who currently hold or are seeking leadership positions within colleges/universities, traditional and non-traditional K-12 environments, chief learning officers and their related human resources staff, non-profits and governmental organizations. The degree is not linked to the credentials typically needed to become an administrator in a K-12 environment, including becoming a principal or superintendent. The degree requires a minimum of 60 units. Students with a prior master's may enter with Advanced Standing, reducing their units to 43. It is delivered only online.

Required Courses

- EDUC 522 Challenges in Urban Education: Accountability Units: 3
- EDUC 523 Challenges in Urban Education: Diversity Units: 3
- EDUC 524 Challenges in Urban Education: Leadership Units: 3
- EDUC 532 Inquiry Methods I Units: 3
- EDUC 603 Framing Organizational Change and Leadership Units: 4
- EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship Units: 2
- EDUC 627 Education Performance Problems: Role of Learning Units: 3
- EDUC 714 Measurement and Evaluation for Decision-Making Units: 3
- EDUC 723 Evaluating and Assessing Educational System Outcomes Units: 3
- EDUC 725 Analyzing Organizational Change and Its Effectiveness Units: 3
- EDUC 730 Using Communication to Facilitate Organizational Change Units: 3
- EDUC 731 Economics of Organizational Change and Learning Environments Units: 3
- EDUC 732 Building Capacity for Organizational Change Units: 3
- EDUC 764a Consulting Project Units: 1
- EDUC 764b Consulting Project Units: 1
- EDUC 764c Consulting Project Units: 1
- EDUC 764d Consulting Project Units: 1

Urban Education Policy (PhD)

Program Requirements

The PhD program requires a minimum of 63 units of course work, comprising the following elements: Core Block (16 units), Concentration Block (15 units), Research Block (15 units), Cognate Block (12 units) and Dissertation Proposal and Dissertation Block (5 units).

Core Block

The core represents the essential knowledge that serves as the groundwork for later course work and for other research and scholarly activities within the program and beyond with a particular focus on urban education. This work is completed in the first year.

Required Courses

- EDUC 630 Organizations and Policy: Current Issues Units: 4
- EDUC 640 The Research University in the 21st Century Units: 4
- EDUC 642 Controversies in Learning and Instruction Units: 4
- EDUC 650 Globalization and the Nation-State: Theories of Change Units: 4

Additional Requirements

Concentration Block

Courses in this block are linked to two of the concentrations available in the Rossier School of Education PhD program. Courses in this block permit students to consider applied problems in collaboration with students in other programs.

Research Block

Courses in this block provide the basic tools to pursue systematic, programmatic, empirical investigation. It includes qualitative and quantitative elements with the understanding that complex educational problems require a variety of investigative approaches. Areas include research design, analysis of variance/multiple regression, qualitative methods, measurement, advanced qualitative or quantitative analysis, or other related areas. Courses may be taken inside or outside the Rossier School of Education.

Cognate Block

This block is designed for students to pursue interdisciplinary approaches to educational issues, and may consist of courses inside or outside the Rossier School of Education. The specific courses are determined in conjunction with the adviser.

Dissertation Block

This block includes preparation for the qualifying examination and initial dissertation proposal. It is taken during the semester of the qualifying examination and EDUC 794a Doctoral Dissertation, EDUC 794b Doctoral Dissertation (minimum of 4 units taken after a student passes the qualifying examination and has advanced to candidacy). The dissertation block is designed to prepare students for their dissertation research and continues through the writing and defense of the dissertation. The process involves intensive collaboration with the adviser and the qualifying exam committee.

Transfer of Course Work

The maximum number of transfer credits that can be applied toward the degree is 20 units. The faculty of the student's degree program determines whether transfer credit is applicable toward a specific graduate degree.

Faculty Adviser

A designated faculty member provides the academic advisement for entering graduate students at the point of admission. A faculty member is appointed to serve as the adviser until an approved qualifying exam committee is established.

Screening Process

When students have completed the core course work, the doctoral screening committee assesses their performance and makes a decision about their readiness to continue in the program. Students are notified of the results by the PhD program chair and director. Additionally, students will be assessed each year based on adviser input, coursework and research progress. If student progress is not satisfactory as determined by the student's faculty adviser, warnings will be issued in accordance with USC Graduate School policies.

Qualifying Exam Committee

The qualifying exam committee is composed of at least five members. A minimum of three, including the chair, must be from the Rossier School; one must be a faculty member from outside the Rossier School. Normally, all members of the qualifying exam committee are regular faculty with the rank of assistant professor or above in departments offering the PhD

Qualifying Examinations

As a prerequisite to candidacy for the PhD, students must pass written and oral qualifying examinations. The written qualifying examination is designed to assess a student's readiness to undertake dissertation research and to assess the student's ability to critically analyze and synthesize theoretical and methodological knowledge. The oral portion consists, in part, of a teaching and research portfolio. The teaching portfolio documents and reflects the student's development and productivity in thinking about course content and instructional delivery. The research portfolio documents and reflects the student's development and productivity in research and writing from the point of entry into the program.

Admission to Candidacy

Admission to candidacy is a formal action taken by the faculty that is based upon passing the qualifying examination and completing all PhD course requirements (with the exception of EDUC 794a, EDUC 794b, EDUC 794d, EDUC 794z Doctoral Dissertation). Notification of admission or denial of admission to candidacy is by letter from the associate vice provost for graduate programs.

Dissertation Committee

After admission to candidacy and approval of the dissertation proposal, the PhD qualifying exam committee is known as the dissertation committee and is usually reduced to three members. The committee will include one faculty member from outside the Rossier School of Education but within USC, and will be chaired by a tenure track faculty member.

Doctoral Dissertation

After the qualifying examination is passed, students must enroll in EDUC 794a, EDUC 794b, EDUC 794d, EDUC 794z Doctoral Dissertation each semester, except summer session, after admission to candidacy until all degree requirements have been completed. A minimum of two semesters (4 units) is required. A maximum of 4 dissertation units may be applied to satisfy the degree requirement. While enrolled in EDUC 794a, students will develop a dissertation proposal in collaboration with the adviser. The dissertation committee grants final approval for the proposal. Credit for EDUC 794a and permission to enroll in EDUC 794b will only be given after the dissertation proposal is approved. IRB (Human Subjects Institutional Review Board) approval is required for all dissertation studies.

Teaching Skills Development

All doctoral students must teach for at least one semester before they graduate. This program requirement may be fulfilled by co-teaching, serving as a teaching assistant, or solo teaching. International students must meet the English proficiency standards set forth by the American Language Institute and participate, if necessary, in specialized training offered through the Center for Excellence in Teaching. Proposals for meeting this requirement must be reviewed and approved by the PhD Governance Committee. Students should also refer to Graduate and Professional Education and The Graduate School, Academic and University Policies and other sections of this catalogue for general regulations and policies including but not limited to time limits, leave of absence, scholarship standing, academic warning, and other issues not directly addressed in this section.

USC Viterbi School of Engineering

The USC Viterbi School of Engineering is innovative, elite, and internationally recognized for creating new models of education, research and commercialization that are firmly rooted in real world needs. The school's first priorities are the education of outstanding students and the pursuit and publication of new research.

As the school's faculty and students extend the frontiers of engineering knowledge through their research, they also apply engineering and technology to address societal challenges. The school stimulates and encourages qualities of scholarship, leadership, ambition and character that mark the true academic and professional engineer — to serve California, the nation and the world. At USC Viterbi, we call this the enabling power of Engineering+.

Courses in engineering were first offered at USC in the 1905–06 academic year in the basement of one of the oldest buildings on campus. Today, 210 full-time, tenure track faculty (and more than 340 total full-time faculty) serve over 2,600 undergraduate majors; 600 students in minor programs; and almost 5,500 graduate students, utilizing extensive and technically advanced laboratories, classrooms and live interactive high-speed Internet broadcast systems. Government and industry annually fund nearly $192 million worth of research.

Viterbi undergraduate support programs complement and strengthen the academic experience, enhancing both depth and scope. Viterbi graduate education is outstanding preparation for advanced research and professional careers. The PhD program is built around fellowships, teaching assistantships and research appointments, and produces a steadily growing core of doctoral graduates across the disciplines. The master's and professional programs are national and global leaders in advanced training for professional engineers.

Administration

Yannis C. Yortsos, PhD, *Dean*
Gaurav Sukhatme, PhD, *Executive Vice Dean*
Andrea Belz, PhD, *Vice Dean*
Erik A. Johnson, PhD, *Vice Dean*
Brandi Jones, EdD, *Vice Dean*
Maja Mataric, PhD, *Vice Dean*
Prem Natarajan, PhD, *Vice Dean*
Timothy Pinkston, PhD, *Vice Dean*
Cauligi Raghavendra, PhD, *Vice Dean*
Linda Rock, MA, *Vice Dean*
Kelly Goulis, MS, *Senior Associate Dean*
Margaret Kean, *Senior Associate Dean*
Louise A. Yates, MS, *Senior Associate Dean*
David Murphy, *Chief Financial Officer*

Degrees and Accreditation

The Viterbi School of Engineering offers the following undergraduate curricula leading to the Bachelor of Science in: Aerospace Engineering; Applied Mechanics; Astronautical Engineering; Biomedical Engineering; Chemical Engineering; Civil Engineering; Computer Engineering and Computer Science; Computer Science; Computer Science/Business Administration (with the Marshall School of Business); Computer Science (Games); Electrical Engineering; Environmental Engineering; Industrial and Systems Engineering; Mechanical Engineering; and Physics/ Computer Science (with the Dornsife College of Letters, Arts and Sciences).

Minor programs are offered in: 2-D Art for Games (with the Roski School of Art and Design and the School of Cinematic Arts); 3-D Art for Games (with the Roski School of Art and Design and the School of Cinematic Arts); 3-D Computer Graphics and Modeling; Applied Analytics; Applied Computer Security; Astronautical Engineering; Computer and Digital Forensics; Computer Programming; Computer Science; Construction Planning and Management (with the Price School of Public Policy); Craniofacial and Dental Technology (with the Herman Ostrow School of Dentistry and the Dornsife College of Letters, Arts and Sciences); Engineering Management; Enterprise Information Systems; Environmental Engineering; Innovation: The Digital Entrepreneur (with the Marshall School of Business); Mobile App Development; Nanotechnology; Petroleum Engineering; Technology Commercialization (with the Marshall School of Business); Video Game Design and Management; Video Game Programming; and Web Technologies and Applications.

Graduate curricula leading to the Master of Science in: Aerospace Engineering; Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics); Aerospace and Mechanical Engineering (Dynamics and Control); Analytics; Astronautical Engineering; Biomedical Engineering; Biomedical Engineering (Medical Imaging and Imaging Informatics); Chemical Engineering; Civil Engineering; Civil Engineering (Construction Engineering); Civil Engineering (Structural Engineering); Civil Engineering (Transportation Engineering); Civil Engineering (Transportation Systems); Civil Engineering (Water and Waste Management); Computer Engineering; Computer Science; Computer Science (Computer Networks); Computer Science (Computer Security); Computer Science (Data Science); Computer Science (Game Development); Computer Science (High Performance Computing and Simulations); Computer Science (Intelligent Robotics); Computer Science (Multimedia and Creative Technologies); Computer Science (Scientists and Engineers); Computer Science (Software Engineering); Cyber Security Engineering; Data Informatics; Electrical Engineering; Electrical Engineering (Computer Networks); Electrical Engineering (Electric Power); Electrical Engineering (Multimedia and Creative Technologies); Electrical Engineering (VLSI Design); Electrical Engineering (Wireless Health Technology); Electrical Engineering (Wireless Networks); Engineering Management; Environmental Engineering; Financial Engineering; Global Supply Chain Management (with the Marshall School of Business); Green Technologies; Health Systems Management Engineering (with the Price School of Public Policy, not currently accepting applications); Industrial and Systems Engineering; Manufacturing Engineering; Materials Engineering; Materials Science; Mechanical Engineering; Mechanical Engineering (Energy Conversion); Mechanical Engineering (Nuclear Power: not currently accepting applications); Medical Device and Diagnostic Engineering; Operations Research Engineering; Petroleum Engineering; Petroleum Engineering (Geoscience Technologies); Petroleum Engineering (Smart Oilfield Technologies); Product Development Engineering; Spatial Informatics; and Systems Architecting and Engineering.

Graduate curricula leading to the Master of Construction Management and the Master of Communication Informatics.

Graduate curricula leading to dual degrees in: Master of Science Aerospace Engineering / Master of Science Engineering Management; Master of Science Electrical Engineering / Master of Science Engineering Management; Master of Science Industrial and Systems Engineering / Master of Business Administration; Master of Science Mechanical Engineering / Master of Science Engineering Management; and Master of Science Petroleum Engineering / Master of Science Engineering Management.

Graduate curricula leading to the Engineer degree in: Aerospace Engineering; Astronautical Engineering; Chemical Engineering; Civil Engineering; Electrical Engineering; Environmental Engineering; Industrial and Systems Engineering; Materials Science (not currently accepting applications); Mechanical Engineering; and Petroleum Engineering.

Through the Graduate School, graduate curricula leading to the Doctor of Philosophy in: Aerospace Engineering; Astronautical Engineering; Biomedical Engineering; Chemical Engineering; Civil Engineering; Computer Engineering; Computer Science; Electrical Engineering; Engineering (Environmental Engineering); Industrial and Systems Engineering; Materials Science; Mechanical Engineering; and Petroleum Engineering.

Graduate certificates in: Astronautical Engineering; Health

Systems Operations (with the Price School of Public Policy); Health, Technology and Engineering (with the Keck School of Medicine); Network Centric Systems; Oilfield Technologies; Optimization and Supply Chain Management (with the Marshall School of Business); Software Architecture; Systems Architecting and Engineering; and Transportation Systems (with the Price School of Public Policy).

Undergraduate Program Accreditation

The Bachelor of Science degrees in aerospace engineering, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering and computer science, electrical engineering, environmental engineering, industrial and systems engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET, abet.org. The Bachelor of Science degrees in computer engineering and computer science and in computer science are accredited by the Computing Accreditation Commission of ABET, abet.org.

Undergraduate Program Student Outcomes

By the time of graduation from Bachelor of Science degree programs accredited by the Engineering Accreditation Commission of ABET, students will develop at least the following abilities and knowledge:

- an ability to apply knowledge of mathematics, science and engineering
- an ability to design and conduct experiments, as well as to analyze and interpret data
- an ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- an ability to function on multidisciplinary teams
- an ability to identify, formulate and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context
- a recognition of the need for, and an ability to engage in life-long learning
- a knowledge of contemporary issues
- an ability to use the techniques, skills and modern engineering tools necessary for engineering practice

By the time of graduation from Bachelor of Science degree programs accredited by the Computing Accreditation Commission of ABET, students will develop at least the following abilities and knowledge:

- an ability to apply knowledge of mathematics appropriate to the program's student outcomes and to the discipline
- an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- an ability to design, implement and evaluate a computer-based system, process, component or program to meet desired needs
- ability to function effectively on teams to accomplish a common goal
- an understanding of professional, ethical, legal, security and social issues and responsibilities
- an ability to communicate effectively with a range of audiences
- ability to analyze the local and global impact of computing on individuals, organizations and society
- recognition of the need for and an ability to engage in continuing professional development
- an ability to use current techniques, skills and tools necessary for computing practice
- an ability to apply mathematical foundations, algorithmic principles and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices
- an ability to apply design and development principles in the construction of software systems of varying complexity

Undergraduate Degrees and Requirements

Change of Major to Engineering

USC undergraduate students who have not been admitted to the Viterbi School of Engineering may apply to add an engineering major with the approval of the Associate Dean for Admission for the Viterbi School. Students seeking approval to add an engineering major must complete required prerequisite courses and submit a Request to Change Major to Engineering form to the Admission and Student Affairs Office in Ronald Tutor Hall 110. Approval is granted on the basis of academic performance at USC and in the required prerequisite courses in the Viterbi School within a maximum of two semesters.

Non-engineering students may complete a maximum of four engineering courses. No further engineering courses may be taken unless admission has been approved.

Common Requirements

Certain general requirements are common to all undergraduate curricula for Bachelor of Science degrees in Engineering. These are as follows:

Total Units

A minimum total of 128 acceptable units is required to earn the Bachelor of Science in Engineering. Exceptions are: aerospace engineering, 129 units; biomedical engineering with an emphasis in electrical engineering, 133 units; biomedical engineering with an emphasis in mechanical engineering, 132 units; chemical engineering, 133 units; chemical engineering with an emphasis in biochemical engineering, 133 units; chemical engineering with an emphasis in environmental engineering, 136 units; chemical engineering with an emphasis in nanotechnology, 132 units; chemical engineering with an emphasis in petroleum engineering, 137 units; chemical engineering with an emphasis in polymer/materials science engineering, 137 units; civil engineering, 133 units; civil engineering with an emphasis in building science, 137 units; civil engineering with an emphasis in environmental engineering, 130 units; civil engineering with an emphasis in structural engineering, 133 units; environmental engineering, 132 units.

Not more than 4 units may be physical education activity courses, provided the department allows it in the program.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus writing and two courses in Global Perspectives (which may double-count with courses in the Core Literacies). See the General Education Program for more information.

Students in the Viterbi School of Engineering must satisfy the general education requirements. Students satisfy Core Literacy requirements in life sciences, physical sciences, and quantitative reasoning with the basic science and mathematics elements of their undergraduate engineering programs.

Students in the engineering "3-2" program are not required to satisfy general education requirements or the lower-division writing requirement for USC; these students are understood to have satisfied USC's general education requirements when they have satisfied the general education requirements and lower level writing requirement at their previous institution. All students must, however, complete the WRIT 340 requirement.

Mathematics (16 units minimum)

Sixteen units or more, including three semesters of calculus, are required.

Basic Sciences (12 units minimum)

Twelve units or more of biology, chemistry or physics are required.

Residence Requirement

All students must complete a minimum of 64 units at USC in order to receive a USC degree. In addition, the Viterbi School of Engineering requires that students complete all upper-division units required for the major in residence.

For students in the Viterbi School of Engineering "3-2" Program, at least 48 units must be earned in courses taken at USC.

Scholarship Requirement in Major Subject

For graduation with a bachelor's degree, a grade point average of C (2.0) or higher is required in all upper division courses applied toward the major including any approved substitutes for these courses taken at USC. Additional scholarship requirements for the various majors are listed under the departmental headings.

Grade Point Requirement

A grade point average of at least 2.0 is required on all course work attempted at USC.

Transfer students must meet these averages, both on residence work attempted and on combined transferred and residence courses attempted.

Probation/Disqualification

A student whose overall GPA falls below 2.0 is placed on academic probation. Continued enrollment requires clearance from an academic review counselor.

Each semester, students on academic probation are required to receive academic advisement. Proof of advisement must be filed with the Academic Review Department before any registration requests will be processed. The only acceptable proof of advisement is an official academic review advisement record signed by the student's academic adviser and a representative from the Viterbi Admission and Student Affairs Division. Academic review advisement forms may be obtained from Tutor Hall of Engineering (RTH) 110 or John Hubbard Hall 113.

Students on probation are encouraged to utilize the academic services (advisement and free tutoring) provided by the Viterbi Admission and Student Affairs Division.

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

Petitions for readmission after academic disqualification are initiated by the student through the Academic Review Department. All grade issues (IN, MG, etc.) must be resolved prior to the submission of such a petition. Before petitioning for readmission, a student must complete a minimum of 12 semester units of transferable course work (applicable to USC degree requirements) with a minimum 3.0 GPA. University residency requirements will determine whether these units are accepted as transfer credit.

As readmission to the university is never guaranteed, any indication of strong academic performance beyond the 12 unit minimum would strengthen a readmission petition.

Students must petition for readmission by December 30 for the spring semester, by May 1 for the summer session and by August 15 for the fall semester. Late petitions will not be accepted. A non-refundable fee determined by the Academic Review Office must accompany all readmission petitions.

Special Educational Opportunities

Viterbi Admission and Student Affairs Division

The Viterbi Admission and Student Affairs Division, located in Ronald Tutor Hall of Engineering (RTH) 110, begins to assist students as soon as they express an interest in engineering and continues working with them until, and in some cases after, they graduate.

The office is not only responsible for working with prospective students, but also with continuing students as well. It directs special services and programs, provides a variety of support services, sponsors student organizations, is involved with student government and acts as a liaison with other university offices.

The Viterbi Admission and Student Affairs Division enables engineering students to have maximize their potential at USC.

Center for Engineering Diversity and Women in Engineering Program (WIE)

The Center for Engineering Diversity (CED) provides a variety of services for historically underrepresented students in engineering (African-American, Hispanic and Native American students, including women).

Contact the Center for Engineering Diversity at (213) 740-1999 for more information.

The Women in Engineering Program (WIE) offers professional, academic and co-curricular support to the women of the Viterbi School. The goal of the Viterbi Women in Engineering Program is to recognize the unique challenges that female engineering students will face, provide resources and overall support to address these challenges, and allow our female students to find academic and personal success during their Viterbi career and beyond.

Klein Institute for Undergraduate Engineering Life

The Klein Institute for Undergraduate Engineering Life (KIUEL) was established to provide Viterbi undergraduates with a variety of personal and professional activities designed to enhance undergraduate engineering student life experiences outside the classroom. The KIUEL Programming Board implements programs around leadership, service learning and globalization, and cross-disciplinary learning. Past KIUEL events have included the KIUEL Weekend for Leaders, the KIUEL Showcase and the Senior Design Expo. For more information, visit viterbi.usc.edu/kiuel.

Viterbi Fellows Program

Every year, a select group of promising incoming freshmen are invited by faculty to work on projects in their research laboratories as part of the Viterbi Fellows Program. These student researchers actively participate in the development of new technology throughout their undergraduate careers. Students invited to this program also have a variety of special program opportunities available to them.

In addition to giving students excellent first-hand experience, this program can help offset the cost of education since each participant earns wages for his or her work. This renewable award is separate from other financial assistance offered by the university.

The student must apply for renewal of his or her award by March 1 of each year. Continuing students can use the same application form to apply for the award starting in their sophomore year.

Grand Challenges Scholars Program

The Viterbi School encourages students to pursue their academic and co-curricular involvement keeping the "Grand Challenges" in mind. The USC Viterbi Grand Challenges Scholar Program (GCSP) helps students organize their time spent focused on exploring results that benefit society.

Each year, the top 25 students who successfully complete the USC Viterbi GCSP areas will be named National Academy of Engineering Grand Challenges Scholars, recognized both by USC at graduation and the National Academy of Engineering.

Students interested in being designated as Grand Challenge Scholars should demonstrate involvement related to a specific Grand Challenge topic in each of the five areas below. Successful students must carry their involvement related to the challenge across five dimensions:

- Hands-on Project or Research Experience
- Interdisciplinary Curriculum
- Entrepreneurship
- Global Dimension
- Service Learning

For more information, contact the Viterbi Admission and Student Affairs Division office in RTH 110.

First Year Excellence

The First Year Excellence (FYE) program helps first-year students develop strong connections to the university and the Viterbi School of Engineering. FYE promotes academic exploration and success through its co-curricular programs, support services and resources during students' first year. Freshman academies, introductory courses and the Alumni Spotlight Series help guide students as they explore engineering. Academic advisers work with all freshman students to ensure they are on track academically and to assist with acclimating to college life and USC. Free tutoring, group-led supplemental instruction sessions, workshops and seminars on time management and networking with faculty are available to students to assist them in accomplishing their goals.

Viterbi Student Engagement and Career Connections

The Viterbi School of Engineering provides extensive career services to all students. Our philosophy is that the more frequently students engage in co-curricular activities combined with their academic programs, the more successfully they can compete in the job market. Students are encouraged to register with Viterbi Student Engagement and Career Connections during their first year at USC via the Viterbi Gateway portal. By doing so, they will be kept informed of all career-related events such as company information sessions, career preparation workshops, industry luncheons and career fairs. In addition, students are able to participate in the school's extensive on-campus interview program.

USC's Viterbi School of Engineering attracts employers not only from Southern California, but from across the country. A few of the many companies that have recently hired Co-ops, interns and permanent employees from the Viterbi school include: Accenture, Amgen, Alcon Laboratories, Inc., The Boeing Company, Chevron Corporation, Cisco Systems, Inc., Clark Construction, Deloitte Financial Advisory Services, Google, IBM, Intel, Jet Propulsion Laboratory, Kiewit Corporation, Lockheed Martin Corporation, Microsoft Corporation, NBC Universal, NASA, Northrop Grumman Corporation, Parsons Corporation, SpaceX, Tesla, Turner Construction Company, Walt Disney Imagineering and Yahoo.

Cooperative Education

By participating in the Co-op Program, students can earn degree credit and industry work experience before they graduate. Co-op improves students' understanding of the relationship between theory and practice, helps them fine-tune their career goals and aids in the acquisition of important engineering skills. Students' work assignments are closely related to their specific degree program and are appropriate to their current academic level.

Participation in the program is open to all full-time undergraduate engineering majors. Students are eligible to apply for Co-op the second semester of their sophomore year. Though the sequence may vary, students typically have one summer work experience in addition to one semester immediately preceding or following one of the summer sessions. While on assignment, students enroll in a 1–2 unit course (ENGR 395a, ENGR 395b, ENGR 395c, ENGR 395d) that aids in the integration of both on-campus and off-campus learning. With departmental approval, credit toward a degree may be earned upon completion of this course.

3-2 Program

For those students wishing greater depth and breadth in the liberal arts, the Viterbi School of Engineering has developed agreements with more than 20 liberal arts colleges nationwide in which a student attends a liberal arts institution for his or her first three years of college, pursuing pre-engineering courses in addition to a solid program in the liberal arts. At the end of the three years, upon recommendation from the liberal arts college, the student applies to the Viterbi School of Engineering as a junior and, if admitted, completes the remaining requirements for a BS degree typically within two years. After degree requirements for both schools are complete, the student will receive two degrees — a BA from the liberal arts college and a BS from USC.

Engineering Overseas Programs

Every summer the Viterbi School of Engineering sponsors a seven-week academic program in either Florence, London, Paris, Madrid, Rome or another location that provides students with the opportunity to enroll in engineering and humanities courses. This program is open to all engineering majors.

International Exchange Programs

The Viterbi School of Engineering International Exchange Program gives undergraduate students the opportunity to broaden their exposure to the global context of engineering theory and practice by spending a semester abroad in a challenging academic environment at an international host institution. The International Exchange Program allows students to satisfy technical electives and/or approved degree requirements by attending approved partner institutions. This program is open to students entering their junior or senior year. Students apply at the Viterbi Student Affairs Office. Candidates must meet all admission requirements of both the Viterbi School of Engineering as well as those of the international host institution. Contact the Admission and Student Affairs Office for a complete list of international exchange partners.

Honor Societies

The Viterbi School of Engineering has established a variety of honor societies to recognize academic excellence, creativity and service. These are: Alpha Pi Mu (industrial and systems engineering), Chi Epsilon (civil engineering), Eta Kappa Nu (electrical engineering), Omega Chi Epsilon (chemical engineering), Omega Rho (industrial and systems engineering), Pi Tau Sigma (mechanical engineering), Sigma Gamma Tau (aerospace engineering), Tau Beta Pi (nationwide honor society) and Upsilon Pi Epsilon (computer science).

Graduate Degrees and Requirements

General Requirements

The Viterbi School of Engineering recommends candidates for the Master of Science degree in: aerospace engineering, analytics, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, cyber security engineering, data informatics, electrical engineering, engineering management, environmental engineering, financial engineering, green technologies, health systems management engineering, industrial and systems engineering, manufacturing engineering, materials engineering, materials science, mechanical engineering, medical device and diagnostic engineering, operations research engineering, petroleum engineering, product development engineering, spatial informatics, and systems architecting and engineering; and the Master's degree in construction management. Several areas of emphasis and specialization are available within these disciplines.

All graduate work in the Viterbi School of Engineering is under the jurisdiction of the Viterbi School except the Doctor of Philosophy degree, which is under the jurisdiction of the USC Graduate School. All prospective graduate engineering students should apply to the USC Office of Graduate Admission.

Admission

Two classes of students are admitted to take courses for graduate credit: admitted and conditionally admitted students. These classifications are determined by the Office of Graduate Admission on the recommendations of the appropriate department in the Viterbi School of Engineering.

Admitted Students

This is the status of a graduate student pursuing work leading toward an advanced degree. The student has been accepted into the degree program without any conditions.

Conditionally Admitted

The chair of a major department in the Viterbi School of

Engineering may recommend that a student be admitted under certain conditions. Conditional admission is granted when a student's admission records are incomplete or when deficiency courses must be taken but the student appears to be otherwise admissible. The conditions must be met before the completion of two semesters of enrollment or 12 units of course work, whichever comes first. If the conditions on admission are not met within the given time period, the student may not be allowed to register for course work in subsequent semesters. When the conditions have been met, the academic department will remove the restrictions that have been placed on the student's registration.

Criteria

To qualify for admission, applicants are expected to present strong academic records and show superior accomplishment in their engineering and related courses. Admission decisions will be based on Graduate Record Examinations test scores and transcripts of previous school work. Individual departments may set higher admission standards than the Graduate School. Some programs also require letters of recommendation and a statement of purpose. Doctor of Philosophy applicants who have published professional papers in their field may forward copies to the department, and they will be considered together with the other credentials submitted.

Procedure

Applicants to graduate programs must present credentials to the Office of Graduate Admission showing that they have completed an acceptable curriculum for the bachelor's degree. In some departments students with outstanding records will be admitted for the doctoral program without first receiving the Master of Science degree. If the previous degree is not in the field in which the student wishes to pursue graduate study, it may be necessary to make up undergraduate deficiencies in the area of the desired specialty. Applicants must take the Graduate Record Examinations. Satisfactory scores on the general test are required for admission to full graduate standing in most programs. Consult the department office for further information.

Once the application for admission has been sent, arrangements should be made immediately to have official transcripts of all previous undergraduate and graduate school work forwarded directly to the Office of Graduate Admission from the schools attended. If the Graduate Record Examinations general and subject tests, as well as the TOEFL or IELTS exams, have been taken the scores should be sent to the Office of Graduate Admission by the educational testing service. If the tests have not been taken, the applicant should register to take them on the earliest available date. The departments will review the application files and select for admission those students offering the greatest promise for completing graduate studies.

Progressive Degree Programs

The progressive degree program allows qualified undergraduate students the opportunity to complete an integrated program of study joining a bachelor's degree program and a master's degree program in the same or different departments. Applicants for a progressive degree program must have completed 64 units of course work applicable to their undergraduate degree since graduating from high school. (Credit by exam and course work taken prior to high school graduation are excluded). Applicants must submit their application prior to completion of 96 units of course work. Normally, the application is submitted in the fall semester of the third year of enrollment at USC. The application for admission to a progressive master's program must be accompanied by a departmentally approved course plan proposal and two letters of recommendation. All application materials can be obtained from the Viterbi Admission and Student Affairs Office (RTH 110, viterbi.usc.edu/pdp).

Progressive degree program students must fulfill all the requirements for both the bachelor's degree and the master's degree. The total number of units for the master's degree, however, may be reduced by a maximum of one-third. A minimum of two-thirds of the units required for the master's degree must be at or above the 500 level, excluding any 590 courses. Students will be subject to undergraduate academic progress standards and policies while in undergraduate status and master's academic progress standards and policies while in graduate status. The degrees may be awarded separately, but the master's degree will not be awarded before the undergraduate degree. The time limit for completing a progressive degree program is 12 semesters. For more information, refer to the Requirements for Graduation page.

General Requirements for the Master of Science

Residence Requirements

Viterbi students are allowed up to five years to earn a master's degree. Depending on the specific degree, the typical time required varies from between one and one-half to two years for students in MS programs oncampus to three years for MS students completing their degrees online via DEN@Viterbi. Master's degrees other than the Master of Science typically require more course work, and may take more time to complete.

Students entering the Viterbi School of Engineering with course or credit deficiencies require a correspondingly longer period. A candidate must complete the last four semester units of course work at USC. No more than 25 percent of the minimum units required for the program will be accepted from another engineering school upon verification by the Office of Degree Progress and the approval of the major department.

Prerequisites

Prerequisite is a bachelor's degree in engineering, allied fields or science. If the graduate field is different from the field of the bachelor's degree, there may be undergraduate deficiencies assigned by the major department, and these must be made up by taking and passing the assigned courses before proceeding with the graduate courses.

Deficiency Courses

New students may be required to demonstrate satisfactory preparation for the graduate program with previously completed course work. In cases where preparation is not demonstrated, up to 9 units of deficiency course work may be required in addition to the normal degree requirements.

Credit for required deficiency courses may not be applied toward a graduate degree. A deficiency course within the same discipline taken after the higher level course has been passed will not be available for unit or grade point credit.

Placement Examinations

Enrollment in certain 500- and 600-level courses in the disciplines of computer engineering and electrical engineering will require a student to either take and pass the corresponding 400-level prerequisite at USC, or pass a placement exam in the corresponding course.

Not all 400-level prerequisite courses taken instead of a placement exam are available for degree credit. No unit or grade point credit is given for placement exams. Please consult with an academic adviser or refer to the department Website for information on specific courses and placement exam details.

Grade Point Average Requirements

A grade point average (GPA) of 3.0 (A = 4.0) is required for the master's degree in all engineering programs. The minimum GPA must be earned on all course work applied toward the master's degree and on all 400-level and above course work attempted at USC beyond the bachelor's degree. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

Course Selection

There are two program options for the master's degree, one with a thesis and the other without. Courses are selected to fit the special needs of individual students, must form an integrated program leading to a definite objective and must be approved in advance by the department. Only courses numbered 400 and above may be applied for degree credit.

Program without Thesis

The minimum requirement is 27 units; 18 of these units must be at the 500 level and at least 18 units must be in the major department

and closely related departments. Prior department approval is required for all non-major courses. Specific requirements are listed under each department.

Program with Thesis

The minimum requirement is 27 units; 4 of these units are to be thesis. At least 16 units, not including thesis, must be at the 500 level or higher, and at least 18 units must be in the major department. Two units of 594a and 2 units of 594b are required. No more than 4 units of 590 Directed Research is permitted.

Master's Thesis

The thesis, when it is required, is regarded as an important part of the work of the candidate for a master's degree. It is not intended to be a piece of highly recondite research, but it must be a serious, considerable and publishable piece of work demonstrating the writer's power of original thought, thorough grasp of the subject matter and ability to present material in a scholarly manner and style.

The thesis presents the results of an investigation of an approved subject in the major department. It is supervised throughout by a thesis committee, appointed by the chair of the student's major department. The committee is usually composed of two members of the major department and one other member of the faculty.

The student will register in courses 594a and b respectively during the final two semesters of the master's program as determined by discussion with an adviser. (Concurrent registration for 594a and b during the same semester is permitted when a student's progress makes completion of all requirements likely within one semester.) If the thesis has not been completed within these two semesters, the candidate must register for 594z each semester until the thesis has been accepted but no additional unit credit will be earned. Units of 594ab Master's Thesis may not be converted to units of 590 Directed Research.

A student readmitted to candidacy by petition to the Graduate School must reregister for 594a and 594b. Final acceptance of the thesis is based upon the recommendation of all members of the thesis committee. For requirements concerning format of master's thesis see The Graduate School section of this catalogue.

Candidates who find it necessary to be excused from registration in 594a or 594b for a semester must formally report before the beginning of the semester to the Viterbi Office of Graduate and Professional Programs that they will be inactive during that semester and request a leave of absence. During a leave of absence a candidate will not be entitled to assistance from the thesis committee or to the use of university facilities. The granting of a leave of absence does not change the candidate's responsibility for meeting the time schedule for the completion of degree requirements. Leave will be granted only under exceptional circumstances.

Progress Toward the Degree

Graduate students are expected to make regular progress toward their degrees as defined by the faculty of their respective departments and within the time limits allowed. Graduate students' progress and performance are reviewed each semester. Students making unsatisfactory progress receive a formal written warning and are placed on a semester of academic warning with specific conditions to be met for continuation in the program. Please refer to catalogue sections Academic Warning and Dismissal of Graduate Students; Grade Point Average Requirements; and the Website of the Office of Graduate and Professional Programs (GAPP) at viterbi.usc.edu/gapp.

Department Approval for Non-major Courses

Prior departmental approval is required for non-major courses to be taken and applied toward a graduate degree. Students must consult with the faculty adviser for formal written permission to take courses outside the major department for degree credit.

A copy of the faculty adviser's written approval must be kept in the department file and retained by the student until graduation.

Time Limit

It is expected that work for a Master of Science in Engineering will be completed within a maximum of five calendar years. An academic department may grant an extension of up to one year at a time for a maximum of two years. Courses taken more than seven years prior to the date upon which the degree is to be awarded cannot be included for the degree.

Admission to Candidacy

Application for admission to candidacy for the Master of Science is a separate step from admission to graduate standing. The requirements for admission to candidacy are: (1) the applicant must be admitted to regular graduate standing and must have removed all undergraduate deficiencies, and (2) the applicant must submit a complete program approved by the major department showing the course work, research and thesis (if required).

Application for graduation should be made at the beginning of the semester in which the requirements for the master's degree are to be completed. Students are strongly advised to file for graduation as soon as the registration process has been completed so that their names may appear in the printed Commencement program and so that any discrepancies in their records may be resolved. Late filing may delay conferral of the degree.

Application forms for graduation with the master's degree may be obtained from the student's academic department. This application should be returned to the student's academic department. Changes in the program after admission to candidacy are made by petition to the student's academic department.

Second Master's Degree

A graduate student who already holds a master's degree from USC may apply a limited number of previously earned units toward the second master's degree.

The maximum number of units allowed for transfer is: 4 units in degree programs requiring 24–32 units; 8 units in programs requiring 33–40 units; 12 units in programs requiring 41 or more units. In all cases, permission of the chair of the major department is required. All credit, including the units from the first master's degree, must be earned within seven calendar years.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree.

General Requirements for the Master of Engineering Degree

The Viterbi School does not currently offer degree programs with the Master of Engineering designation.

General Requirements for the Engineer Degree

The Engineer degree is awarded under the jurisdiction of the Viterbi School of Engineering. This degree is granted upon completion of a comprehensive curriculum beyond the general course requirements for the Master of Science and after successfully passing an engineer's qualifying examination. The required curriculum is intended to give students broad preparation in two areas of engineering, together with a minimum number of units in these areas to prepare them for the interdisciplinary nature of the many complex problems they will encounter in practice today. The degree is also intended to fulfill a growing need in industry for students with comprehensive advanced engineering training, but not necessarily with the research orientation developed by the PhD student.

The Engineer degree is a terminal degree. Students who complete the Engineer degree will not be considered for admission to the PhD program.

The Engineer degree is offered in aerospace engineering, astronautical engineering, chemical engineering, civil engineering, electrical engineering, environmental engineering, industrial and systems engineering, materials science, mechanical engineering and petroleum engineering.

Prerequisites

There are three basic prerequisites for the Engineer Degree Program: a Master of Science degree or completion of 27 units of acceptable course work, application for admission to the Viterbi School of Engineering and acceptance to the program by the appropriate department.

Course Requirements

The Engineer degree requires a minimum of 30 units of graduate course work beyond the Master of Science degree; up to 6 units at the 400 level may be counted at the discretion of the student's qualifying exam committee if the committee finds them necessary for the student's program. The course work must form a balanced program of study leading to a definite concentration in two fields of engineering, a minimum of 12 units in one field, nine in another; nine units are elective and may be taken outside the Viterbi School of Engineering, but must be acceptable for graduate credit. The distribution of course work will be governed by the student's qualifying exam committee and should be considered in conjunction with the course work done for the Master of Science degree. A candidate for the Engineer degree may substitute a project under the supervision of a faculty member for 6 units of course work. To have the project credited toward the degree, the student must register in 690 Directed Research during the course of the project; total 690 Directed Research registration should not exceed 6 units. A student wishing to work on a project must make arrangements with a member of the faculty to supervise and evaluate work, and obtain the approval of the committee chair prior to completing more than 15 units of course work. In many cases the project may be related to the candidate's work outside the university but must still be supervised by a faculty member. Distribution of the course work should take into account the nature of the project.

Grade Point Average Requirement

A minimum grade point average of 3.0 must be earned on all course work applied toward the Engineer degree. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Transfer units count as credit (CR) toward the Engineer degree and are not computed in the grade point average.

Residence Requirements

A candidate must complete the last four units of course work at USC. At least 26 units must be taken in residency at USC. A maximum of four transfer units not counted toward a previous degree may be allowed with adviser approval.

Guidance Committee

After being granted graduate standing the student must form a guidance committee. The committee is made up of three full-time faculty members who are specialists in the student's areas of concentration, with at least two from the major department. Forms for appointment of the committee are available from the student's academic department. The student is responsible for finding a faculty member from one area of concentration who will act as the chair of the guidance committee. The chair will assist in selection of the other members. Advisement of the student after formation of the committee will be by the committee chair.

Qualifying Examination

The student must satisfactorily complete an engineer's qualifying examination administered by his or her guidance committee. This examination will cover both areas of concentration and will consist of at least one written and one oral examination. This examination is normally taken during the last semester of course work toward the degree. Students who choose to take the examination in the semester following the completion of course requirements may do so up until the end of the third week of classes without registering. After that date they must register for GRSC 810 to maintain continuous enrollment in the program. Results of the examination are reported to the Viterbi Office of Graduate and Professional Programs and forwarded to the Office of Academic Records and Registrar.

Transfer Credits

Up to 4 units of graduate course work may be transferred from an accredited institution to be applied toward the Engineer degree. Transfer work must have been done after receipt of the Master of Science degree and must be approved by the qualifying exam committee.

Reserving Course Credit

A student who receives the Master of Science degree at USC may reserve a limited number of units taken prior to the receipt of the Master of Science degree for credit toward the Engineer degree. To reserve credit, the course must have been taken during the last semester as a Master of Science candidate, not used toward the Master of Science degree, be acceptable to the student's committee, and approved by the Office of Degree Progress.

Time Limit

The student must complete all requirements within five calendar years.

Admission to Candidacy

After satisfactorily completing the qualifying examination, and no later than the beginning of the last semester of course work, the student must file for candidacy. This is a separate and distinct step which sets forth the entire academic program fulfilling the degree requirements and is used as a working basis for awarding the degree.

General Requirements for the Doctor of Philosophy

This degree is granted under the jurisdiction of the USC Graduate School. Students should also refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Thirteen Doctor of Philosophy (PhD) programs are offered: aerospace engineering, astronautical engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, engineering (environmental engineering), industrial and systems engineering, materials science, mechanical engineering and petroleum engineering.

Deficiency Courses

New students may be required to demonstrate satisfactory preparation for the graduate program with previously completed course work. In cases where preparation is not demonstrated, up to 9 units of deficiency course work may be required in addition to the normal degree requirements.

Credit for required deficiency courses may not be applied toward a graduate degree. A deficiency course within the same discipline taken after the higher level course has been passed will not be available for unit or grade point credit.

Placement Examinations

Enrollment in certain 500- and 600-level courses in the disciplines of computer engineering and electrical engineering will require a student to either take and pass the corresponding 400-level prerequisite at USC, or pass a placement exam in the corresponding course.

Not all 400-level prerequisite courses taken instead of a placement exam are available for degree credit. No unit or grade point credit is given for placement exams. Please consult with an academic adviser or refer to the department Website for information on specific courses and placement exam details.

Foreign Language Requirements

There is no foreign language requirement for engineering majors.

Course Requirements

Satisfactory completion of at least 60 units of approved graduate level course work with a cumulative grade point average of at least 3.0 is required of all PhD students in engineering. A minimum grade of C (2.0) is required in a course to receive graduate credit. Work graded C- or below is not acceptable for subject or unit credit toward any graduate degree. Undergraduate prerequisites and graduate course work will be required in accordance with the regulations of the major department or program and the recommendations of the student's qualifying exam committee. Transfer units are subject to approval by the Office of Degree Progress (for course work taken at institutions in the United States) or by the Office of Graduate Admission (for course work taken at institutions outside the United States) and by the qualifying exam committee.

Screening Procedure

The original admission decision admitting a student to the PhD

program is based on the student's previous academic records, Graduate Record Examinations scores and other evidence of scholastic abilities indicating promise for completing graduate studies. It is also a prerequisite that all PhD students successfully complete the screening procedures designated by the department. These usually consist of a written and an oral examination administered by the faculty. Students who fail the screening procedure will be advised that they are not recommended to continue in the PhD program and that any additional work may not be counted toward the degree.

Qualifying Exam Committee

The PhD student's program of study is supervised by the qualifying exam committee, which is formed immediately after passing the screening examination. The committee consists of five tenure-track faculty members, four from the major department and one from outside the department. Reporting the screening procedures and forming the qualifying exam committee are accomplished by filing the appropriate forms obtainable from the Graduate School Website, usc.edu/schools/GraduateSchool.

Qualifying Examinations

The qualifying examinations are taken during the last semester of the second year of graduate study or, at the latest, in the fifth semester or equivalent. The Request to take the Qualifying Examinations must be filed in the semester prior to taking the examinations and at least 30 days before beginning the examinations. The examinations are intended to determine the extent of the student's knowledge in basic science and engineering areas as well as the ability to do original and scholarly research. The qualifying exam committee decides the nature of the qualifying examinations (both oral and written portions) according to the policies applicable in each department.

If not otherwise enrolled, a student must enroll in GRSC 800 during the semester in which the qualifying examination is to be taken. Students are strongly encouraged to take the qualifying examination during the first semester in which they are enrolled in GRSC 800, and may not enroll in more than two semesters of GRSC 800 before taking the qualifying examination.

The examinations may be scheduled at any time during the semester provided that all members of the committee are available to administer them. All portions of the examinations must be completed within 60 days. After passing the qualifying examinations the PhD student is admitted to candidacy by the Graduate School and the dissertation committee is established. After this step students will normally engage in at least one year of fulltime graduate study and research on campus.

Doctoral Dissertation

An acceptable dissertation based on original investigation and supervised directly by the dissertation committee is required. The dissertation must show mastery of a special field, capacity for independent research and a scholarly result. Candidates are expected to keep all members of the dissertation committee informed of their progress at all stages of the dissertation.

Defense of the Dissertation

After satisfactorily meeting all other requirements and after the research and writing of the dissertation are substantially complete, the PhD candidate must pass a general final oral examination devoted to the major field and to the topic of the dissertation. The examination will be conducted in such a manner as to determine to the satisfaction of the dissertation committee that the candidate has attained the stage of scholarly advancement and power of investigation demanded by the university for final recommendation to the doctorate. The faculty are invited to attend and to participate in the final oral examination. However, only the dissertation committee may vote. Unanimous approval of the committee is required for the student to upload the dissertation to the Graduate School.

Departmental Requirements

The requirements and regulations set forth in this portion of the catalogue are to be construed as the minimal requirements only as established by the Graduate School. In addition, students must meet all the requirements established by their department.

Progress Toward the Degree

Graduate students are expected to make regular progress toward their degrees as defined by the faculty of their respective departments and within the time limits allowed. Graduate students' progress and performance are reviewed each semester. Students making unsatisfactory progress receive a formal written warning and are placed on a semester of academic warning with specific conditions to be met for continuation in the program. Please refer to catalogue sections Academic Warning and Dismissal of Graduate Students; Grade Point Average Requirements; and the Website of the Office of Graduate and Professional Programs (GAPP) at viterbi.usc.edu/gapp.

Special Educational Opportunities

DEN@Viterbi

Established in 1972, DEN@Viterbi, the USC Viterbi School of Engineering's online delivery system is a pioneer in the distance learning arena, using cutting-edge technology to enable professional engineers to take USC engineering courses for graduate degree credit without coming to the campus. DEN@Viterbi students enrolled around the world are pursuing over 40 graduate degree programs online — more choices than at any other research university. DEN@Viterbi breaks down geographical and scheduling barriers, allowing students to take classes anytime and anywhere, with the option for live interactivity. DEN@Viterbi students receive support from administrative and technical staff, and enjoy access to all services the Viterbi School has to offer.

The Viterbi School has made it possible for all on-campus students enrolled in the school's graduate courses to receive free access to the archived lectures of courses offered via DEN@Viterbi. This valuable study aid enables students to review lectures throughout the semester.

For more information about the Viterbi School graduate programs and DEN@Viterbi, visit viterbi.usc.edu/gapp.

Departments

- Engineering
- Aerospace and Mechanical Engineering
- Astronautical Engineering
- Biomedical Engineering
- Chemical Engineering – Mork Family Department of Chemical Engineering and Materials Science
- Materials Science – Mork Family Department of Chemical Engineering and Materials Science
- Petroleum Engineering – Mork Family Department of Chemical Engineering and Materials Science
- Civil Engineering – Sonny Astani Department of Civil and Environmental Engineering
- Environmental Engineering - Sonny Astani Department of Civil and Environmental Engineering
- Computer Engineering Program
- Computer Science
- Electrical Engineering – Ming Hsieh Department of Electrical Engineering
- Green Technologies
- Industrial and Systems Engineering – Daniel J. Epstein Department of Industrial and Systems Engineering
- Informatics Program
- Information Technology Program
- Manufacturing Engineering
- Product Development Engineering
- Sustainable Infrastructure Systems Program
- Systems Architecting and Engineering Program

Aerospace and Mechanical Engineering

Student Services Office
Robert Glenn Rapp Engineering Research
Room 101
(213) 821-3155
FAX: (213) 740-7774
Email: ame@usc.edu
Faculty and Business Office
Olin Hall of Engineering
Room 430
(213) 740-8762
FAX: (213) 740-8071
Email: ame@usc.edu
Chair: Julian Andrzej Domaradzki, PhD**

Faculty

Choong Hoon Cho Chair in Aerospace and Mechanical Engineering: Michael Kassner, PhD
William E. Leonhard Professor of Engineering: Fokion Egolfopoulos, PhD
Smith International Professor of Mechanical Engineering: Satyandra K. Gupta, PhD
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD
Zohrab A. Kaprielian Fellow in Engineering: Eva Kanso, PhD
WiSE Gabilan Assistant Professor: Alejandra Uranga, PhD

Professors: Charles Campbell, PhD; Julian Domaradzki, PhD**; Fokion Egolfopoulos, PhD*; Henryk Flashner, PhD; Satyandra K. Gupta, PhD; Yan Jin, PhD; Paul K. Newton, PhD; Larry G. Redekopp, PhD*; Paul Ronney, PhD; Satwindar S. Sadhal, PhD; Geoffrey Spedding, PhD*; Firdaus E. Udwadia, PhD *(Civil and Environmental Engineering, Data Science and Operations, Systems Architecting and Engineering and Mathematics)*; Bingen Yang, PhD
Associate Professors: Eva Kanso, PhD; Geoffrey R. Shiflett, PhD*
Assistant Professors: Ivan Bermejo-Moreno, PhD; Mitul Luhar, PhD; Niema Pahlevan, PhD; Nestor Perez-Arancibia, PhD; Alejandra Uranga, PhD
Professor of Engineering Practice: M. Oussama Safadi, PhD*
Senior Lecturers: Charles Radovich, PhD; Takahiro Sakai, PhD; Yann Staelens, PhD
Lecturers: Inna Abramova, PhD; Matthew Gilpin, PhD
Research Associate Professor: Adam Fincham, PhD
Research Associate: Anita Penkova, PhD
Joint Appointments: Yong Chen, PhD *(Industrial and Systems Engineering)*; Daniel Erwin, PhD* *(Astronautics)*; Mike Gruntman, PhD *(Astronautics)*; Andrea Hodge, PhD *(Chemical Engineering and Materials Science)*; Petros Ioannou, PhD *(Electrical Engineering — Systems)*; Mihailo Jovanovic, PhD (*Electrical Engineering*); Michael Kassner, PhD *(Chemical Engineering and Materials Science)*; Berok Khoshnevis, PhD *(Industrial and Systems Engineering)*; Peter Kuhn, PhD (*Biological Sciences*); Joseph Kunc, PhD *(Astronautics, Physics)*; Stephen C-Y Lu, PhD *(Industrial and Systems Engineering)*; Sami F. Masri, PhD *(Civil and Environmental Engineering)*; Steven Nutt, PhD *(Materials Science)*; Constantinos Sioutas, PhD *(Civil and Environmental Engineering)*; Francisco Valero-Cuevas, PhD *(Biomedical Engineering*); Qiming Wang, PhD (*Civil and Environmental Engineering*)
Emeritus Professors: Ron Blackwelder, PhD*; Fred Browand, PhD; Clarke Howatt, MS; S. Lampert, PhD; Terence Langdon, PhD; Robert Mannes, MS, PE*; Donald E. Shemansky, PhD
**Recipient of university-wide or school teaching award.*
***Recipient of university-wide or school research award.*
Mechanical Engineering Honor Society: Pi Tau Sigma
Aerospace Engineering Honor Society: Sigma Gamma Tau

Degree Requirements

Educational Mission

The degree programs of the Department of Aerospace and Mechanical Engineering provide the educational foundation for success in all walks of life whether or not one's career path includes employment as a professional engineer, work in a field outside of engineering, or pursuit of further education.

Undergraduate Program Educational Objectives

Graduates of the undergraduate programs in Aerospace and Mechanical Engineering are expected to attain the following objectives within a few years after graduation:

- Work as professionals within engineering or a related area in both small- and large-scale businesses;
- Pursue further education through graduate school or professional development courses; and
- Become leaders within their chosen profession whether it be industry, academia or service.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Aerospace Engineering prepares graduates to have a knowledge of aerodynamics, aerospace materials, structures, propulsion, flight mechanics, and stability and control. The program also prepares graduates to have design competence that includes integration of aeronautical topics.

The program leading to a Bachelor of Science in Mechanical Engineering requires students to apply principles of engineering, basic science and mathematics (including multivariate calculus and differential equations); to model, analyze, design and realize physical systems, components or processes; and prepares students to work professionally in both thermal and mechanical systems areas.

Aerospace Engineering Degrees

Master of Science in Product Development Engineering

See the listing under Product Development Engineering.

Master of Science in Systems Architecting and Engineering

See the listing under Systems Architecting and Engineering Program.

Engineer in Aerospace Engineering

Requirements for the Engineer in Aerospace Engineering are the same as the general requirements. Also, 3 to 6 of the units required for the degree must be AME 690. Prior approval must be obtained from the qualifying exam committee before registration in AME 690.

Doctor of Philosophy in Aerospace Engineering

The Doctor of Philosophy with a major in aerospace engineering is also offered. See general requirements for graduate degrees.

Mechanical Engineering Degrees

The department offers a Bachelor of Science degree in Mechanical Engineering. Additionally, petroleum engineering exists as an emphasis within the mechanical engineering program. An area of emphasis appears in parenthesis after the primary major name on the transcript.

Minor in Music Recording

A minor in music recording is offered through the USC Thornton School of Music to provide undergraduate students with the background necessary to enter the field of recording engineering and to familiarize them with the design needs of modern recording equipment. The minor is recommended to mechanical engineering majors with extensive musical training who would like to combine their technical and musical abilities while learning the engineering applications of physical and mathematical principles to the art of music recording. See the listing under the USC Thornton School of Music.

Master of Science in Mechanical Engineering (Energy Conversion)

See Sustainable Infrastructure Systems Program.

Master of Science in Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics)

Engineer in Mechanical Engineering

Requirements for the Engineer in Mechanical Engineering degree are the same as set forth in the general requirements. Six of the units required for the degree must be AME 690. Prior approval must be obtained from the committee before registration in AME 690.

Doctor of Philosophy in Mechanical Engineering

The Doctor of Philosophy in Mechanical Engineering is also offered. See general requirements for graduate degrees.

Bachelor's Degree

Aerospace Engineering (BS)

The requirement for this degree is 128-129 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

General education Units: 24 +

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4
  * The AME Department recommends that AME students enroll in the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering Core

- AME 105 Introduction to Aerospace Engineering Units: 4
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 231L Mechanical Behavior of Materials Units: 3
- AME 261 Basic Flight Mechanics Units: 4
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 3
- AME 310 Engineering Thermodynamics I Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 436 Energy and Propulsion Units: 3
- AME 441aL Senior Projects Laboratory Units: 3
- AME 451 Linear Control Systems I Units: 3
- AME 481 Aircraft Design Units: 4

Astronautics

- ASTE 280 Foundations of Astronautical Engineering Units: 3

Information Technology Program

- ITP 168 Introduction to MATLAB Units: 2

Tracks (Choose one)

Standard Track (9 units)

- AME 404 Computational Solutions to Engineering Problems Units: 3
  Technical Electives*

Note:

*Technical electives consist of most upper-division courses in engineering, chemistry, physics, or mathematics.

Aeronautics Track (9 units)

- AME 459 Flight Mechanics Units: 3
- AME 460 Aerodynamic Theory Units: 3
- AME 443 Control Systems Laboratory Units: 3
  or
- AME 457 Engineering Fluid Dynamics Units: 3

Aerospace Structures Track (9 units)

- AME 485 Aerospace Structures I Units: 3
  or
- CE 358 Theory of Structures I Units: 3
- AME 403 Stress Analysis Units: 3
  or
- AME 420 Engineering Vibrations I Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
  or
- CE 458 Theory of Structures II Units: 3

Aerospace Controls Track (9 units)

- AME 420 Engineering Vibrations I Units: 3
  or
- AME 453 Engineering Dynamics Units: 3
- AME 443 Control Systems Laboratory Units: 3
- AME 459 Flight Mechanics Units: 3
  or
- ASTE 480 Spacecraft Dynamics Units: 3

Aerospace Design Track (9 units)

- AME 459 Flight Mechanics Units: 3
  or
- ASTE 480 Spacecraft Dynamics Units: 3

  Choose two from the following:
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 430 Thermal Systems Design Units: 3

- ASTE 421x Space Mission Design Units: 3

Thermal Systems Track (9-10 units)*

- AME 312 Engineering Thermodynamics II Units: 3
  or
- PHYS 316 Thermodynamics and Statistical Mechanics Units: 4, 2 years
- AME 331 Heat Transfer Units: 3
- AME 430 Thermal Systems Design Units: 3

Note:
*Program will be 129 units if PHYS 316 is selected.

Total units: 128-129

Mechanical Engineering (BS)

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

- General education Units: 24 +

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4 *
- MATH 226 Calculus III Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4
  *The AME Department recommends that AME students enroll in the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering Core

- AME 101L Introduction to Mechanical Engineering and Graphics Units: 3
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 3
- AME 310 Engineering Thermodynamics I Units: 3
- AME 331 Heat Transfer Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Materials Science

- MASC 310 Materials Behavior and Processing Units: 3

Information Technology

- ITP 168 Introduction to MATLAB Units: 2

Tracks (Choose one)

Standard Track (24 Units)

AME Core Electives*	12
AME Capstone Elective**	3
AME Design Elective***	3
Technical Electives+	5

Free Electives Units: 1
*Any upper-division course in AME.
**Any approved Capstone Elective course (select from AME 409, AME 415, AME 423, AME 430, AME 443 or other department-approved course).
***An approved AME design course (select from AME 408, AME 430 or any special topic design course).
+ Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Computational Track (24 Units)

- AME 404 Computational Solutions to Engineering Problems Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 415 Turbine Design and Analysis Units: 3
- CSCI 455x Introduction to Programming Systems Design Units: 4
- ITP 165 Introduction to C++ Programming Units: 2
- MATH 445 Mathematics of Physics and Engineering II Units: 4
  Free Electives

Design Track (24 Units)

- AME 305 Mechanical Design Units: 3
- AME 403 Stress Analysis Units: 3
- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 409 Senior Design Project Units: 4
- AME 410 Engineering Design Theory and Methodology Units: 3
- AME 420 Engineering Vibrations I Units: 3
  Technical Electives *
  Free Electives

Note:
*Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Dynamics/Controls Track (24 Units)

- AME 303 Dynamics of Machinery Units: 3
- AME 420 Engineering Vibrations I Units: 3
- AME 423L Loudspeaker and Sound-System Design Units: 3
- AME 443 Control Systems Laboratory Units: 3
- AME 451 Linear Control Systems I Units: 3
- AME 453 Engineering Dynamics Units: 3
  Technical Electives*
  Free Electives

Note:
* Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Thermo/Fluids Track (24 Units)

- AME 312 Engineering Thermodynamics II Units: 3
- AME 415 Turbine Design and Analysis Units: 3
- AME 430 Thermal Systems Design Units: 3
- AME 436 Energy and Propulsion Units: 3
- AME 457 Engineering Fluid Dynamics Units: 3
  Technical Electives*
  Free Electives

Note:
* Technical Electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Total units: 128

Mechanical Engineering, Petroleum Engineering (BS)

The requirement for the degree with an emphasis in petroleum engineering is 128 units. A cumulative GPA of 2.0 or higher is required for all upper division course work in engineering, science and mathematics. See the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4 or
- MATH 127 Enhanced Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4 *
- MATH 226 Calculus III Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4
  * The AME Department recommends that AME students complete the 129/229 sequence.

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
  or
- PHYS 161Lg Advanced Principles of Physics I Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
  or
- PHYS 162L Advanced Principles of Physics II Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4
  or
- PHYS 163L Advanced Principles of Physics III Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4

Major Requirements

Aerospace and Mechanical Engineering

- AME 101L Introduction to Mechanical Engineering and Graphics Units: 3
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 302 Dynamic Systems Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 3
- AME 310 Engineering Thermodynamics I Units: 3
- AME 331 Heat Transfer Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Materials Science

- MASC 310 Materials Behavior and Processing Units: 3

Information Technology Program

- ITP 168 Introduction to MATLAB Units: 2

Petroleum Engineering Emphasis

- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 409 Senior Design Project Units: 4
- PTE 461 Formation Evaluation Units: 3
- PTE 463L Introduction to Transport Processes in Porous Media Units: 3
- PTE 464L Petroleum Reservoir Engineering Units: 3
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Technical Electives (4 units)

Technical electives must be upper-division engineering, MATH, PHYS or CHEM classes.

Free Electives

Free Electives Units: 1

Total units: 128

Master's Degree

Aerospace and Mechanical Engineering (Computational Fluid and Solid Mechanics) (MS)

The program prepares students for professional careers in engineering companies that develop products using computational tools of fluid and solid mechanics. The program also provides the necessary background for pursuing higher degrees, Engineer and PhD, in aerospace and mechanical engineering with specializations in computational fluid mechanics, computational solid mechanics and computational heat transfer. The degree course work provides a necessary background in basic aerospace and mechanical engineering disciplines (solid mechanics, fluid mechanics, heat transfer), engineering mathematics and numerical methods. The advanced computational technical electives provide practical examples using existing numerical programs to simulate structures, heat transfer and fluid flows as well as commercial mathematical packages for analyzing data and simulations.

Admission requirements follow the general admission rules for aerospace and mechanical engineering graduate programs. The program requires completion of a minimum of 27 units and a cumulative GPA of at least 3.0 for graduation. The program with thesis requires 28 units, four of which are thesis units.

Required Core Courses (21 Units)

- AME 404 Computational Solutions to Engineering Problems Units: 3

- AME 509 Applied Elasticity Units: 3 or
- CE 507 Mechanics of Solids I Units: 3

- AME 525 Engineering Analysis Units: 3
- AME 526 Engineering Analytical Methods Units: 3
- AME 530a Dynamics of Incompressible Fluids Units: 3

- AME 535a Introduction to Computational Fluid Mechanics Units: 3
- CE 529a Finite Element Analysis Units: 3

Computational Technical Eelective (3 Units)

Select a computational technical elective from the following list or another approved by a graduate adviser: 3 units.

- AME 415 Turbine Design and Analysis Units: 3
- AME 535b Introduction to Computational Fluid Mechanics Units: 3
- ASTE 545 Computational Techniques in Rarefied Gas Dynamics Units: 3
- CE 529b Finite Element Analysis Units: 3
- CE 551 Computer-Aided Engineering Project Units: 3
- MASC 575 Basics of Atomistic Simulation of Materials Units: 3
- MASC 576 Molecular Dynamics Simulations of Materials and Processes Units: 3
- MATH 504a Numerical Solution of Ordinary and Partial Differential Equations Units: 3
- MATH 504b Numerical Solution of Ordinary and Partial Differential Equations Units: 3

Technical Electives (3 Units)

Select a technical elective from the following list or other electives approved by a graduate adviser: 3 units.

- AME 511 Compressible Gas Dynamics Units: 3
- AME 516 Convection Processes Units: 3
- AME 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- AME 599 Special Topics Units: 2, 3, 4 , max 9
- CE 541a Dynamics of Structures Units: 3
- CE 542 Theory of Plates Units: 3

Note:

One core class requirement may be waived at the discretion of a graduate adviser if a student documents that he or she completed or is enrolled in an equivalent course. The waived class must be replaced by a technical elective. Credit for one course of not more than 4 units from another accredited institution may be approved by a graduate adviser. The Master's Thesis (4 units) may be substituted for a technical elective class (3 units).

Aerospace and Mechanical Engineering (Dynamics and Control) (MS)

The Master of Science in aerospace and mechanical engineering with emphasis in dynamics and control educates and trains multidisciplinary professionals in the modeling, analysis, simulation and control of complex time-evolutionary systems. It is a program of study that encompasses advanced analytical dynamics, nonlinear dynamical systems, linear and nonlinear dynamics and vibrations, and linear and nonlinear control. The program equips students to apply their knowledge to a variety of complex systems encountered in nature and society, especially those in civil, mechanical and aerospace engineering and applied mechanics.

Students will be given advisement in the first semester of their study. In addition to AME 525 and AME 526, students are required to take the following core courses: AME 521, AME 522, AME 524, AME 541, AME 552. Elective courses can be chosen in areas of specific interest to the student such as orbital dynamics, spacecraft control, aircraft dynamics and control, chaos and chaotic dynamics, random vibrations, computer control of mechanical systems and robotics. The program provides the graduate student with a broad, well-rounded, advanced education that can be applied to many specific, technologically advanced fields in which dynamics and control play a pivotal role.

Aerospace Engineering (MS)

In addition to the general requirements listed in this catalogue, the department has identified requirements in the following areas of specialization: aerodynamics/fluid dynamics; aerospace controls; aerospace design; aerospace structures; computational fluid dynamics; hypersonics/kinetics of gases and plasmas; propulsion; and space science. Core requirements and elective requirements are defined for each area of specialization. Information on the current approved courses that comprise these core and elective requirements is available from the department.

Aerospace Engineering/Engineering Management (MS)

The department of Aerospace and Mechanical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers programs leading to the degree of Master of Science in Aerospace Engineering/Master of Science in Engineering Management. This program is designed for graduate aerospace engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the Viterbi School of Engineering, the dual degree of Master of Science in Aerospace Engineering/Master of Science in Engineering Management is also subject to the following requirements:

1. All applicants must meet the admission requirements of both the Department of Aerospace and Mechanical Engineering and the Department of Industrial and Systems Engineering;
2. A minimum of 48 units is required;
3. A minimum of 18 units must be graduate-level course work in AME, approved by an AME graduate student adviser;
4. A minimum of 18 units must be graduate level course work in ISE, approved by the ISE Engineering Management graduate student adviser and chosen from the course list under Master of Science in Engineering Management;
5. A minimum additional 12 units of acceptable course work must be chosen with the consent of the ISE Engineering Management graduate student adviser to form a coherent program.

Mechanical Engineering (MS)

Requirements for the Master of Science in mechanical engineering are the same as set forth in the general requirements. Six of the required units must be in AME 525 and AME 526 or courses in engineering analysis approved in advance in writing by the Department of Mechanical Engineering.

The specific sequence of courses that constitutes an acceptable program must be approved in advance.

Requirements for Graduation Without Thesis, 27 units total with 3.0 GPA: AME 525 and AME 526 or approved mathematics (6); 500 level courses in major department (12); approved 400 or 500 level courses (9).

With Thesis, 27 units total with 3.0 GPA: AME 525 and AME 526 or approved mathematics (6); 500 or 600 level courses in major department (12) not including thesis; maximum AME 594a, AME 594b — thesis (4); approved 400 or 500 level units (5) (a maximum total of 8 units combining AME 590 and AME 594a, AME 594b).

Recommended Programs of Study

The program of study depends upon the student's interest and background. During the first semester at USC, students must consult with a departmental adviser about an area of concentration and draw up a plan of study, which must be approved by the adviser. Besides the common requirements, listed below are several areas in mechanical engineering with specific courses identified as core and core electives. Groups of courses in other combinations and from other departments within the university may be approved if a particular coordinated interest can be demonstrated. In some instances students whose background is not in mechanical engineering may be required to take additional course work.

Common Requirements

Engineering Analysis (6 units):

- AME 525 Engineering Analysis Units: 3
- AME 526 Engineering Analytical Methods Units: 3

Engineering electives (3–6 units):

- Approved 400-, 500- or 600-level courses

Engineering Design

Core courses (9 units):

- AME 503 Advanced Mechanical Design Units: 3
- AME 505 Engineering Information Modeling Units: 3
- AME 509 Applied Elasticity Units: 3

Core electives (6 units):

Two courses from

- AME 404 Computational Solutions to Engineering Problems Units: 3
- AME 527 Elements of Vehicle and Energy Systems Design Units: 3
- AME 541 Linear Control Systems II Units: 3
- ASTE 520 Spacecraft System Design Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- CE 529a Finite Element Analysis Units: 3
- CE 529b Finite Element Analysis Units: 3
- SAE 549 Systems Architecting Units: 3

Thermal and Fluid Sciences

Core courses (12 units):

Four courses from one of the selected areas:

Combustion:

- AME 436 Energy and Propulsion Units: 3
- AME 513 Principles of Combustion Units: 3
- AME 514 Applications of Combustion and Reacting Flows Units: 3
- AME 530a Dynamics of Incompressible Fluids Units: 3

Fluid Dynamics:

- AME 457 Engineering Fluid Dynamics Units: 3
- AME 511 Compressible Gas Dynamics Units: 3
- AME 530a Dynamics of Incompressible Fluids Units: 3
- AME 535a Introduction to Computational Fluid Mechanics Units: 3

Heat Transfer:

- AME 457 Engineering Fluid Dynamics Units: 3
- AME 515 Advanced Problems in Heat Conduction Units: 3
- AME 516 Convection Processes Units: 3
- AME 517 Radiation Heat Transfer Units: 3

Core electives (6 units):

Take two courses from the following list, not duplicating the above selection:

- AME 436 Energy and Propulsion Units: 3
- AME 457 Engineering Fluid Dynamics Units: 3
- AME 511 Compressible Gas Dynamics Units: 3
- AME 513 Principles of Combustion Units: 3
- AME 514 Applications of Combustion and Reacting Flows Units: 3
- AME 515 Advanced Problems in Heat Conduction Units: 3
- AME 516 Convection Processes Units: 3
- AME 517 Radiation Heat Transfer Units: 3
- AME 530a Dynamics of Incompressible Fluids Units: 3
- AME 533 Multi-Phase Flows Units: 3
- AME 535a Introduction to Computational Fluid Mechanics Units: 3
- AME 535b Introduction to Computational Fluid Mechanics Units: 3
- AME 537 Microfluidics Units: 3

Mechanics and Materials

Core courses (12 units):

- AME 509 Applied Elasticity Units: 3
- AME 559 Creep Units: 3
- AME 560 Fatigue and Fracture Units: 3
- AME 584 Fracture Mechanics and Mechanisms Units: 3

Core elective (3 units):

One of

- AME 542 Theory of Plates Units: 3
- AME 588 Materials Selection Units: 3
- CE 529a Finite Element Analysis Units: 3

Microelectromechanical Systems (MEMS)

Core courses (12 units):

- AME 455 Introduction to MEMS Units: 3
- AME 537 Microfluidics Units: 3
- BME 551 Introduction to Bio-MEMS and Nanotechnology Units: 3
- EE 607 Microelectromechanical Systems Units: 3

Core elective (3 units):

One of

- AME 535a Introduction to Computational Fluid Mechanics Units: 3
- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 545 Computational Techniques in Rarefied Gas Dynamics Units: 3

Dynamics and Control

Students interested in this area may follow the M.S., Aerospace and Mechanical Engineering (Dynamics and Control) described below.

Mechanical Engineering (Nuclear Power) (MS)

Note: Applications for this degree are not currently being accepted.

The program offers the degree of Master of Science in mechanical engineering with specialization in nuclear power. It is structured so that students who have all the prerequisites can complete the entire program through distance education. It is intended for students with an undergraduate degree in engineering. However, students with a physics and/or chemistry background can be accommodated with the completion of certain prerequisites.

Fundamental

- AME 525 Engineering Analysis Units: 3
- AME 526 Engineering Analytical Methods Units: 3

Core

- AME 534 Nuclear Thermal-Hydraulics Units: 3
- AME 581 Introduction to Nuclear Engineering Units: 3
- AME 582 Nuclear Reactor Physics Units: 3
- AME 583 Effects of Radiation on Health Units: 3
- CE 571 Nuclear Safety and Security: Human Performance and Safety Culture Units: 3

Electives — Choose 6 Units

- AME 457 Engineering Fluid Dynamics Units: 3
- AME 515 Advanced Problems in Heat Conduction Units: 3
- AME 516 Convection Processes Units: 3
- AME 517 Radiation Heat Transfer Units: 3
- AME 530a Dynamics of Incompressible Fluids Units: 3
- AME 530b Dynamics of Incompressible Fluids Units: 3
- AME 533 Multi-Phase Flows Units: 3
- AME 535a Introduction to Computational Fluid Mechanics Units: 3
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3
- AME 578 Modern Alternative Energy Conversion Devices Units: 3
- CHE 502 Numerical Methods for Diffusive and Convective Transport Units: 3
- EE 526 Renewable Energy in Power Systems Units: 3
- ENE 516 Hazardous Waste Management Units: 3

Total units: 27

Mechanical Engineering/Engineering Management (MS)

The department of Aerospace and Mechanical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers programs leading to the degree of Master of Science in Mechanical Engineering/Master of Science in Engineering Management. This program is designed for graduate

mechanical engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the Viterbi School of Engineering, the dual degree of Master of Science in Mechanical Engineering/Master of Science in Engineering Management is also subject to the following requirements:

1. All applicants must meet the admission requirements of both the Department of Aerospace and Mechanical Engineering and the Department of Industrial and Systems Engineering;
2. A minimum of 48 units is required;
3. A minimum of 18 units must be graduate level course work in AME, approved by an AME graduate student adviser;
4. A minimum of 18 units must be graduate level course work in ISE, approved by the ISE Engineering Management graduate student adviser and chosen from the course list under Master of Science in Engineering Management;
5. A minimum additional 12 units of acceptable course work must be chosen with the consent of the ISE Engineering Management graduate student adviser to form a coherent program.

Astronautical Engineering

Robert Glenn Rapp Engineering Research Building (RRB)
(213) 821-5817
FAX: (213) 821-5819
Email: aste@usc.edu
astronautics.usc.edu
Chair: Mike Gruntman, PhD

Faculty

Professors: Daniel A. Erwin, PhD* *(Aerospace Engineering)*; Mike Gruntman, PhD *(Aerospace Engineering, Systems Architecting and Engineering)*; Joseph A. Kunc, PhD *(Physics and Astronomy, Aerospace Engineering, Systems Architecting and Engineering)*; Azad Madni, PhD *(Systems Architecting and Engineering)*
Associate Professor: Joseph Wang, PhD
Professor of Engineering Practice: George Friedman, PhD *(Systems Architecting and Engineering)*
Adjunct Professors: Gerald Hintz, PhD; William Tobiska, PhD; James Wertz, PhD
Adjunct Associate Professors: Michael Kezirian, PhD; Ryan Park, PhD
Research Professors: David Barnhart; Herbert Schorr, PhD *(Computer Science), Vice Dean for Engineering, Executive Director Emeritus, Information Sciences Institute*
Adjunct Research Associate Professors: Sergey Gimelshein, PhD; Anita Sengupta, PhD
Adjunct Research Assistant Professor: James Humann, PhD
**Recipient of university-wide or school teaching award.*
Aerospace Engineering Honor Society: Sigma Gamma Tau

Degree Requirements

Undergraduate Program Educational Objectives

The Bachelor of Science degree program in Astronautical Engineering has the following objectives:
Within a few years of graduation, graduates will:

- Establish themselves as practicing professionals, or undertake advanced study, in astronautical engineering or a related field;
- Demonstrate their ability to perform successfully as members of a team and function effectively as responsible professionals.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Astronautical Engineering prepares graduates to have knowledge of orbital mechanics, space environment, attitude determination and control, telecommunications, space structures and rocket propulsion. The program also prepares graduates to have design competence that includes integration of astronautical topics.

Engineer in Astronautical Engineering

Requirements for the Engineer degree in Astronautical Engineering are the same as set forth in the general requirements. See the general requirements for Viterbi graduate degrees.

Credit for classes may be applied toward the MS, Engineer or PhD in Astronautical Engineering, should the student decide later to pursue an advanced degree. In order to be admitted to the MS program, the student should maintain a B average or higher in courses for the certificate and must satisfy all normal admission requirements. All courses for the certificate must be taken at USC. It is anticipated that other classes on emerging space technologies will be added to the list of the offered classes in the future.

Bachelor's Degree

Astronautical Engineering (BS)

The Bachelor of Science in Astronautical Engineering prepares students for engineering careers in the space industry, for research and development in industry and government centers and laboratories, and for graduate study. The program combines a core in the fundamentals of engineering, specialized work in astronautics and space technology, and technical electives to broaden and/or deepen the course work.

The requirement for this degree is 129 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. See also the common requirements for undergraduate degrees section.

Composition/Writing Requirements

- WRIT 130 Analytical Writing Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Total units: 8

General Education

- General education Units: 24 * +

Required Lower Division Courses

- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- ASTE 101L Introduction to Astronautics Units: 4
- ASTE 280 Foundations of Astronautical Engineering Units: 3

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4

- ENGR 102 Engineering Freshman Academy Units: 2
- ITP 168 Introduction to MATLAB Units: 2
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Upper Division Courses

- AME 301 Dynamics Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 341bL Mechoptronics Laboratory I and II Units: 3
- AME 404 Computational Solutions to Engineering Problems Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

- ASTE 301a Thermal and Statistical Systems Units: 3
- ASTE 301b Thermal and Statistical Systems Units: 3
- ASTE 330 Introduction to Spacecraft Systems and the Space Environment Units: 3
- ASTE 421x Space Mission Design Units: 3
- ASTE 470 Spacecraft Propulsion Units: 3
- ASTE 480 Spacecraft Dynamics Units: 3
  Elective-Technical elective Units: 12 **

Total units: 129

**Satisfies GE Category III requirement.*
***Technical electives consist of (1) any upper division course in engineering except* CE 404*,* CE 412 *and* ISE 440*, or (2) an upper division course in chemistry, physics or mathematics and* MATH 225*. No more than 3 units of 490 course work can be used to satisfy the technical elective requirement.*
+The university allows engineering majors to replace the GE Category IV with a second course in Categories I, II or VI.

Minor

Astronautical Engineering Minor

This program is for USC students who wish to work in the space industry and government space research and development centers and who are pursuing bachelor's degrees in science, mathematics or engineering with specializations other than in astronautical engineering.

The space industry employs a wide variety of engineers (electrical, mechanical, chemical, civil, etc.); scientists (physicists, astronomers, chemists); and mathematicians. These engineers participate in development of advanced space systems but they usually lack the understanding of basic fundamentals of astronautics and space systems. The minor in astronautical engineering will help overcome this deficiency and provide unique opportunities for USC engineering, science and mathematics students, by combining their basic education in their major field with the industry specific minor in astronautical engineering.

Required course work consists of a minimum of 18 units. Including prerequisites, the minor requires 46 units. Three courses, or 9 units, at the 400 level will be counted toward the minor degree. The course work is a balanced program of study providing the basic scientific fundamentals and engineering disciplines critically important for contributing to development of complex space systems.

Prerequisite courses:

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Required Courses

- ASTE 280 Foundations of Astronautical Engineering Units: 3
- ASTE 301a Thermal and Statistical Systems Units: 3
- ASTE 330 Introduction to Spacecraft Systems and the Space Environment Units: 3
- ASTE 421x Space Mission Design Units: 3
- ASTE 470 Spacecraft Propulsion Units: 3
- ASTE 480 Spacecraft Dynamics Units: 3

Total minimum units: 18

Master's Degree

Astronautical Engineering (MS)

This degree is in the highly dynamic and technologically advanced area of astronautics and space technology. The program is designed for those with BS degrees in science and engineering who wish to work in the space sector of the defense/aerospace industry, government research and development centers, and laboratories and academia. The program is available through the USC Distance Education Network (DEN).

The general portion of the Graduate Record Examinations (GRE) and two letters of recommendation are required.

Required courses: 27 units

Core Requirement (12 Units)

- ASTE 470 Spacecraft Propulsion Units: 3
- ASTE 520 Spacecraft System Design Units: 3
- ASTE 535 Space Environments and Spacecraft Interactions Units: 3
- ASTE 580 Orbital Mechanics I Units: 3

Core Elective Requirement (9 Units — Choose Three Courses)

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3 *
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 589 Solar System Navigation Units: 3
  Note:
  *Prerequisite required

Technical Elective Requirement (6 Units)

Two 3-unit courses. Students are advised to select these two elective courses from the list of core electives or from other courses in astronautical engineering or from other science and engineering graduate courses, as approved by the faculty adviser. No more than 3 units of directed research (ASTE 590) can be applied to the 27-unit requirement. New courses on emerging space technologies are often offered; consult the current semester's course offerings, particularly for ASTE 599 Special Topics.

Note:

At least 21 units must be at the 500 or 600 level.

Areas of Concentration:

Students choose core elective and technical elective courses that best meet their educational objectives. Students can also concentrate their studies in the desired areas by selecting corresponding core elective courses. Presently, ASTE faculty suggest the following areas of concentration:

Spacecraft Propulsion

Choose two core electives from:

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3
- ASTE 574 Space Launch Vehicle Design Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3

Spacecraft Dynamics

Choose two core electives from:

- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 589 Solar System Navigation Units: 3

Space Systems Design

Choose two core electives from:

- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 574 Space Launch Vehicle Design Units: 3

Spacecraft Systems

Choose two core electives from:

- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3

Space Applications

Choose two core electives from:

- ASTE 524 Human Spaceflight Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3

University Certificate

Astronautical Engineering Certificate

The Certificate in Astronautical Engineering is designed for practicing engineers and scientists who enter space-related fields and/or want to obtain training in specific space-related areas. Students enroll at USC as limited status students; they must apply and be admitted to the certificate program after completion of no more than 9 units of required course work. The required course work consists of 12 units; students will choose four 3-unit courses from the following:

Required Courses (Choose Four)

- ASTE 501a Physical Gas Dynamics Units: 3
- ASTE 501b Physical Gas Dynamics Units: 3
- ASTE 520 Spacecraft System Design Units: 3
- ASTE 523 Design of Low Cost Space Missions Units: 3
- ASTE 527 Space Studio Architecting Units: 3
- ASTE 529 Safety of Space Systems and Space Missions Units: 3
- ASTE 535 Space Environments and Spacecraft Interactions Units: 3
- ASTE 552 Spacecraft Thermal Control Units: 3
- ASTE 553 Systems for Remote Sensing from Space Units: 3
- ASTE 554 Spacecraft Sensors Units: 3
- ASTE 556 Spacecraft Structural Dynamics Units: 3
- ASTE 557 Spacecraft Structural Strength and Materials Units: 3
- ASTE 570 Liquid Rocket Propulsion Units: 3
- ASTE 572 Advanced Spacecraft Propulsion Units: 3 *
- ASTE 583 Space Navigation: Principles and Practice Units: 3
- ASTE 580 Orbital Mechanics I Units: 3
- ASTE 581 Orbital Mechanics II Units: 3
- ASTE 584 Spacecraft Power Systems Units: 3
- ASTE 585 Spacecraft Attitude Control Units: 3
- ASTE 586 Spacecraft Attitude Dynamics Units: 3
- ASTE 599 Special Topics Units: 2, 3, 4

Note:

Most classes are available through the USC Distance Education Network (DEN).
*Prerequisite required

Doctoral Degree

Astronautical Engineering (PhD)

The PhD in Astronautical Engineering is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees. The degree requires a concentrated program of study, research and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in the graduate course work. Further guidance concerning admission, the screening exam and the full completion of courses, including those given outside the Department of Astronautical Engineering, can be obtained from the ASTE student adviser and program coordinators.

Biomedical Engineering

Denny Research Building 140
(213) 740-7237
FAX: (323) 821-3897
Email: bmedept@usc.edu
bme.usc.edu
Chair: Ellis F. Meng, PhD

Faculty

Dwight C. and Hildagarde E. Baum Chair in Biomedical Engineering: Ellis F. Meng, PhD
Chonette Chair in Biomedical Technology: David Z. D'Argenio, PhD
Chonette Early Career Chair: Megan McCain, PhD
Gordon S. Marshall Early Career Chair: Stacey D. Finley, PhD
David Packard Chair in Engineering: Theodore W. Berger, PhD
Cornelius J. Pings Chair in Biomedical Sciences: Mark Humayun, PhD *(Opthalmology)*
Provost Professor of Biological Sciences, Biomedical Engineering, Physiology and Biophysics, Stem Cell Biology and Regenerative Medicine, Pediatrics, Radiology and Ophthalmology: Scott Fraser, PhD *(Biological Sciences)*
Dean's Professor in Biomedical Engineering: Kirk Shung, PhD
David L. Lee and Simon Ramo Chair in Health Science and Technology: Terence D. Sanger, MD, PhD
Provost Associate Professor of Biomedical Engineering, Neurology, Biokinesiology, and Physical Therapy: Terence D. Sanger, MD, PhD
WISE Jr. Gabilan Assistant Professor of Biomedical Engineering: Eun Ji Chung, PhD
Professors: David Agus, MD *(Medicine)*; Michael O. Arbib, PhD *(Computer Science, Neurobiology)*; Theodore W. Berger, PhD *(Neurobiology)*; Roberta D. Brinton, PhD *(Molecular Pharmacology and Toxicology)*; Peter S. Conti, MD, PhD *(Radiology)*; David Z. D'Argenio, PhD*; Scott Fraser, PhD *(Biological Sciences)*; Mark S. Humayun, PhD *(Ophthalmology)*; Michael C.K. Khoo, PhD *(Pediatrics)*; Kwang Jin Kim, PhD *(Medicine and Physiology)*; Peter Kuhn, PhD *(Biological Sciences, Medicine, and Aerospace & Mechanical Engineering)*; Eu Meng Law *(Radiology)*; Richard Leahy, PhD *(Electrical Engineering and Radiology)*; Jay Lieberman, PhD *(Orthopaedic Surgery)*; Charles Liu, MD, PhD *(Neurological Surgery)*; Gerald E. Loeb, MD; Anupam Madhukar, PhD *(Chemical Engineering and Materials Science, Physics)*; Vasilis Z. Marmarelis, PhD *(Electrical Engineering)*; Jill McNitt-Gray, PhD *(Biological Science)*; Ellis Meng, PhD *(Electrical Engineering)*; Janet Moradian-Oldak *(Biomedical Sciences – Dental)*; Krishna Nayak, PhD *(Electrical Engineering)*; Chrysostomos Nikias, PhD *(Electrical*

Engineering); Stefan Schaal, PhD *(Computer Science)*; K. Kirk Shung, PhD; Armand R. Tanguay Jr., PhD *(Electrical Engineering, Materials Science)*; Paul Thompson *(KSOM/Ophthalmology)*; Arthur W. Toga *(KSOM/Ophthalmology)*; Francisco Valero-Cuevas, PhD *(Biokinesiology)*; Pin Wang, PhD, *(Chemical Engineering and Materials Science)*; James D. Weiland, PhD *(Ophthalmology)*; John C. Wood, MD, PhD *(Medicine/Radiology)*; Stanley M. Yamashiro, PhD *(Electrical Engineering)*
Associate Professors: Andrea Armani, PhD *(Chemical Engineering and Materials Science)*; Robert H.-P. Chow, MD, PhD *(Physiology and Biophysics)*; Christianne N. Heck *(Clinical Neurology)*; Daniel P. Holschneider, MD *(Psychiatry)*; Hossein Jadvar, MD, PhD *(Radiology)*; Noah Malmstadt, PhD *(Chemical Engineering and Materials Science)*; Bartlett W. Mel, PhD; Nicolas Schweighofer, PhD *(Biokinesiology)*; Travis Williams *(Locker Hydrocarbon Research Institute)*; Jesse T. Yen, PhD
Assistant Professors: Michael Bonaguidi, PhD (*Stem Cell Biology and Regenerative Medicine*); Eun Ji Chung, PhD; James Finley, PhD *(Biokinesiology and Physical Therapy)*; Justin Haldar, PhD *(Electrical Engineering)*; Stacey D. Finley, PhD; Radha Kalluri, PhD *(Otolaryngology)*; Jason Kutch, PhD *(Biokinesiology)*; J. Andrew MacKay, PhD *(Pharmacology and Pharmaceutical Sciences)*; Megan McCain, PhD; Damien Rodger, MD, PhD (*Clinical Ophthalmology*); Keyue Shen, PhD; George Tolomiczenko *(Neurology)*
Professor of Engineering Practice: Jean-Michel I. Maarek, Doc.Ing.
Associate Professor of Engineering Practice: Brent Liu, PhD
Research Professors: Cynthia Bir, PhD *(Emergency Medicine)*; Jonathan G. Lasch, PhD *(AMI-USC)*; Robert V. Shannon, PhD *(Otolaryngology)*; Qifa Zhou, PhD
Research Associate Professor: Dong Song, PhD
Research Assistant Professor: Jean-Marie Bouteiller, PhD
Associate Professors of Research: Stefan Bluml, PhD *(Radiology)*; Tracy C. Grikscheit, MD *(Surgery and Children's Hospital)*; Eun Jin Lee, PhD *(Ophthalmology)*; Rex A. Moats, PhD *(Pathology, Radiology);* Tishya A.L. Wren, MD, PhD *(Orthopaedics/Pediatrics Children's Hospital and Radiology)*
Assistant Professors of Research: Bo Han, PhD *(Surgery)*; Natasha Leporé, PhD *(Radiology and Children's Hospital)*
Adjunct Professors: Sophia Chun, MD *(VA Long Beach Healthcare System)*; Norberto Grzywacz, PhD *(Georgetown University)*; Konstantina S. Nikita *(BME/KSOM)*
Adjunct Research Professor: Daniel Farkas, PhD *(Spectral Molecular Imaging/The Brain Window)*
Adjunct Assistant Professors: Alireza Dibazar, PhD *(General Electric, Global Research)*; Arkadiusz Gertych, PhD *(Cedars-Sinai Medical Center)*; Leonid Litvak, PhD *(Advanced Bionics Corp.)*; Philip Requejo, PhD *(Rancho Los Amigos Medical Center and Kinesiology)*
Emeritus Professors: George A. Bekey, PhD *(Electrical Engineering, Computer Science and Speech Science)*; H. K. Huang, DSc *(Radiology)*
**Recipient of university-wide or school teaching award.*

Degree Requirements

Undergraduate Program Educational Objectives

Graduates of the undergraduate program in Biomedical Engineering are expected to attain the following objectives within a few years after graduation:

- be engaged in a professional career in the biomedical or other related industries, or enrolled in advanced graduate studies including medical school;
- work in a technically competent manner to address challenges in engineering or their chosen profession, taking into consideration ethical and societal concerns;
- collaborate within their profession across technical disciplines;
- develop their technical knowledge and professional skills further by being active in professional societies, continuing their formal education, or attending professional workshops, meetings and seminars.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Biomedical Engineering provides both breadth and depth across the range of engineering topics implied by the title. The program prepares graduates to have an understanding of biology and physiology; and the capability to apply advanced mathematics (including differential equations and statistics), science and engineering to solve the problems at the interface of engineering and biology. The curriculum prepares graduates with the ability to make measurements on and interpret data from living systems, addressing the problems associated with the interaction between living and non-living materials and systems.

Minor in Craniofacial and Dental Technology

For a complete listing, see the Herman Ostrow School of Dentistry of USC.

Bachelor's Degree

Biomedical Engineering (BS)

The Department of Biomedical Engineering offers a Bachelor of Science degree in Biomedical Engineering. Additionally, there are three possible areas of emphasis within this biomedical engineering program major. These are biochemical engineering, electrical engineering, and mechanical engineering. An area of emphasis appears in a special field on the transcript. The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken.
See common requirements for undergraduate degrees.
Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 129 Calculus II for Engineers and Scientists Units: 4 or
- MATH 126 Calculus II Units: 4
- MATH 229 Calculus III for Engineers and Scientists Units: 4 or
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 302L Medical Electronics Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- BME 403L Physiological Systems Units: 4

- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 410 Introduction to Biomaterials and Tissue Engineering Units: 3
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- BME 425 Basics of Biomedical Imaging Units: 3

One Course from the following:

- BME 404 Biomechanics Units: 3
- BME 430 Principles and Applications of Systems Biology Units: 3
- BME 451 Fundamentals of Biomedical Microdevices Units: 3
- BME 452 Introduction to Biomimetic Neural Engineering Units: 3

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320L Molecular Biology Units: 4

Chemistry

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4

Electrical Engineering

- EE 202L Linear Circuits Units: 4

Major Electives

- Technical electives Units: 8

Total units: 128

Biomedical Engineering, Biochemical Engineering Emphasis, (BS)

The requirement for the degree with an emphasis in biochemical engineering is 132 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See General Education and additional common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biomedical Engineering

- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- BME 403L Physiological Systems Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 410 Introduction to Biomaterials and Tissue Engineering Units: 3
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 416 Development and Regulation of Medical Products Units: 3
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- BME 430 Principles and Applications of Systems Biology Units: 3

Biology

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Chemistry

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4

Chemical Engineering

- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 489 Biochemical Engineering Units: 3

Electrical Engineering

- EE 202L Linear Circuits Units: 4

Materials Science

- MASC 310 Materials Behavior and Processing Units: 3

Total units: 132

Biomedical Engineering, Electrical Engineering Emphasis, (BS)

The requirement for the degree with an emphasis in electrical engineering is 133 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied towards the major, regardless of the department in which the courses are taken. See common requirements for undergraduate degrees.

Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General education Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Elective
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Biomedical Engineering
- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- BME 403L Physiological Systems Units: 4
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 416 Development and Regulation of Medical Products Units: 3
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- BME 425 Basics of Biomedical Imaging Units: 3

Biology
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320L Molecular Biology Units: 4

Chemistry
- CHEM 322aL Organic Chemistry Units: 4

Electrical Engineering
- EE 109L Introduction to Embedded Systems Units: 4
- EE 202L Linear Circuits Units: 4
- EE 209 Foundations of Digital System Design Units: 4

Complete one track from the following lists:

Analog Track
- EE 338 Physical Electronics Units: 4
- EE 348L Electronic Circuits Units: 4

Technical Electives - 4 units

Digital Track
- EE 354L Introduction to Digital Circuits Units: 4
- EE 454L Introduction to System-on-Chip Units: 4

Technical Electives - 4 units

Total units: 133

Biomedical Engineering, Mechanical Engineering Emphasis, (BS)

The requirement for the degree with an emphasis in mechanical engineering is 132 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See common requirements for undergraduate degrees.

Technical electives are to be selected from an approved list available in the department office.

Composition/Writing Requirement
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education
- General education Units: 20

Pre-Major Requirements

Math Requirement
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirements
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemistry Elective
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Major Requirements

Aerospace and Mechanical Engineering
- AME 201 Statics Units: 3
- AME 204 Strength of Materials Units: 3
- AME 301 Dynamics Units: 3
- AME 308 Computer-Aided Analyses for Aero-Mechanical Design Units: 3
- AME 309 Dynamics of Fluids Units: 3

Biomedical Engineering
- BME 101 Introduction to Biomedical Engineering Units: 4
- BME 210 Biomedical Computer Simulation Methods Units: 4
- BME 402 Control and Communication in the Nervous System Units: 4
- BME 403L Physiological Systems Units: 4
- BME 404 Biomechanics Units: 3
- BME 405L Senior Projects: Measurements and Instrumentation Units: 4
- BME 413 Bioengineering Signals and Systems Units: 4
- BME 416 Development and Regulation of Medical Products Units: 3
- BME 423 Statistical Methods in Biomedical Engineering Units: 4

Biology
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 320L Molecular Biology Units: 4

Chemistry
- CHEM 322aL Organic Chemistry Units: 4

Electric Engineering
- EE 202L Linear Circuits Units: 4

Materials Science
- MASC 310 Materials Behavior and Processing Units: 3

Major Electives
- Technical electives Units: 5

Total units: 132

Master's Degree

Biomedical Engineering (Medical Imaging and Imaging Informatics) (MS)

Completion of the Master of Science in Biomedical Engineering (Medical Imaging and Imaging Informatics) requires that at least 28 approved units must be satisfactorily completed of which at least 19 units must be at the 500 level or above.

Required Courses
- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 513 Signal and Systems Analysis Units: 3
- BME 525 Advanced Biomedical Imaging Units: 3
- BME 527 Integration of Medical Imaging Systems Units: 3
- BME 528 Medical Diagnostics, Therapeutics and Informatics Applications Units: 3
- BME 535 Ultrasonic Imaging Units: 3
- EE 569 Introduction to Digital Image Processing Units: 4

- Electives Technical Units: 6

Total units: 28

Biomedical Engineering (MS)

The Master of Science in Biomedical Engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. At least 28 approved units must be satisfactorily completed, of which at least 19 units must be at the 500 level or above. Four of these units may be thesis BME 594a, BME 594b, BME 594z.

The master's degree program provides students with a broad background, linking physiology with engineering science, necessary for entering interdisciplinary careers in medical technology or pursuing further graduate studies in a related field.

Required Courses

- BME 501 Advanced Topics in Biomedical Systems Units: 4
- BME 502 Advanced Studies of the Nervous System Units: 4
- BME 511 Physiological Control Systems Units: 3
- BME 513 Signal and Systems Analysis Units: 3 *
- BME 533 Seminar in Bioengineering Units: 1

- BME 594a Master's Thesis Units: 2 and
- BME 594b Master's Thesis Units: 2 and
- BME 594z Master's Thesis Units: 0 or
- Technical Elective Units: 4

- Electives Technical Units: 9

Total units: 28

**Students who have taken an advanced undergraduate or master's level course in system and signal analysis may substitute* BME 523 *for* BME 513 *with departmental approval.*

Medical Device and Diagnostic Engineering (MS)

This program is designed to provide the knowledge and skills needed for the development of medical devices and diagnostic techniques, including aspects of medical product regulation and product development. The course of study requires successful completion of 28 units of course work and has been designed to be completed in three semesters of full-time study. Students in the program will complete a 19-unit core as well as selecting a 6-unit specialization (or "track") and one elective from a list provided by the department.

Required Courses

- BME 501 Advanced Topics in Biomedical Systems Units: 4 or
- BME 502 Advanced Studies of the Nervous System Units: 4

- BME 513 Signal and Systems Analysis Units: 3
- BME 650 Biomedical Measurement and Instrumentation Units: 3

- MPTX 511 Introduction to Medical Product Regulation Units: 3 or
- BME 416 Development and Regulation of Medical Products Units: 3

- MPTX 515 Quality Systems and Standards Units: 3 or
- ISE 527 Quality Management for Engineers Units: 3

- ISE 545 Technology Development and Implementation Units: 3
- Technical elective Units: 3

Complete 6 units from one track from the following lists:

Regulation Track

- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- RSCI 527 Medical Product Safety Units: 3

Medical Technology and Device Science Track

- BME 535 Ultrasonic Imaging Units: 3
- BME 551 Introduction to Bio-MEMS and Nanotechnology Units: 3
- BME 552 Neural Implant Engineering Units: 3
- BME 620L Applied Electrophysiology Units: 4

Product Development Track

- ISE 515 Engineering Project Management Units: 3
- ISE 555 Invention and Technology Development Units: 3

Total units: 28

Technical Elective (one course)

Applicable courses include: AME 503, BME 511, BME 535, BME 551, ISE 507, ISE 508, ISE 544, MPTX 517 and courses listed in alternate tracks to that chosen. Other courses may be applicable; please see an adviser for approval.

University Certificate

Health, Technology and Engineering Graduate Certificate

Academic Director: Terry Sanger, MD, PhD, *Provost Associate Professor of Biomedical Engineering, Neurology, Biokinesiology, and Physical Therapy*
Administrative Director: George Tolomiczenko, PhD, *Assistant Professor, Neurology*

This program offers current second-year USC PhD engineering students and first-year MD students an opportunity to learn about and gain experience in medical device and process innovation. Through project-based and interdisciplinary collaboration, students will augment their current programs with a set of courses and lab experiences linking medical and engineering research groups. By applying design-informed approaches toward problem identification and solution prototyping, students will be involved in all the steps of medical device or process innovation from conception to commercialization. The program aims to create interdisciplinary, boundary-spanning, inventive entrepreneurs seeking early practical experience with device and method innovation in health care. Program participants will form bonds with a group of like-minded medical students and engineers who will be their mentors, colleagues and contacts as they advance in their careers.

The courses unique to the program include a seminar sequence (Topics in Health, Technology and Engineering), which must be taken during the first two years of involvement with the HTE@USC program, a case studies sequence taken during the second year and a research course to earn project-related credits:

Courses

- BME 566a Topics in Health, Technology and Engineering Units: 2
- BME 566b Topics in Health, Technology and Engineering Units: 2
- BME 566c Topics in Health, Technology and Engineering Units: 2
- BME 566d Topics in Health, Technology and Engineering Units: 2
- BME 567a Case Studies in Health, Technology and Engineering Units: 1
- BME 567b Case Studies in Health, Technology and Engineering Units: 1
- 790 Research (in the student's major department) Units: 2-8

Other required courses that are part of the MD curriculum

(PhD students enroll in INTD course versions of the same courses open only to HTE students on CR/NC basis):

- INTD 621a Introduction to Clinical Medicine (ICM) for THE Units: 3
- INTD 621b Introduction to Clinical Medicine (ICM) for THE Units: 3

- INTD 622L Pre-clinical System Block for Health, Technology and Engineering Units: 3, 4, 5, 6, 7, 8, 9 (3-5 Units Required)

Note:

Candidates interested in applying should contact HTE@USC via email at hte@usc.edu.

Doctoral Degree

Biomedical Engineering (PhD)

The objective of the Doctor of Philosophy is to produce independent investigators who can make original scholarly contributions and apply advanced engineering concepts and techniques to the understanding and solution of biomedical problems. This program is intended to prepare the student for a career in academic research and teaching, or as an independent investigator in industrial or government laboratories.

The requirements listed are special to this department and must be read in conjunction with the general requirements of the Graduate School.

This program is designed to be normally completed in four years of full-time work beyond the Bachelor of Science degree (including summers). The first two years are devoted primarily to formal course work and the last two to research. In view of the flexible program, each student is assigned an adviser who will guide him or her in the selection of courses. By the end of the third semester of graduate study the student must have completed the PhD screening examination. Subsequently, he or she is required to make a tentative major field selection (e.g., biomedical imaging, signal processing, neural engineering) and pass a qualifying examination. In accordance with the requirements of the Graduate School, at least 60 units of credit beyond the Bachelor of Science degree are required, with a minimum grade point average of 3.0. Students are required to take BME 533, the graduate biomedical engineering seminar course, for three semesters during their studies.

Requirements for Admission

Bachelor of Science degree in engineering or a natural science, and satisfactory scores on the Graduate Record Examinations. Undergraduate work should include a basic course in biology, physics, organic chemistry, biochemistry, differential equations and digital computation. Students lacking any of these will be required to make up the deficiency during the first two years of graduate work.

Students who have completed all requirements for the Master of Science degree offered in this department may apply for admission to the PhD program. In this case, all courses taken in the MS program may be applied toward the requirements of the doctoral degree.

Screening Examination Process

By the end of the third semester of graduate study, all students must have completed the screening examination process to determine whether or not they will be allowed to continue in the Doctor of Philosophy program. Those who fail will be dropped from the program, although they may be permitted to complete the additional requirements necessary to obtain the Master of Science degree.

Qualifying Exam Committee

During the third semester, the student must make a tentative major field selection as described above and form a qualifying exam committee. The latter administers the qualifying examination.

Qualifying Examination

The qualifying examination will normally be taken during the fourth semester of full-time academic study. The examination requires the preparation of a comprehensive written research proposal that presents a research question, critically reviews the pertinent literature and outlines the proposed experimental, analytical and computational procedures required to answer the question. The proposal must be defended in an oral examination.

Chemical Engineering – Mork Family Department of Chemical Engineering and Materials Science

HEDCO Building 216
(213) 740-2225
FAX: (213) 740-8053
Email: chemsche@vsoe.usc.edu
chems.usc.edu

Chair: Richard Roberts, PhD
Associate Chair, Undergraduate Programs: C. Ted Lee, Jr., PhD
Director: Pin Wang, PhD

Faculty

Zohrab A. Kaprielian Dean's Chair in Engineering and Chester F. Dolley Chair in Petroleum Engineering: Yannis C. Yortsos, PhD
Jack Munushian Early Career Chair: Malancha Gupta, PhD
N.I.O.C. Chair in Petroleum Engineering: Muhammad Sahimi, PhD
Robert E. Vivian Chair in Energy Resources: Theodore T. Tsotsis, PhD
Fluor Professor in Process Engineering: S. Joe Qin, PhD *(Electrical Engineering and Industrial and Systems Engineering)*
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD
Judge Widney Professor of Chemical Engineering and Chemistry: Ray R. Irani; PhD *(Chemistry)*
Zohrab A. Kaprielian Fellow in Engineering: Pin Wang, PhD
Professors: S. Joe Qin, PhD *(Electrical Engineering and Industrial and Systems Engineering);* Richard Roberts, PhD *(Chemistry)*; Muhammad Sahimi, PhD*; Theodore Tsotsis, PhD; Pin Wang, PhD
Associate Professors: Malancha Gupta, PhD; C. Ted Lee Jr., PhD*; Noah Malmstadt, PhD; Katherine S. Shing, PhD*
Assistant Professors: Nicholas Graham, PhD; Shaama Sharada, PhD; Jongseung Yoon, PhD
Associate Professor of Practice: Robert Young, PhD
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; P. Daniel Dapkus, PhD *(Electrical Engineering)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical Engineering)*; Aiichiro Nakano, PhD *(Computer Science, Physics, Biomedical Engineering)*; Grace Lu, PhD *(Physics and Electrical Engineering)*; George Olah, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Raymond Stevens, PhD *(Biological Sciences and Chemistry)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical Engineering)*
Emeritus Professors: Elmer L. Dougherty, PhD; Murray Gershenzon, PhD *(Electrical Engineering)*; Ronald Salovey, PhD*; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
**Recipient of university-wide or school teaching award.*
Chemical Engineering Honor Society: Omega Chi Epsilon

Degree Requirements

Undergraduate Program Educational Objectives

Chemical engineering is the only engineering discipline that makes extensive use of chemical transformations (reactions) in addition to physical transformations (refining, molding or machining) to achieve added value. Chemical engineers are employed in virtually all manufacturing industries, from the basic chemical, biochemical, materials, energy, food, pharmaceutical and microelectronics industries to the myriad consumer product industries. Our various curricula are designed to produce graduates who are broadly educated as well as highly adaptable.

Graduates of the undergraduate program in Chemical Engineering are expected to attain the following objectives within a few years

after graduation:

- Apply their technical skills to model, analyze and design complex processes where physical, chemical or biochemical transformations are utilized to produce products and services that benefit society in an economically, environmentally and globally conscious manner.
- Be able to quickly respond to increasingly-rapid technological changes through continuous personal and professional development, and to pursue graduate or professional education in a variety of fields.
- Thrive in multidisciplinary and multicultural setting, and to assume leadership roles in their employment, organization or community.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Chemical Engineering provides a thorough grounding in the basic sciences including chemistry, physics and/or biology, with some content at an advanced level, as appropriate to the objectives of the program. The curriculum includes the engineering application of these basic sciences to the design, analysis and control of chemical, physical and/or biological processes, including the hazards associated with these processes.

Engineer in Chemical Engineering

Requirements for the Engineer in chemical engineering are the same as set forth in the general requirements. See general requirements for graduate degrees. Only available to graduate students currently enrolled.

Chemical Engineering Three-Two Plan

A special curriculum is available for obtaining a Bachelor of Science degree in chemical engineering and a Bachelor of Science or Bachelor of Arts degree in a letters, arts and sciences major in five years. For further information see departmental advisers.

Similar programs are available in cooperation with certain liberal arts colleges. Such programs are particularly suited for obtaining a Bachelor of Science in Chemistry at the liberal arts college and a Bachelor of Science in Chemical Engineering at USC.

Bachelor's Degree

Chemical Engineering (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(*chems.usc.edu*)*.

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Bachelor of Science in Chemical Engineering

The requirement for the degree in the absence of an area of emphasis is 133 units. A cumulative grade point average of C (2.0) is required in all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemistry Technical Elective

- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

Chemical Engineering Courses

- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3
- CHE 476 Chemical Engineering Materials Units: 3

CHE Technical Elective

- An upper division CHE course Units: 3

Additional Electives (8–9 Units)

Suggested Courses

- CE 205 Statics Units: 2
- EE 438L Processing for Microelectronics Units: 3

- ISE 460 Engineering Economy Units: 3 or
- BUAD 301 Technology Entrepreneurship Units: 3

Chemical Engineering, Biochemical Engineering Emphasis, (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page (chems.usc.edu).

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Biochemical Engineering

The requirement for the degree with an emphasis in biochemical engineering is 133 units.* A scholarship average of C (2.0) or higher is required for all upper division courses taken in chemical engineering, biomedical engineering and biological sciences. In addition to the previously listed common requirements, students must also take the following courses:

Biological Sciences Courses

- BISC 300L Introduction to Microbiology Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Bio-Electives

- BISC 403 Advanced Molecular Biology Units: 4 or
- Approved bio-engineering elective Units: 3-4 **

- BME 410 Introduction to Biomaterials and Tissue Engineering Units: 3
- CHE 489 Biochemical Engineering Units: 3

Engineering Elective

- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3 or
- ISE 460 Engineering Economy Units: 3

Note:

**Students in the biochemical engineering option must take a minimum of 48 engineering units total to graduate.*
***Student may combine a 3-unit approved bio-engineering elective with 1 unit of free elective.*

Chemical Engineering, Environmental Engineering Emphasis, (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page (chems.usc.edu).

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Environmental Engineering

The requirement for the degree with an emphasis in environmental engineering is 136 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemical Engineering Courses

- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3
- CHE 476 Chemical Engineering Materials Units: 3
- CHE 486 Design of Environmentally Benign Process Plants Units: 3

Other Courses

- CE 453 Water Quality Science and Engineering Units: 3
- CE 463L Water Chemistry and Analysis Units: 3

- ISE 460 Engineering Economy Units: 3 or
- BUAD 301 Technology Entrepreneurship Units: 3

- PTE 463L Introduction to Transport Processes in Porous Media Units: 3

Air Pollution Elective

- ENE 428 Air Pollution Fundamentals Units: 3 or
- ENE 429 Air Pollution Control Units: 3

Chemical Engineering, Nanotechnology Emphasis, (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(*chems.usc.edu*)*.

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Nanotechnology

The requirement for the degree with an emphasis in nanotechnology is 132 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemistry
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Chemical Engineering and Materials Science (10 Units)
- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 3

- CHE 391L Introduction to Nanotechnology Research Units: 2 and
- CHE 491 Nanotechnology Research for Undergraduates Units: 2 or approved upper division undergraduate electives Units: 4

- MASC 350L Nanostructured Materials: Design, Synthesis, and Processing Units: 3

Nanotechnology Electives
- EE 438L Processing for Microelectronics Units: 3 or
- CHE 489 Biochemical Engineering Units: 3 or
- PTE 463L Introduction to Transport Processes in Porous Media Units: 3

Other Electives
- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3 or
- ISE 460 Engineering Economy Units: 3 or
- BUAD 301 Technology Entrepreneurship Units: 3

Chemical Engineering, Petroleum Engineering Emphasis, (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page *(*chems.usc.edu*)*.

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education
- General Education Units: 24

Chemistry Courses
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses
- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses
- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Petroleum Engineering

The requirement for the degree with an emphasis in petroleum engineering is 137 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemistry Course
Chemistry Technical Elective
- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

Chemical Engineering Courses
- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3
- CHE 476 Chemical Engineering Materials Units: 3

Petroleum Engineering Courses
- PTE 461 Formation Evaluation Units: 3
- PTE 463L Introduction to Transport Processes in Porous Media Units: 3
- PTE 464L Petroleum Reservoir Engineering Units: 3
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Other Course
- ISE 460 Engineering Economy Units: 3 or
- BUAD 301 Technology Entrepreneurship Units: 3

Chemical Engineering, Polymer/Materials Science Emphasis, (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page (chems.usc.edu).

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Polymer/Materials Science

The requirement for the degree with an emphasis in polymer/materials science is 137 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemistry Courses

- CHEM 322bL Organic Chemistry Units: 4 or
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4

Other Chemical Engineering/Materials Science Courses

- CHE 472 Polymer Science and Engineering Units: 3

- CHE 476 Chemical Engineering Materials Units: 3 or
- MASC 310 Materials Behavior and Processing Units: 3

- MASC 350L Nanostructured Materials: Design, Synthesis, and Processing Units: 3

Polymer/Materials Electives (Choose Three Courses)

- BME 410 Introduction to Biomaterials and Tissue Engineering Units: 3
- CHE 474L Polymer Science and Engineering Laboratory Units: 3
- CHE 475 Physical Properties of Polymers Units: 3
- CHE 477 Computer Assisted Polymer Engineering and Manufacturing I Units: 3
- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 3
- EE 438L Processing for Microelectronics Units: 3
- MASC 440 Materials and the Environment Units: 3

Other Course

- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3 or
- ISE 460 Engineering Economy Units: 3 or
- BUAD 301 Technology Entrepreneurship Units: 3

Chemical Engineering, Sustainable Energy Emphasis (BS)

Bachelor of Science in Chemical Engineering Degree

The Mork Family Department of Chemical Engineering offers a Bachelor of Science degree in Chemical Engineering. Additionally, there are six possible areas of emphasis within this chemical engineering program major. These are: biochemical engineering (133 units); environmental engineering (136 units); nanotechnology (132 units); petroleum engineering (137 units); polymer/materials science (137 units); and sustainable energy (128 units). An area of emphasis appears in parentheses after the primary major name on the transcript.

Sample student schedules are located on the department Web page (chems.usc.edu).

Common Requirements for the BS Degree and All Areas of Emphasis (112 units)

See also common requirements for undergraduate degrees.

Composition/Writing Courses

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Chemistry Courses

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 300L Analytical Chemistry Units: 4
- CHEM 322aL Organic Chemistry Units: 4
- CHEM 430 Physical Chemistry: Thermodynamics and Kinetics Units: 4

Math Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or

- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Courses

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Chemical Engineering Courses

- CHE 120 Introduction to Chemical Engineering Units: 3
- CHE 205 Numerical Methods in Chemical Engineering Units: 3
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- CHE 350 Introduction to Separation Processes Units: 3
- CHE 442 Chemical Reactor Analysis Units: 3
- CHE 443 Viscous Flow Units: 3
- CHE 444aL Chemical Engineering Laboratory Units: 3
- CHE 444bL Chemical Engineering Laboratory Units: 3
- CHE 445 Heat Transfer in Chemical Engineering Processes Units: 2
- CHE 446 Mass Transfer in Chemical Engineering Processes Units: 2
- CHE 460L Chemical Process Dynamics and Control Units: 3
- CHE 480 Chemical Process and Plant Design Units: 3
- CHE 485 Computer-Aided Chemical Process Design Units: 3

Additional Requirements for Individual Degrees

Emphasis in Sustainable Energy

The requirement for the degree with an emphasis in sustainable energy is 128 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition to the previously listed common requirements, students must also take the following courses:

Chemistry

Choose one:

- CHEM 322bL Organic Chemistry Units: 4
  or
- CHEM 431 Physical Chemistry: Quantum Mechanics Units: 4
  or
- CHEM 453 Advanced Inorganic Chemistry Units: 4

Sustainable Energy

- CHE 450 Sustainable Energy Units: 3

Chemical Engineering and Materials Science

Choose one:

- CHE 476 Chemical Engineering Materials Units: 3
  or
- MASC 350L Nanostructured Materials: Design, Synthesis, and Processing Units: 3

Sustainable Energy Electives

Choose 1 class from the following:

Biofuels

Choose one:

- CHE 301g Introduction to Engineering Biology Units: 4 *

  or
- CHE 488 Molecular and Cellular Bioengineering Units: 3
  or
- CHE 489 Biochemical Engineering Units: 3

Geothermal

- PTE 463L Introduction to Transport Processes in Porous Media Units: 3

Solar

Choose one:

- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 3
  or
- EE 513 Solid State Energy Devices Units: 3

Hydrocarbons

Choose one:

- CHE 486 Design of Environmentally Benign Process Plants Units: 3
  or
- PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations Units: 3

Note:

**Satisfies GE-D Life Science requirement*

Other Electives

Choose one:

- CHE 405 Applications of Probability and Statistics for Chemical Engineers Units: 3
  or
- ISE 460 Engineering Economy Units: 3
  or
- BUAD 301 Technology Entrepreneurship Units: 3 *

Note:

*Must have 49 engineering units to be able to take BUAD 301.

Minor

Nanotechnology Minor

A minor in nanotechnology consisting of 17 required units is available to undergraduate majors in various fields. Nanotechnology involves the study of matter at length scales that are intermediate between the molecular and the bulk. In this minor, students will (1) learn in detail the properties of material structures on the nanometer scale, (2) examine a range of nanoscale materials, including metallic, ceramic, and polymeric particles as well as proteins, and (3) be exposed to a variety of specialized probes capable of visualizing matter on these length scales.

Prerequisite Courses

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- CHEM 105aLg General Chemistry Units: 4
  or
- CHEM 115aLg Advanced General Chemistry Units: 4
- CHEM 105bL General Chemistry Units: 4
  or
- CHEM 115bL Advanced General Chemistry Units: 4

Required Courses

Students can select either CHEM 322a or CHEM 325a. Both courses are not required.

- CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes Units: 3
- CHEM 322aL Organic Chemistry Units: 4
  or
- CHEM 325aL Organic Chemistry Units: 4

- CHEM 455 Chemical Nanotechnology Units: 4
- EE 337L Engineering Nano-Systems Units: 3
- MASC 350L Nanostructured Materials: Design, Synthesis, and Processing Units: 3

Minimum Units: 17

Master's Degree

Chemical Engineering (MS)

The Master of Science in chemical engineering is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering with the exception that the minimum unit requirement is 28. Registration in either CHE 550a, CHE 550b or CHE 590 is required.

Doctoral Degree

Chemical Engineering (PhD)

The Doctor of Philosophy (PhD) degree in chemical engineering is awarded in conformity with the general requirements of the Graduate School. See general requirements for graduate degrees.

Departmental Policies and Requirements

In addition to the general requirements for the PhD described in this catalogue, candidates in chemical engineering are required to demonstrate proficiency in the following fields: thermodynamics, fluid flow, heat and mass transfer and chemical engineering kinetics. Registration in CHE 550a, CHE 550b is required of all students. More detailed statements of the departmental requirements may be found in a brochure available upon request from the Mork Family Department of Chemical Engineering and Materials Science office.

Materials Science – Mork Family Department of Chemical Engineering and Materials Science

Vivian Hall of Engineering 604
(213) 740-4339
Email: chemsmas@vsoe.usc.edu
chems.usc.edu
Chair: Richard Roberts, PhD
Director: Andrea Hodge, PhD

Faculty

Choong Hoon Cho Chair in Aerospace and Mechanical Engineering: Michael E. Kassner, PhD *(Aerospace and Mechanical Engineering)*
Dean's Chair in Chemical Engineering and Materials Science: Priya Vashishta, PhD *(Computer Science, Physics)*
Fluor Early Career Chair in Engineering: Andrea M. Armani, PhD *(Chemistry, Electrical Engineering)*
M.C. Gill Chair in Composite Materials: Steven R. Nutt, PhD *(Aerospace and Mechanical Engineering)*
Arthur B. Freeman Professorship in Engineering: Andrea Hodge, PhD *(*Aerospace and Mechanical Engineering*)*
Kenneth T. Norris Professor of Engineering: Anupam Madhukar, PhD *(Physics, Biomedical Engineering)*
Professors: P. Daniel Dapkus, PhD *(Electrical Engineering)*; Andrea Hodge, PhD *(Aerospace and Mechanical Engineering)*; Rajiv K. Kalia, PhD *(Physics, Computer Science)*; Michael E. Kassner, PhD *(Aerospace and Mechanical Engineering)*; Anupam Madhukar, PhD *(Physics)*; Steven R. Nutt, PhD *(Aerospace and Mechanical Engineering)*; Priya Vashishta, PhD *(Physics, Computer Science)*
Associate Professors: Andrea Armani, PhD *(Electrical Engineering, Chemistry, Biomedical Engineering)*; Edward Goo, PhD
Assistant Professors: Paulo Branicio, PhD; Jayakanth Ravichandran, PhD; Jongseung Yoon, PhD
Lecturer: Lessa Grunenfelder, PhD
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; P. Daniel Dapkus, PhD *(Electrical Engineering)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical Engineering)*; Aiichiro Nakano, PhD *(Computer Science, Physics, Biomedical Engineering)*; Grace Lu, PhD *(Physics and Electrical Engineering)*; George Olah, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Raymond Stevens, PhD *(Biological Sciences and Chemistry)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical Engineering)*
Emeritus Professors: Elmer L. Dougherty, PhD; Murray Gershenzon, PhD *(Electrical Engineering)*; Ronald Salovey, PhD*; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
**Recipient of university-wide or school teaching award.*

Engineer in Materials Science

Requirements for the Engineer in materials science degree are the same as set forth in the general requirements for graduate degrees.

Master of Science in Materials Engineering

Students with an interest in the characterization, selection and processing of engineering materials, and in materials problems related to engineering design may work toward a Master of Science in materials engineering. This degree is awarded in conformity with the general requirements of the Viterbi School of Engineering. Students may elect to work for this degree in either the Materials Science or Aerospace and Mechanical Engineering departments. The specific courses that constitute an acceptable program must be approved in advance by the administering department.

Master's Degree

Materials Science (MS)

In addition to the general requirements for the Master of Science degree, add the following required courses: CHE 501, EE 471, MASC 501, MASC 503, MASC 504, MASC 505 and MASC 551. The six remaining units for the degree may be electives chosen with departmental approval.

Doctoral Degree

Materials Science (PhD)

The Doctor of Philosophy with a major in materials science is awarded in strict conformity with the general requirements of the USC Graduate School. It includes the course requirements for the Master of Science degree, which are required courses CHE 501, EE 471, MASC 501, MASC 503, MASC 504, MASC 505 and MASC 551. See general requirements for graduate degrees.

Petroleum Engineering – Mork Family Department of Chemical Engineering and Materials Science

Hedco Building 316
(213) 740-0322
FAX: (213) 740-0324
Email: chemspte@vsoe.usc.edu
chems.usc.edu
Chair: Richard Roberts, PhD
Director: Iraj Ershaghi, PhD, PE

Faculty

Zohrab A. Kaprielian Dean's Chair in Engineering and Chester F. Dolley Chair in Petroleum Engineering: Yannis C. Yortsos, PhD
Omar B. Milligan Chair in Petroleum Engineering: Iraj Ershaghi, PhD, PE
William M. Keck Professor of Energy Resources: Donald M. Paul, PhD
Associate Professors: Behnam Jafarpour, PhD; Kristian Jessen, PhD
Assistant Professor: Birendra Jha, PhD
Research Professor: Fred Aminzadeh, PhD
Associate Professor of Practice: Jincai Chang, PhD
Adjunct Research Professor: Dongxiao Zhang, PhD
Adjunct Professor: Faruk Civan, PhD
Adjunct Associate Professors: Robert Ehrlich, PhD; Donald G. Hill, PhD; Davood Khairkhah, Ph.D.; Victor M. Ziegler, PhD
Adjunct Assistant Professors: Andrei Popa, PhD
Lecturers: Robello Samuel, PhD; George Chilingar, PhD; Donald Gautier, PhD; Martin Karrenbach, PhD; Bradford Pierce, MS; Ke-Thia Yao, PhD
Joint Appointments: Edward Crandall, PhD, MD *(Medicine)*; P. Daniel Dapkus, PhD *(Electrical Engineering)*; Stacey Finley, PhD *(Biomedical Engineering)*; Martin Gundersen, PhD *(Electrical Engineering)*; Aiichiro Nakano, PhD *(Computer Science, Physics, Biomedical Engineering)*; Grace Lu, PhD *(Physics and Electrical Engineering)*; George Olah, PhD *(Chemistry)*; Charles G. Sammis, PhD *(Geological Sciences)*; Raymond Stevens, PhD *(Biological Sciences and Chemistry)*; Armand R. Tanguay Jr., PhD *(Electrical and Biomedical Engineering)*; Mark E. Thompson, PhD *(Chemistry)*; Arieh Warshel, PhD *(Chemistry)*; Chongwu Zhou, PhD *(Electrical Engineering)*
Emeritus Professors: Elmer L. Dougherty, PhD; Murray Gershenzon, PhD *(Electrical Engineering)*; Ronald Salovey, PhD*; Peter Will, PhD *(Astronautical Engineering, Industrial and Systems Engineering)*
Petroleum Engineering Honor Society: Pi Epsilon Tau

Degree Requirements

Bachelor of Science in Chemical Engineering

Emphasis in Petroleum Engineering

See the listing under Chemical Engineering.

Bachelor of Science in Mechanical Engineering

Emphasis in Petroleum Engineering

See the listing under Aerospace and Mechanical Engineering.

Engineer in Petroleum Engineering

Requirements for the Engineer degree in petroleum engineering are the same as set forth in the general requirements. See general requirements for graduate degrees.

Minor

Petroleum Engineering Minor

A minor in petroleum engineering consisting of 16 required units is available to undergraduate majors in various fields of engineering and applied science. Besides preparing for graduate study in petroleum engineering, the program will prepare students for careers in areas of national need such as the exploration, recovery and production of subterranean resources, and the underground disposal of hazardous wastes.

Prerequisite courses:

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- MATH 245 Mathematics of Physics and Engineering I Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- CHEM 105aLg General Chemistry Units: 4

Required Courses

- PTE 461 Formation Evaluation Units: 3
- PTE 462 Economic, Risk and Formation Productivity Analysis Units: 4
- PTE 463L Introduction to Transport Processes in Porous Media Units: 3
- PTE 464L Petroleum Reservoir Engineering Units: 3
- PTE 465L Drilling Technology and Subsurface Methods Units: 3

Total units: 16

Master's Degree

Petroleum Engineering (Geoscience Technologies) (MS)

The Master of Science in Petroleum Engineering (Geoscience Technologies) is a unique degree that emphasizes recent developments in the field of unconventional oil and gas resources and modern techniques for mapping and monitoring of subterranean resources. The program may be completed via the USC Viterbi School's Distance Education Network (DEN). All courses for the degree must be taken at USC.

Students without a BS in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the MS program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be applied toward the degree.

A minimum of 34 units is required to earn the MS in Petroleum Engineering (Geoscience Technologies).

Core Required Courses (18 Units)

- PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs Units: 3
- PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes Units: 3
- PTE 517 Testing of Wells and Aquifers Units: 3
- PTE 531 Enhanced Oil Recovery Units: 3, 2 years
- PTE 555 Well Completion, Stimulation, and Damage Control Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Take 4 Out of 5 Courses Shown Below (12 Units)

- PTE 502 Advanced Reservoir Characterization Units: 3
- PTE 503 Technology of Unconventional Oil and Gas Resources Development Units: 3
- PTE 504 Geophysics for Petroleum Engineers Units: 3
- PTE 505 Inverse Modeling for Dynamic Data Integration Units: 3
- PTE 572 Geostatistics Units: 3

Additional Requirements

- Elective from a group of approved PTE courses: Units: 4

Petroleum Engineering (MS)

The Master of Science in petroleum engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. Electives vary according to the area of interest. A student may be permitted to elect the program without thesis upon approval from the department.

Petroleum Engineering (Smart Oilfield Technologies) (MS)

The Master of Science in petroleum engineering (smart oilfield technologies) is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. A student may be permitted to elect the program without thesis upon approval from the department. Course requirements are similar to the existing MS degree in petroleum engineering in terms of core requirements.

Students without a BS in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the MS program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be

applied toward the degree.

University Certificate

Smart Oilfield Technologies Certificate

The certificate in smart oilfield techniques is designed for practicing engineers and scientists who enter petroleum engineering related fields and/or who wish to obtain training in the specific smart oilfields area. The applicants may enroll at USC as limited status students. They must apply and be admitted to the program before they complete 9 units of the required course work. The certificate program is open to applicants with an undergraduate degree in engineering or sciences who meet the admission criteria as limited students. Students without a B.S. in Petroleum Engineering will normally be required to complete prerequisite courses before beginning the certificate program. Specific prerequisite courses are decided upon consultation with the department adviser. Units from these courses cannot be applied toward the certificate.

The required courses consist of the following 12 units:

Required Courses

- PTE 586 Intelligent and Collaborative Oilfield Systems Characterization and Management Units: 3
- PTE 587 Smart Completions, Oilfield Sensors and Sensor Technology Units: 3
- PTE 588 Smart Oilfield Data Mining Units: 3
- PTE 589 Advanced Oilfield Operations with Remote Immersive Visualization and Control Units: 3

Note:

These classes will be available through the USC Distance Education Network (DEN@Viterbi). The credit for classes may be applied toward the M.S. or Ph.D. in petroleum engineering should the student decide later to pursue an advanced degree. In order to be admitted to the M.S. program, the student should maintain a B average or higher in courses for the certificate program and must satisfy all normal admission requirements. All courses for the certificate must be taken at USC.

Graduate Certificate

For Business

Unconventional Resources in Petroleum Engineering

Characterization of unconventional resources, exploration, development, laboratory methods, geomechanics, geochemical methods, well completion, hydraulic fracturing, reserves forecasting, environmental issues, seismic and geostatistical estimation methods. Note: Students without a BS in Petroleum Engineering or the equivalent will be required to complete the following courses in addition to the 4 courses for the certificate: PTE 411, PTE 412x, PTE 461, PTE 466 and PTE 500.

Requirements

Complete four courses:

- PTE 502 Advanced Reservoir Characterization Units: 3
- PTE 503 Technology of Unconventional Oil and Gas Resources Development Units: 3
- PTE 504 Geophysics for Petroleum Engineers Units: 3
- PTE 572 Geostatistics Units: 3
  or
- PTE 591 Petroleum Geochemistry Units: 3

Dual Degree

Master of Science, Petroleum Engineering/ Master of Science, Engineering Management (MS/MS))

The Daniel J. Epstein Department of Industrial and Systems Engineering in conjunction with the department of Petroleum Engineering offers programs leading to the degree of MS Petroleum Engineering/MS Engineering Management. The program is designed for graduate petroleum engineers whose career objectives lead to increasing technical management responsibilities.

Required Courses

36 units of required courses from PTE and ISE combined

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3
- ISE 566 Financial Accounting Analysis for Engineering Units: 3
- PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs Units: 3
- PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes Units: 3
- PTE 517 Testing of Wells and Aquifers Units: 3
- PTE 531 Enhanced Oil Recovery Units: 3, 2 years
- PTE 555 Well Completion, Stimulation, and Damage Control Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Elective units

Student is to complete 9 units of PTE courses selected by student and PTE faculty adviser.

Doctoral Degree

Petroleum Engineering (PhD)

The Doctor of Philosophy with a major in petroleum engineering is also offered. See general requirements for graduate degrees.

Civil Engineering – Sonny Astani Department of Civil and Environmental Engineering

Kaprielian Hall 210
(213) 740-0603
FAX: (213) 744-1426
Email: ceedept@usc.edu
cee.usc.edu

Chair: Lucio Soibelman, PhD
Associate Chair: Erik Johnson, PhD
Director, Environmental Engineering: Amy Childress, PhD
Associate Director, Environmental Engineering: Massoud Pirbazari, PhD

Faculty

Stephen Schrank Early Career Chair in Civil and Environmental Engineering: Burcin Becerik-Gerber, DDes
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD
Dr. Teh Fu Yen Early Career Chair: Kelly T. Sanders, PhD
Fred Champion Professor of Civil and Environmental Engineering: Constantinos Sioutas, ScD
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering)*
Professors: Amy Childress, PhD; Roger Ghanem, PhD; Erik A. Johnson, PhD; Jiin-Jen Lee, PhD, PE*; Vincent W. Lee, PhD; Patrick Lynett, PhD; Sami F. Masri, PhD *(Aerospace and Mechanical Engineering)*; Najmedin Meshkati, PhD, CPE *(Industrial and Systems Engineering)*; Massoud Pirbazari, PhD; Constantinos Sioutas, ScD; Lucio Soibelman, PhD; Costas Synolakis, PhD *(Aerospace Engineering)*; Mihailo Trifunac, PhD; L. Carter Wellford, PhD; Hung Leung Wong, PhD*

Associate Professor: Burcin Becerik-Gerber, DDes
Assistant Professors: George Ban-Weiss, PhD; Felipe deBarros, PhD; Bora Gencturk, PhD; Daniel McCurry, PhD; Kelly T. Sanders, PhD; Ketan Savla, PhD; Adam Smith, PhD; Qiming Wang, PhD
Professors of Engineering Practice: David Ashley, PhD; Gregg E. Brandow Jr., PhD, PE; Geraldine Knatz, PhD *(Public Policy)*; Henry M. Koffman, PE
Associate Professor of Engineering Practice: Amy Rechenmacher, PhD
Senior Lecturer: Dana Sherman, Esq.* *(Industrial and Systems Engineering)*
Joint Appointments: David J. Gerber, DDes *(Architecture)*; Genevieve Giuliano, PhD *(Public Policy)*; Behrokh Khoshnevis, PhD *(Industrial and Systems Engineering)*; Mitul Luhar, PhD (*Aerospace and Mechanical Engineering)*; James Moffett, PhD *(Earth Sciences, Biological Sciences)*; James Moore, PhD *(Industrial and Systems Engineering, Public Policy)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering)*; John P. Wilson, PhD *(Sociology)*
Research Associate Professor: Michael Orosz *(Information Sciences Institute)*
Research Assistant Professor: Scott Fruin, PhD *(Environmental Health, Keck School of Medicine)*
Adjunct Associate Professor: Hanh Dam Le-Griffin, PhD
Adjunct Assistant Professor: Navid Nastar, PhD
Adjunct Research Professors: Maria I. Todorovska, PhD; Yan Xiao, PhD, PE; Dongxiao Zhang, PhD
Adjunct Research Assistant Professors: Jose C. Borrero, PhD; John Caffrey, PhD; Mohammad R. Jahanshahi, PhD; Mazen Wahbeh, PhD
Emeritus Professors: Mihran S. Agbabian, PhD, PE; George V. Chilingar, PhD; Joseph S. Devinny, PhD; Ronald C. Henry, PhD; Geoffrey Martin, PhD
**Recipient of university-wide or school teaching award.*

Chi Epsilon Civil Engineering Honor Society

Chi Epsilon is dedicated to the purpose of maintaining and promoting the status of civil engineering as a profession. Chi Epsilon was organized to recognize the characteristics of the individual civil engineer deemed to be fundamental to the successful pursuit of an engineering career and to aid in the development of those characteristics in the civil engineering student. To contribute to the improvement of the profession, Chi Epsilon fosters the development and exercise of sound traits of character and technical ability among civil engineers.

Chi Epsilon is based on broad principles of scholarship, character, practicality and sociability. Civil engineering students who rank in the upper one-third of the junior or senior class are eligible for membership. These qualifications will make one eligible but not necessarily acceptable. Each member must be well skilled in all four of the basic principles.

Degree Requirements

Undergraduate Program Educational Objectives

Fulfilling the vision of the Sonny Astani Department of Civil and Environmental Engineering, the Viterbi School of Engineering and the University of Southern California, our graduates will:

1. Be successful in their professional careers, become leaders in industry, academia, government or service, while adapting their technical, collaborative and managerial skills for the benefit of Society's built and natural environments.
2. Support the advancement of the practice of science and engineering, while maintaining professional standards and moral and legal obligations to society, while being active in professional organizations and obtaining professional licensure when appropriate.
3. Be prepared to pursue graduate studies in engineering or other disciplines, while continuously broadening their abilities and enhancing their technical skills to maintain their relevance with technological change.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Civil Engineering prepares graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry and at least one additional area of basic science, consistent with the program educational objectives; apply knowledge of four technical areas appropriate to civil engineering; conduct civil engineering experiments and analyze and interpret the resulting data; and design a system, component, or process in more than one civil engineering context. The program also explains basic concepts in management, business, public policy, and leadership; and explains the importance of professional licensure.

The program leading to a Bachelor of Science in Environmental Engineering prepares graduates to be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry; an earth science, e.g., geology, meteorology, soil science, relevant to the program of study; a biological science, e.g., microbiology, aquatic biology, toxicology, relevant to the program of study; fluid mechanics relevant to the program of study; and an introductory level knowledge of environmental issues associated with air, land, and water systems and associated environmental health impacts. The program prepares graduates to be proficient at conducting laboratory experiments and critically analyzing and interpreting data in more than one major environmental engineering focus area, e.g., air, water, land, environmental health; performing engineering design by means of design experiences integrated throughout the professional component of the curriculum; and to be proficient in advanced principles and practice relevant to the program objectives; including understanding of concepts of professional practice and the roles and responsibilities of public institutions and private organizations pertaining to environmental engineering.

Graduate Programs

Master of Science in Civil Engineering (Transportation Systems)

See Sustainable Infrastructure Systems Program.

Master of Science in Civil Engineering (Water and Waste Management)

See Sustainable Infrastructure Systems Program.

Engineer in Civil Engineering

Requirements for the Engineer in Civil Engineering are the same as set forth in the general requirements.

Bachelor's Degree

Applied Mechanics (BS)

The requirement for this degree is 128 units. A cumulative grade point average of C (2.0) is required in all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees section.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4 *
- WRIT 340 Advanced Writing Units: 3, 4 (4 Units Required)

Total units: 8

General Education

- General Education Units: 24*

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4
- MATH 445 Mathematics of Physics and Engineering II Units: 4

Physics Requirement
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Chemistry Elective
- CHEM 105aLg General Chemistry Units: 4

Total units: 36

Major Requirements

Aerospace and Mechanical Engineering
- AME 310 Engineering Thermodynamics I Units: 3
- AME 341aL Mechoptronics Laboratory I and II Units: 3
- AME 441aL Senior Projects Laboratory Units: 3

Civil Engineering
- CE 205 Statics Units: 2
- CE 225 Mechanics of Deformable Bodies Units: 3
- CE 235 Dynamics Units: 3
- CE 309 Fluid Mechanics Units: 3

Electrical Engineering
- EE 326Lx Essentials of Electrical Engineering Units: 4

Total units: 24

Major Electives
- Free electives Units: 4 **
- Technical electives Units: 28
- Approved electives in computer programming Units: 4

Total units: 128

**GE Category VI and* WRIT 150 *are taken concurrently.*
***The choice of free electives in the fourth year requires approval of the administering department.*

Civil Engineering (BS)

The department offers a Bachelor of Science degree in Civil Engineering. Additionally, there are three possible areas of emphases within this civil engineering program major. These are building science, environmental engineering and structural engineering. An area of emphasis appears in parentheses after the primary major name on the transcript.

Bachelor of Science in Civil Engineering

The requirement for the degree is 133 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 205, CE 225, CE 309 and CE 235. See also common requirements for undergraduate degrees.

Composition/Writing Requirement
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education
- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement
- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement
- MATH 125g Calculus I Units: 4 **

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements
- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering
- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering
- CE 106L Design and Planning of Civil Engineering Systems Units: 3
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 205 Statics Units: 2
- CE 207L Introduction to Design of Structural Systems Units: 2
- CE 225 Mechanics of Deformable Bodies Units: 3
- CE 235 Dynamics Units: 3
- CE 309 Fluid Mechanics Units: 3
- CE 334L Mechanical Behavior of Materials Units: 3
- CE 358 Theory of Structures I Units: 3
- CE 402 Computer Methods in Engineering Units: 3
- CE 408 Risk Analysis in Civil Engineering Units: 3
- CE 451 Water Resources Engineering Units: 3
- CE 453 Water Quality Science and Engineering Units: 3
- CE 456 Design of Steel Structures Units: 3
- CE 467L Geotechnical Engineering Units: 4
- CE 471 Principles of Transportation Engineering Units: 3

Capstone Courses
- CE 480 Structural Systems Design Units: 3 or
- CE 465 Water Supply and Sewerage System Design Units: 3

Courses from Other Engineering Departments
- EE 202L Linear Circuits Units: 4
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Total units: 58

Major Electives
- Elective Civil Engineering Units: 6
- Design Kernel Civil Engineering Design Kernel Course Units: 6***

Total units: 133

***Satisfies General Education requirement.*
****Design kernel courses must be selected from the following list of design courses:* CE 457*,* CE 465*,* CE 466*,* CE 476*,* CE 478*,* CE 482*,* CE 484 *and* CE 485.

Tracks

In addition to the core courses, students are required to select one of the following tracks: General, Construction or Water Resources.

General Track

Choose one of the following: CE 480 as the capstone course and CE 482 as a required design kernel course; or CE 465 as the capstone course and CE 466 or CE 476 as a required design kernel course.

The civil engineering electives may be chosen freely.

Construction Track

Select CE 480 as the capstone course and CE 482 as a required design kernel course. Replace CE 453 with CE 460 . The other civil engineering electives must be chosen from the following list: CE 461, CE 462, CE 469, CE 470 and ARCH 419.

Water Resources Track

Select CE 465 as the capstone course and select one of the following as a required design kernel course: CE 466 or CE 476. Six units of electives must be selected from the following list: CE 466, CE 476 and CE 490.

All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Building Science Emphasis (BS)

The requirement for the degree with an emphasis in building science is 137 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 205, CE 225, CE 309 and CE 235. See also the common requirements for undergraduate degrees section.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4 *
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24 * +

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

- MATH 125g Calculus I Units: 4 **

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

- GEOL 305L Introduction to Engineering Geology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106L Design and Planning of Civil Engineering Systems Units: 3
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 205 Statics Units: 2
- CE 207L Introduction to Design of Structural Systems Units: 2
- CE 225 Mechanics of Deformable Bodies Units: 3
- CE 235 Dynamics Units: 3
- CE 309 Fluid Mechanics Units: 3
- CE 334L Mechanical Behavior of Materials Units: 3
- CE 358 Theory of Structures I Units: 3
- CE 408 Risk Analysis in Civil Engineering Units: 3
- CE 456 Design of Steel Structures Units: 3
- CE 457 Reinforced Concrete Design Units: 3
- CE 458 Theory of Structures II Units: 3
- CE 467L Geotechnical Engineering Units: 4

Architecture courses

- ARCH 114 Architecture: Culture and Community Units: 2
- ARCH 214bg World History of Architecture Units: 3
- ARCH 205aL Building Science I Units: 4 ***
- ARCH 205bL Building Science I Units: 4 ***
- ARCH 305aL Building Science II Units: 4 ***
- ARCH 305bL Building Science II Units: 4 ***
- ARCH 405aL Building Science III Units: 4 ***
- ARCH 405bL Building Science III Units: 4 ***

Major Electives

- Elective Civil Engineering Units: 3 ****

Total units: 137

***Satisfies GE requirement.*
****The School of Architecture requires a minimum grade of C in* ARCH 205a, ARCH 205b*,* ARCH 305a*,* ARCH 305b *and* ARCH 405a, ARCH 405b *in order to continue in the building science design sequence.*
*****The civil engineering elective must be selected from the following courses:* CE 451*,* CE 453*,* CE 460 *and* CE 471*.*
All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Environmental Engineering Emphasis (BS)

The requirement for the degree with an emphasis in environmental engineering is 130 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 205, CE 225, CE 309 and CE 235. See also common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 *

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

Math Requirement

- MATH 125g Calculus I Units: 4 *

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirement

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil and Environmental Engineering

- CE 106L Design and Planning of Civil Engineering Systems Units: 3
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 205 Statics Units: 2
- CE 210L Introduction to Environmental Engineering Microbiology Units: 3
- CE 225 Mechanics of Deformable Bodies Units: 3
- CE 235 Dynamics Units: 3
- CE 309 Fluid Mechanics Units: 3
- CE 334L Mechanical Behavior of Materials Units: 3
- CE 358 Theory of Structures I Units: 3
- CE 408 Risk Analysis in Civil Engineering Units: 3
- CE 451 Water Resources Engineering Units: 3
- CE 453 Water Quality Science and Engineering Units: 3
- CE 463L Water Chemistry and Analysis Units: 3
- CE 467L Geotechnical Engineering Units: 4
- CE 485 Wastewater Treatment Design Units: 3
- ENE 200 Environmental Engineering Principles Units: 3
- ENE 426 Particulate Air Pollutants: Properties/Behavior/Measurement Units: 3
- ENE 428 Air Pollution Fundamentals Units: 3

Courses from Other Engineering Departments

- AME 310 Engineering Thermodynamics I Units: 3
- ISE 460 Engineering Economy Units: 3

Total units: 61

Major Electives

- Design kernel Units: 6 **

Total units: 130

**Satisfies GE requirement.*
***Kernels must be selected from the following list of design courses:* CE 465, CE 466, CE 476, CE 482, CE 484, ENE 486.
All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Civil Engineering, Structural Engineering Emphasis (BS)

The requirement for the degree with an emphasis in structural engineering is 133 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 205, CE 225, CE 309 and CE 235. See also common requirements for undergraduate degrees.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3 Units Required)

General Education

- General Education Units: 24* +

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4

Math Requirement

- MATH 125g Calculus I Units: 4 **

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Other Requirements

- GEOL 305L Introduction to Engineering Geology Units: 4

Total units: 32

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil Engineering

- CE 106L Design and Planning of Civil Engineering Systems Units: 3
- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 205 Statics Units: 2
- CE 207L Introduction to Design of Structural Systems Units: 2
- CE 225 Mechanics of Deformable Bodies Units: 3
- CE 235 Dynamics Units: 3
- CE 309 Fluid Mechanics Units: 3
- CE 334L Mechanical Behavior of Materials Units: 3
- CE 358 Theory of Structures I Units: 3
- CE 402 Computer Methods in Engineering Units: 3
- CE 408 Risk Analysis in Civil Engineering Units: 3
- CE 451 Water Resources Engineering Units: 3
- CE 456 Design of Steel Structures Units: 3
- CE 457 Reinforced Concrete Design Units: 3
- CE 458 Theory of Structures II Units: 3
- CE 459 Introduction to Structural Dynamics Units: 3
- CE 460 Construction Engineering Units: 3
- CE 467L Geotechnical Engineering Units: 4
- CE 478 Timber and Masonry Design Units: 3

Capstone Courses

- CE 480 Structural Systems Design Units: 3
- CE 482 Foundation Design Units: 3

Courses from Other Engineering Departments

- EE 202L Linear Circuits Units: 4 or
- EE 326Lx Essentials of Electrical Engineering Units: 4
- ISE 460 Engineering Economy Units: 3

Total units: 70

Total units: 133

***Satisfies GE requirement.*
All curricula leading to a degree must be approved by the Astani Department of Civil and Environmental Engineering; please note this includes transfer credit and units for courses waived for subject credit only, which have been approved through the Degree Progress department.

Minor

Construction Planning and Management Minor

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, architecture, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and policy environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Astani Department of Civil and Environmental Engineering and the USC Price School of Public Policy.

Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management, architecture or allied fields.

Courses Required

Seven courses consisting of at least 23 units are required for the minor.

Statistics

Students must complete an adviser-approved course in statistics. Candidate courses include ECON 317, EE 364, ISE 220, MATH 208, PPD 303, PSYC 274, SOCI 314 and similar courses. The statistics course must be at least 3 units.

Core Courses

- CE 460 Construction Engineering Units: 3
- CE 461 General Construction Estimating Units: 3

- CE 462 Construction Methods and Equipment Units: 3 or
- CE 469 Sustainable Design and Construction Units: 3 or
- CE 470 Building Information Modeling and Integrated Practice Units: 3

Theme Requirement: Two courses, both from Theme 1 or Theme 2 or Theme 3

Theme 1

- PPD 358 Urban and Regional Economics Units: 4
- RED 362 Real Estate Development Fundamentals Units: 4 *

Theme 2

- FBE 400x Introduction to Real Estate Finance and Development Units: 4
- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4

Theme 3

- PPD 357 Government and Business Units: 4 *
- RED 435 Analyzing Real Estate Markets Units: 4 *

Total units: 17

Electives (Select One)

- CE 404 Business and Intellectual Property Law for Engineers Units: 3
- CE 412 Construction Law and the Property Development Process Units: 3
- RED 437 Advanced Finance and Investment for Real Estate Development Units: 4 *

Notes:

**Prerequisite required.*

Advisement is provided by the Astani Department of Civil and Environmental Engineering. Students will normally complete statistics before enrolling in CE 461 but can be permitted to complete statistics as a corequisite subject to adviser approval. Students are advised to take CE 460 and CE 461 before taking CE 462. Students electing RED courses from the themes or electives must satisfy the prerequisites. Please see the Price School section or schedule of classes for the prerequisites.

Master's Degree

Civil Engineering (MS)

The Master of Science in Civil Engineering is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering. A student may receive the Master of Science in Civil Engineering with a special option by specializing in one of the following courses of study: construction engineering; structural engineering; and transportation engineering. Students can choose the option of completing a thesis must include in their program 4 units of CE 594a and CE 594b.

A general Master of Science in Civil Engineering without special designation is also given. Students pursuing this program will choose between the following special options: general, earthquake engineering, structural mechanics, water resources or ocean and coastal engineering.

A student who wishes to pursue the Master of Science in Civil Engineering without special designation and who has an interest in public works may take a selected sequence of 12 units in the USC Price School of Public Policy. For further information, see the Public Administration Professional Sequence section in the USC Price School of Public Policy.

Construction Management (MCM)

Students possessing a bachelor's degree and with sufficient training in capital management and statistics may pursue the Master of Construction Management. The purpose of the Master of Construction Management program is to educate and train multidisciplinary professionals to understand and execute the broad array of technical and non-technical activities associated with construction management. The program provides special attention to the function of the constructor in real estate development. The program is drawn from the MS, Civil Engineering program in construction engineering and management, and from the USC Marshall School of Business.

Applicants to the program are expected to have completed undergraduate course work in engineering economy or business finance.

Core Curriculum

- ARCH 511L Building Systems: Materials and Construction Units: 4
- CE 501 Functions of the Constructor Units: 3

- CE 502 Construction Accounting and Finance Units: 3 or
- ACCT 509 Concepts of Financial and Management Accounting Units: 4 or
- ISE 566 Financial Accounting Analysis for Engineering Units: 3

- CE 556 Project Controls — Budgeting and Estimating Units: 3
- CE 566 Project Controls — Planning and Scheduling Units: 3

Track Requirement: Two Courses, Both From Track 1, Track 2, or Track 3

Track 1: Finance Track

- FBE 400x Introduction to Real Estate Finance and Development Units: 4 *
- FBE 489 Real Estate Capital Markets Units: 4
- FBE 570 Advanced Topics in Real Estate Finance Units: 3 *
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3 *
- FBE 591 Real Estate Finance and Investment Units: 3 *

Track 2: Real Estate Development Track

- FBE 466 Management of Real Estate Development: Feasibility Studies Units: 4 *
- FBE 470 Advanced Real Estate Analysis Units: 4 *
- FBE 565 Economics of Urban Land Use: Feasibility Studies Units: 3
- FBE 566 Real Estate Finance, Investments and Development Units: 3

Track 3: Architecture, Engineering and Construction (AEC) Technology Track

- CE 470 Building Information Modeling and Integrated Practice Units: 3
- CE 469 Sustainable Design and Construction Units: 3
- CE 570 Building Information Modeling for Collaborative Construction Units: 3
- Additional adviser-approved technical and advanced electives Units: 10-11

Total minimum units: 33

**Prerequisite required.*

Additional Requirements

The minimum requirement for the Master of Construction Management degree is 33 units. At least three elective courses totaling at least 9 units are required for this degree. These may be taken from the USC Astani Department of Civil and Environmental Engineering, other engineering departments, the USC Price School of Public Policy, the USC School of Architecture, the USC Davis School of Gerontology, the USC Gould School of Law or the USC Marshall School of Business subject to adviser approval. Admission to some classes requires advanced prerequisites and is subject to availability and approval of the instructor.

General Requirements

Residence and Course Load

The normal time required for earning the Master of Construction Management is three semesters, including one summer semester beginning in June and continuing through the spring semester ending in May. Students are expected to participate in extracurricular activities associated with the Master of Construction Management program, including the speaker series and field trips. A candidate must complete the last four semester units of course work at USC.

Students who wish to take a leave of absence for a semester or longer must request it from the chairman of the Astani Department in writing. Such leaves may be granted for up to one year.

University Certificate

Transportation Systems Graduate Certificate

The graduate certificate in Transportation Systems is an interdisciplinary program administered by the USC Astani Department of Civil and Environmental Engineering. The certificate program allows students to specialize in transportation applications, while simultaneously receiving a degree in their home department. The certificate in transportation systems combines elements of transportation engineering with transportation policy, planning and project management. The program is especially appropriate for students intending to pursue careers as developers of transportation technologies, or as implementors of technologies within government agencies.

Students electing the certificate program apply to the USC Astani Department of Civil and Environmental Engineering. Course prerequisites for the program are:

- one course in statistics or uncertainty, equivalent to ISE 225, PPD 404x or CE 408;
- one course in engineering economy, equivalent to ISE 460;
- one course in microeconomics, equivalent to ECON 203; and
- one course in a contemporary high level programming language.

These prerequisites may be satisfied after enrollment in the certificate program by taking the indicated courses or their equivalent. Graduate students cannot receive credit for courses numbered below 400. Detailed admissions requirements are published by the USC Astani Department of Civil and Environmental Engineering.

The courses taken for the certificate may be applied later to the Master of Science in Civil Engineering, transportation option.

Qualified students holding a bachelor's degree also have the option of enrolling in the certificate program without receiving a separate graduate degree.

The curriculum consists of five graduate courses for a total of 17 units.

Certificate Requirements

- CE 471 Principles of Transportation Engineering Units: 3 or
- CE 519 Transportation Engineering Units: 3

- CE 583 Design of Transportation Facilities Units: 3 or
- CE 585 Traffic Engineering and Control Units: 3

- ISE 515 Engineering Project Management Units: 3
- PPD 633 Urban Transportation Planning and Management Units: 4, 2 years
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Doctoral Degree

Civil Engineering (PhD)

Doctor of Philosophy in Civil Engineering and Doctor of Philosophy in Engineering (Environmental Engineering)

The Doctor of Philosophy with a major in civil engineering and the Doctor of Philosophy with a major in engineering (environmental engineering) are also offered. See general requirements for graduate degrees.

Areas of specialization for Doctor of Philosophy level students are: structural engineering, structural mechanics, earthquake engineering, coastal engineering, water resources engineering, construction engineering and management, soil mechanics and foundation engineering, hydrology, hydrodynamics and transportation.

Environmental Engineering - Sonny Astani Department of Civil and Environmental Engineering

Kaprielian Hall 210
(213) 740-0603
FAX: (213) 744-1426
Email: ceedept@usc.edu
cee.usc.edu
Chair: Lucio Soibelman, PhD
Associate Chair: Erik Johnson, PhD
Director, Environmental Engineering: Amy Childress, PhD
Associate Director, Environmental Engineering: Massoud Pirbazari, PhD

Faculty

Stephen Schrank Early Career Chair in Civil and Environmental Engineering: Burcin Becerik-Gerber, DDes
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD
Dr. Teh Fu Yen Early Career Chair: Kelly T. Sanders, PhD

Fred Champion Professor of Civil and Environmental Engineering: Constantinos Sioutas, ScD
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering)*
Professors: Amy Childress, PhD; Roger Ghanem, PhD; Erik A. Johnson, PhD; Jiin-Jen Lee, PhD, PE; Vincent W. Lee, PhD; Patrick Lynett, PhD; Sami F. Masri, PhD *(Aerospace and Mechanical Engineering)*; Najmedin Meshkati, PhD, CPE *(Industrial and Systems Engineering)*; Massoud Pirbazari, PhD; Constantinos Sioutas, ScD; Lucio Soibelman, PhD; Costas Synolakis, PhD *(Aerospace Engineering)*; Mihailo Trifunac, PhD; L. Carter Wellford, PhD; Hung Leung Wong, PhD*
Associate Professor: Burcin Becerik-Gerber, DDes
Assistant Professors: George Ban-Weiss, PhD; Felipe de Barros, PhD; Bora Gencturk, PhD; Daniel McCurry, PhD; Kelly Sanders, PhD; Ketan Savla, PhD
Professors of Engineering Practice: David Ashley, PhD; Gregg E. Brandow Jr., PhD, PE; Geraldine Knatz, PhD *(Public Policy)*; Henry M. Koffman, PE
Associate Professor of Engineering Practice: Amy Rechenmacher, PhD
Senior Lecturer: Dana Sherman, Esq.* *(Industrial and Systems Engineering)*
Joint Appointments: David J. Gerber, DDes *(Architecture)*; Genevieve Giuliano, PhD *(Public Policy)*; Behrokh Khoshnevis, PhD *(Industrial and Systems Engineering)*; James Moffett, PhD *(Earth Sciences, Biological Sciences)*; James Moore, PhD *(Industrial and Systems Engineering, Public Policy)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering)*; John P. Wilson, PhD *(Sociology)*
Research Associate Professor: Michael Orosz *(Information Sciences Institute)*
Research Assistant Professor: Scott Fruin, PhD *(Environmental Health, Keck School of Medicine)*
Adjunct Associate Professor: Hanh Dam Le-Griffin, PhD
Adjunct Assistant Professor: Navid Nastar, PhD
Adjunct Research Professors: Maria I. Todorovska, PhD; Yan Xiao, PhD, PE; Dongxiao Zhang, PhD
Adjunct Research Assistant Professors: Jose C. Borrero, PhD; John Caffrey, PhD; Mohammad R. Jahanshahi, PhD; Mazen Wahbeh, PhD
Emeritus Professors: Mihran S. Agbabian, PhD, PE; George V. Chilingar, PhD; Joseph S. Devinny, PhD; Geoffrey Martin, PhD
**Recipient of university-wide or school teaching award.*

Degree Requirements

Undergraduate Program Educational Objectives

Fulfilling the vision of the Sonny Astani Department of Civil and Environmental Engineering, the Viterbi School of Engineering and the University of Southern California, our graduates from the Bachelor of Science in Civil Engineering program or the Bachelor of Science in Environmental Engineering program will:

1. Be successful in their professional careers, become leaders in industry, academia, government or service, while adapting their technical, collaborative and managerial skills for the benefit of Society's built and natural environments.
2. Support the advancement of the practice of science and engineering, while maintaining professional standards and moral and legal obligations to society, while being active in professional organizations and obtaining professional licensure when appropriate.
3. Be prepared to pursue graduate studies in engineering or other disciplines, while continuously broadening their abilities and enhancing their technical skills to maintain their relevance with technological change.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Civil Engineering prepares graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry and at least one additional area of basic science, consistent with the program educational objectives; apply knowledge of four technical areas appropriate to civil engineering; conduct civil engineering experiments and analyze and interpret the resulting data; and design a system, component, or process in more than one civil engineering context. The program also explains basic concepts in management, business, public policy, and leadership; and explains the importance of professional licensure.

The program leading to a Bachelor of Science in Environmental Engineering prepares graduates to apply knowledge of mathematics through differential equations, probability and statistics, calculus-based physics, chemistry (including stoichiometry, equilibrium and kinetics), an earth science, a biological science and fluid mechanics. The curriculum prepares graduates to formulate material and energy balances, and analyze the fate and transport of substances in and between air, water, and soil phases; conduct laboratory experiments, and analyze and interpret the resulting data in more than one major environmental engineering focus area, e.g., air, water, land, environmental health; design environmental engineering systems that include considerations of risk, uncertainty, sustainability, life-cycle principles and environmental impacts; and apply advanced principles and practice relevant to the program objectives. The curriculum prepares graduates to understand concepts of professional practice, project management, and the roles and responsibilities of public institutions and private organizations pertaining to environmental policy and regulations.

Bachelor of Science in Civil Engineering Emphasis in Environmental Engineering

See Civil Engineering.

Engineer in Environmental Engineering

Requirements for the Engineer in Environmental Engineering are the same as set forth in the general requirements. See General Requirements for the Engineer Degree.

Sustainable Policy and Planning Graduate Certificate

See the listing in the USC Price School of Public Policy section.

Bachelor's Degree

Environmental Engineering (BS)

The program requires 132 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. In addition, a minimum grade of C must be earned in each of the following courses: CE 205 and CE 309 or ENE 410. See also common requirements for undergraduate degrees.

Composition/Writing Requirements

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education

- General education Units: 20

Pre-Major Requirements

Chemistry Requirement

- CHEM 105aLg General Chemistry Units: 4 * or
- CHEM 115aLg Advanced General Chemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4

Math Requirement

- MATH 125g Calculus I Units: 4 *

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 226 Calculus III Units: 4 or

- MATH 229 Calculus III for Engineers and Scientists Units: 4

- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 *
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Total units: 36

Major Requirements

Engineering

- ENGR 102 Engineering Freshman Academy Units: 2

Civil and Environmental Engineering

- CE 108 Introduction to Computer Methods in Civil Engineering Units: 2
- CE 110 Introduction to Environmental Engineering Units: 3
- CE 205 Statics Units: 2
- CE 210L Introduction to Environmental Engineering Microbiology Units: 3
- CE 309 Fluid Mechanics Units: 3 or
- ENE 410 Environmental Fluid Mechanics Units: 3

- CE 408 Risk Analysis in Civil Engineering Units: 3
- CE 451 Water Resources Engineering Units: 3
- CE 453 Water Quality Science and Engineering Units: 3
- CE 463L Water Chemistry and Analysis Units: 3
- CE 465 Water Supply and Sewerage System Design Units: 3
- CE 484 Water Treatment Design Units: 3
- CE 485 Wastewater Treatment Design Units: 3
- ENE 200 Environmental Engineering Principles Units: 3
- ENE 426 Particulate Air Pollutants: Properties/Behavior/ Measurement Units: 3
- ENE 428 Air Pollution Fundamentals Units: 3

Courses from Other Departments

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 *
- CHE 330 Chemical Engineering Thermodynamics Units: 3
- GEOL 305L Introduction to Engineering Geology Units: 4
- ISE 460 Engineering Economy Units: 3
- PTE 463L Introduction to Transport Processes in Porous Media Units: 3

Major Electives

- Design kernel Units: 6 **

Total: 132

**Satisfies GE requirement.*
***Kernels must be selected from the following design courses:* CE 443*,* CE 466*,* CE 476 *or* CHE 442*.*

Minor

Environmental Engineering Minor

A minor in environmental engineering provides students with a basic knowledge of our environment, potential causes for its deterioration, methods to prevent or mitigate environmental hazards, and the means to improve its quality at reasonable costs. Students will learn how to control water pollution, maintain air quality, treat and properly dispose of wastes, and remediate sites contaminated due to improper disposal of hazardous waste. This minor also enhances students' employment opportunities in the field of environmental engineering. The program provides the necessary infrastructure for the pursuit of graduate studies in environmental engineering.

The minor in environmental engineering is offered to undergraduates in various fields of engineering and natural sciences.

Prerequisite Courses

- CHEM 105aLg General Chemistry Units: 4 and
- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 and
- CHEM 115bL Advanced General Chemistry Units: 4

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4
- MATH 226 Calculus III Units: 4
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

Required Courses

- CE 443 Environmental Chemistry Units: 3
- CE 453 Water Quality Science and Engineering Units: 3
- CE 463L Water Chemistry and Analysis Units: 3
- ENE 201 Introduction to Applied Environmental Science and Engineering Units: 4
- ENE 410 Environmental Fluid Mechanics Units: 3

- ENE 428 Air Pollution Fundamentals Units: 3 or
- ENE 429 Air Pollution Control Units: 3

- ENE 495 Seminars in Environmental Engineering Units: 1

Total units: minimum 20

Master's Degree

Environmental Engineering (MS)

Students with a bachelor's degree in engineering or science may work toward the Master of Science in Environmental Engineering. Students with degrees in fields other than engineering or science may be admitted on the recommendation of a program adviser and program director. Selection of courses will be determined through consultation with a program adviser to provide a maximum of training in the student's area of interest in environmental problems.

Doctoral Degree

Engineering (Environmental Engineering) (PhD)

Doctor of Philosophy in Civil Engineering and Doctor of Philosophy in Engineering (Environmental Engineering)

The Doctor of Philosophy with a major in civil engineering and the Doctor of Philosophy with a major in engineering (environmental engineering) are also offered. See general requirements for graduate degrees.

Areas of specialization for Doctor of Philosophy level students are: structural engineering, structural mechanics, earthquake engineering, coastal engineering, water resources engineering, construction engineering and management, soil mechanics and foundation engineering, hydrology, hydrodynamics and transportation.

Computer Engineering Program

Undergraduate Degree

Undergraduate Program Educational Objectives

Graduates of the Computer Engineering and Computer Science program are expected to attain the following educational objectives within a few years of graduation:

- Graduates will apply analytical and critical thinking principles of both computer engineering and computer science to their chosen professions.

- Graduates will successfully engage in life-long learning to continue to be contributing members of their communities in fields within and outside the traditional scope of computer engineering.
- Graduates will exhibit high professional and ethical standards to become productive leaders in society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Computer Engineering and Computer Science provides both breadth and depth across the range of engineering topics implied by the title. The curriculum includes probability and statistics, including appropriate applications; mathematics, including discrete mathematics through differential and integral calculus; sciences (defined as biological, chemical or physical science) to develop an understanding of the scientific method and provide students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to lab work; and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software and systems containing hardware and software components.

The computer science portion of the curriculum covers the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and software; provides an exposure to a variety of programming languages and systems, including at least one higher-level language; and includes advanced course work that builds on the fundamental course work to provide depth.

Graduate Degrees

The graduate program in computer engineering, offered through the Department of Electrical Engineering, is designed to provide students with an intensive background in the analysis, structure, design and function of digital computers and information processing systems. In addition to giving each student a fundamental background in digital logic, computer architecture and operating systems, a wide variety of elective courses allows for study in the following specialized areas: artificial intelligence; computer architecture; computer networks; computer system performance; design automation; fault-tolerant computers; microprocessors; parallel processing; real-time systems; robotics; and VLSI design.

Bachelor's Degree

Computer Engineering and Computer Science (BS)

Students attaining the bachelor of science degree in computer engineering and computer science would possess the scientific and engineering skills and knowledge that would enable them to design and implement computer systems that effectively and efficiently integrate developing hardware and software technologies. This degree is administered jointly by the departments of Computer Science and Electrical Engineering.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

The requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education+ Units: 24

Pre-Major Requirements (29-30 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (16 units)

- MATH 125g Calculus I Units: 4
- MATH 126 Calculus II Units: 4

  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226 Calculus III Units: 4

  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Statistics and Probability (3-4 units)

- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 3

  or
- MATH 407 Probability Theory Units: 4

Physics (8 units)

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4 and
- PHYS 162L Advanced Principles of Physics II Units: 4

Major Requirements (55-56 Units)

Computer Science (28 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4

Electrical Engineering (24 units)

- EE 109L Introduction to Embedded Systems Units: 4
- EE 209 Foundations of Digital System Design Units: 4
- EE 354L Introduction to Digital Circuits Units: 4
- EE 457 Computer Systems Organization Units: 4

And two of the following courses:

- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4

Senior Design Project (3-4 units)

- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4

  or
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4

  or
- EE 459Lx Embedded Systems Design Laboratory Units: 3

Technical Electives (8 units)

Suggested courses include:

- CSCI 310 Software Engineering Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 459 Computer Systems and Applications Modeling Fundamentals Units: 3
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CSCI 491aL Final Game Project Units: 4

- CSCI 491bL Final Game Project Units: 2
- CSCI 499 Special Topics Units: 2, 3, 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 3
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- EE 499 Special Topics Units: 2, 3, 4
- ITP 466 Building the High Tech Startup Units: 4
- MATH 458 Numerical Methods Units: 4

Note:

Students may choose one adviser-approved course from the 300- and 400-level ITP offerings. Other courses may be applicable; please see an adviser for approval.

Free Electives (2-5 units)

Total units: 128

**WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CECS majors.*
***Satisfies GE requirement.*

Master's Degree

Computer Engineering (MS)

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in electrical engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree and through an accumulation of no more than 12 units beyond the minimum needed for the specific degree program. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Computer Engineering is also subject to the following requirements: (1) a total of at least 28 units is required; (2) every non-EE course for graduate credit requires prior written adviser approval recorded each semester on a special request form in the student's department file; (3) no more than three courses (maximum 12 units) may be counted at the 400 level — at least 19 adviser-approved units must be taken at the 500 or 600 level; (4) at least 20 units must be taken in Computer Engineering; (5) a maximum of two EE 599 Special Topics courses (8 units) may be counted toward the MSCENG; (6) at most, 4 units of EE 590 (Directed Research) and 1 unit of seminar, EE 598 (or other seminar with adviser approval), may be counted toward the MSCENG; (7) units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC — interruption of residency is not allowed.

In addition to the above, the Master of Science in Computer Engineering is earned by completing an integrated program of at least 28 units of approved course work emphasizing three key areas - Architecture, VLSI and Networks. Students must take one course from at least two areas, outlined below.

Computer Engineering course work requirements

Take a minimum of 20 units of Computer Engineering courses from the three lists below, including at least one course from two of the three areas in Architecture, Networks and VLSI/CAD areas.

Computer Architecture

Take at least one course from two areas.

- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 542 Internet and Cloud Computing Units: 3
- EE 557 Computer Systems Architecture Units: 3
- EE 560L Digital System Design Units: 4
- EE 653 Advanced Topics in Microarchitecture Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3

Networks

Take at least one course from two areas.

- EE 450 Introduction to Computer Networks Units: 3
- EE 467 Introduction to Communication Systems Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- EE 597 Wireless Networks Units: 3
- EE 650 Advanced Topics in Computer Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3

VLSI/CAD

Take at least one course from two areas.

- EE 477L MOS VLSI Circuit Design Units: 4
- EE 536a Mixed-Signal Integrated Circuit Design Units: 4
- EE 536b Mixed-Signal Integrated Circuit Design Units: 4
- EE 537 Modern Solid-State Devices Units: 3
- EE 552 Asynchronous VLSI Design Units: 3
- EE 577a VLSI System Design Units: 3
- EE 577b VLSI System Design Units: 3
- EE 581 Mathematical Foundations for Computer-Aided Design of VLSI Circuits Units: 3
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Doctoral Degree

Computer Engineering (PhD)

The requirements for the Doctor of Philosophy (PhD) in Computer Engineering are in strict conformity with the requirements of the Graduate School. Program requirements for the PhD in Computer Engineering are the same as those for the PhD in Electrical Engineering except that the major field is computer engineering. See general requirements for graduate degrees.

Screening and qualifying examinations are administered by the computer engineering faculty. Students should contact the Electrical Engineering Systems Department Office for further information.

Course Requirements

A minimum of 60 units is required. Of these 60 units, a minimum of two courses must come from the Theory Area course list; at least one course must come from each of the Hardware, Software, and Systems Area course lists; one additional course must come from the Hardware, Software, and Systems Area course lists.

Theory Area Courses

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 670x Advanced Analysis of Algorithms Units: 4
- CSCI 675 Convex and Combinatorial Optimization Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 565 Information Theory and Compression Units: 3
- EE 581 Mathematical Foundations for Computer-Aided Design of VLSI Circuits Units: 3
- EE 588 Optimization for the Information and Data Sciences Units: 4
- ISE 530 Optimization Methods for Analytics Units: 3
- MATH 410 Fundamental Concepts of Modern Algebra Units: 4 or

- MATH 425a Fundamental Concepts of Analysis Units: 4
- MATH 533 Algebraic Combinatorics Units: 3

Hardware Area Courses

- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 533 Network Processor Design and Programming Units: 3
- EE 536a Mixed-Signal Integrated Circuit Design Units: 4
- EE 552 Asynchronous VLSI Design Units: 3
- EE 557 Computer Systems Architecture Units: 3
- EE 560L Digital System Design Units: 4
- EE 577a VLSI System Design Units: 3
- EE 577b VLSI System Design Units: 3
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3

Software Area Courses

- CSCI 548 Information Integration on the Web Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 565 Compiler Design Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 585 Database Systems Units: 4
- EE 542 Internet and Cloud Computing Units: 3

Systems Area Courses

- CSCI 555L Advanced Operating Systems Units: 4
- EE 542 Internet and Cloud Computing Units: 3
- EE 543aL Digital Control Systems Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
  or
- EE 555 Broadband Network Architectures Units: 3
- EE 554 Real Time Computer Systems Units: 3
- EE 569 Introduction to Digital Image Processing Units: 4
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- EE 585 Linear System Theory Units: 3
- EE 597 Wireless Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Computer Science

Henry Salvatori Computer Science Center 104
(213) 740-4494
FAX: (213) 740-7285
Email: csdept@usc.edu
Chair: Cyrus Shahabi, PhD

Faculty

Chan Soon-Shiong Chair: Maja Matarić, PhD *(Neuroscience Center)*
Dean's Chair in Chemical Engineering and Materials Science: Priya Vashishta, PhD *(Computer Science, Physics)*
Andrew and Erna Viterbi Early Career Chair: Nora Ayanian, PhD
Andrew and Erna Viterbi Early Career Chair: Jernej Barbic, PhD
Gordon S. Marshall Chair in Engineering: Gaurav Sukhatme, PhD
Jack Munishian Early Career Chair; Zohrab A. Kaprielian Fellow in Engineering: Fei Sha, PhD
Niki and Max Nikias Chair in Engineering: Shrikanth (Shri) Narayanan, PhD
Northrup Grumman Chair in Engineering: Ramesh Govindan, PhD
Fletcher Jones Foundation Endowed Chair in Computer Science: Gaurav Sukhatme, PhD
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Mechanical Engineering, Industrial and Systems Engineering)*
Charles Lee Powell Chair in Engineering: Viktor Prasanna, PhD *(Electrical Engineering)*
Charles Lee Powell Chair in Electrical Engineering and Computer Science: Massoud Pedram, PhD *(Electrical Engineering)*
Henry Salvatori Chair in Computer Science: Leonard M. Adleman, PhD
Andrew and Erna Viterbi Early Career Chair: Ilias Diakonikolas, PhD
Andrew and Erna Viterbi Early Career Chair: Hao Li, PhD
Philip and Cayley MacDonald Endowed Early Career Chair: Yan Liu, PhD
Dean's Professor of Computer Science: Kevin Knight, PhD
Dean's Professor of Computer Science: Gaurav Sukhatme, PhD
Helen N. & Emmett H. Jones Professorship in Engineering: Milind Tambe, PhD *(Industrial and Systems Engineering)*
Seeley G. Mudd Professor of Engineering: Shanghua Teng, PhD
TRW Professor of Software Engineering: Barry Boehm, PhD
WISE Jr. Gabilan Chair in Computer Science: Aleksandra Korolova, PhD
Professors: Leonard Adleman, PhD *(Molecular Biology)*; Barry Boehm, PhD *(Industrial and Systems Engineering)*; Leana Golubchik, PhD *(Electrical Engineering)*; Ramesh Govindan, PhD; Ellis Horowitz, PhD *(Electrical Engineering)*; Ming-Deh Huang, PhD; Laurent Itti, PhD *(Neuroscience Center)*; Kevin Knight, PhD; Sven Koenig, PhD; Maja Matarić, PhD *(Neuroscience Center)*; Dennis McLeod, PhD; Gerard Medioni, PhD *(Electrical Engineering)*; Nenad Medvidovic, PhD; Aiichiro Nakano, PhD *(Biomedical Engineering, Materials Science, Physics)*; Ulrich Neumann, PhD *(Electrical Engineering)*; Ramakant Nevatia, PhD *(Electrical Engineering)*; Paul Rosenbloom, PhD; Stefan Schaal, PhD *(Neuroscience Center)*; Cyrus Shahabi, PhD (*Electrical Engineering)*; Gaurav Sukhatme, PhD *(Electrical Engineering)*; Milind Tambe, PhD *(Industrial and Systems Engineering)*; Shanghua Teng, PhD
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Assistant Professors: Nora Ayanian, PhD; Ilias Diakonikolas, PhD; Shaddin Dughmi, PhD; Aleksandra Korolova, PhD; Hao Li, PhD; Joseph Lim, PhD; Wyatt Lloyd, PhD; Haipeng Luo, PhD; Chao Wang, PhD
Joint Professors: Murali Annavaram, PhD *(Electrical Engineering)*; Irving Biederman, PhD *(Psychology, Neuroscience*); Melvin Breuer, PhD *(Electrical Engineering)*; Todd Brun, PhD; Tim Ting Chen, PhD *(Biological Sciences)*; Michael Crowley, PhD *(Information Technology Program)*; Morteza Dehghani, PhD (*Psychology and Computer Science);* Panayiotis Georgiou, PhD *(Electrical Engineering;* Kai Hwang, PhD *(Electrical Engineering)*; Rahul Jain, PhD (Electrical Engineering); Rajiv Kalia, PhD *(Physics)*; Carl Kesselman, PhD *(Industrial and Systems Engineering)*; Bhaskar Krishnamachari, PhD *(Electrical Engineering)*; C-C Jay Kuo, PhD *(Signal and Image Processing)*; Stephen Lu, PhD *(Industrial and Systems Engineering)*; Urbashi Mitra, PhD *(Electrical Engineering)*; Shrikanth (Shri) Narayanan, PhD *(Electrical Engineering)*; Hamid Nazerzadeh, PhD *(Data Sciences and Operations)*; Viktor Prasanna, PhD *(Electrical Engineering)*; Konstantinos Psounis, PhD; Xuehai Qian, PhD *(Electrical Engineering);* C.S. Raghavendra, PhD *(Electrical Engineering)*; Benjamin Reichardt, PhD *(Electrical Engineering)*; Remo Rohs, PhD *(Computational Biology)*; Nicolas Schweighofer, PhD *(Biokinesiology and Physical Therapy)*; Francisco Valero-Cuevas *(Biomedial Engineering)*; Priya Vashishta, PhD *(Chemical Engineering and Materials Science, Physics)*; Michael Waterman, PhD *(Mathematics, Biological Sciences)*; Richard Weinberg, PhD *(Cinematic Arts)*; John Wilson, PhD *(Spaital Sciences, Computer Science)*; Xianghong Zhou, PhD *(Biological Sciences)*
Adjunct Professors: Danny Cohen, PhD; Paul Debevec, PhD; Rick Selby, PhD

Adjunct Associate Professors: David Chiang, PhD; Mary Hall, PhD; Stacy Marsella, PhD; Larry Matthies, PhD; Chris Mattmann, PhD; Zhengyou Zhang, PhD
Adjunct Assistant Professors: Aude Billard, PhD; David DeVault, PhD; Ethan Katz-Bassett, PhD; Auke Ijspeert, PhD; Marco Papa, PhD; Sethu Vijayakumar, PhD; Minlan Yu, PhD; Roger Zimmermann, PhD
Research Professors: Ewa Deelman, PhD; Yolanda Gil, PhD; Jonathan Gratch, PhD; John Heidemann, PhD; Randall Hill, PhD; Jerry Hobbs, PhD; Craig Knoblock, PhD; Premkumar Natarajan, PhD; Herbert Schorr, PhD; William Swartout, PhD
Research Associate Professors: Aram Galstyan, PhD; Andrew Gordon, PhD; Kristina Lerman, PhD; Robert Lucas, PhD; Daniel Marcu, PhD; Stacey Marsella, PhD; Wei-Min Shen, PhD; Pedro Szekely, PhD; Joseph Touch, PhD
Research Assistant Professors: Jose Luis Ambite, PhD; Ron Artstein PhD; Young Cho, PhD; Emilio Ferrara, PhD; Rafael Ferreira da Silva, PhD; Kallirroi Georgila, PhD; Anton Leuski, PhD; Jonathan May, PhD; Jelena Mirkovic, PhD; Stefan Scherer, PhD; Ari Shapiro, PhD; Evan Suma Rosenberg, PhD; David Traum, PhD; Ning Wang, PhD; Greg Ver Steeg, PhD
Professors of Engineering Practice: Victor Adamchik, PhD; Michael Zyda, PhD
Associate Professors of Engineering Practice: Jeffrey Miller, PhD; Clifford Neuman, PhD;
Lecturers: Claire Bono; William Cheng, PhD; Aaron Cote, PhD; Scott Easley, BA; Andrew Goodney, PhD; Saty Raghavachary, PhD (*Senior Lecturer)*; Tatyana Ryutov, PhD *(Senior Lecturer*); Shawn Shamsian, PhD (*Senior Lecturer)*; Michael Shindler, PhD; Sheila Tejada, PhD *(Senior Lecturer)*
Emeritus Professors: Michael A. Arbib, PhD (*Biological Sciences, Biomedical Engineering, Electrical Engineering, Neuroscience and Psychology*), George Bekey, PhD *(Electrical Engineering, Biomedical Engineering),* Aristides A.G. Requicha, PhD (*Electrical Engineering*)

Bachelor of Science

Undergraduate Program Educational Objectives

Graduates of the undergraduate program in Computer Science are expected to attain the following objectives within a few years of graduation:

1. Graduates apply the computational and analytical approaches of computer science to their chosen professions.
2. Graduates successfully engage in life-long learning to continue to be contributing members of their communities in fields within and outside the traditional scope of computer science.
3. Graduates exhibit high professional and ethical standards to become productive leaders in society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Computer Science includes at least one and one-third years of computer science that covers the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and software; provides an exposure to a variety of programming languages and systems, including at least one higher-level language; and includes advanced course work that builds on the fundamental course work to provide depth.

The program includes at least one year of science and mathematics, including at least one-half year of mathematics, including discrete mathematics. Additional mathematics might consist of calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic. The science component develops an understanding of the scientific method and provides an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work.

Physics/Computer Science Major Requirements for the Bachelor of Science

This program is intended for students with dual interests in physics and computer science who wish to complete the essential courses for both majors within their normal four year career. See the Physics and Astronomy Department section for course requirements.

Bachelor of Science in Computer Engineering and Computer Science

See the listing under Computer Engineering Program.

Minor in 2-D Art for Games

This interdisciplinary minor integrates three major disciplines (fine arts, computer science and interactive media) to develop the 2-D visual skills necessary to conceptualize and illustrate images for games. For more information, see USC Roski School of Art and Design.

Minor in 3-D Art for Games

The focus of the 3-D Art for Games minor is a trans-disciplinary approach that incorporates the creative, technological and team-based communication skills necessary to develop 3-D art skills for video games. For more information, see USC Roski School of Art and Design.

Graduate Degrees

The requirements listed below are special to this department and must be read in conjunction with the general requirements of the USC Viterbi School of Engineering for master's degrees and the general requirements of the USC Graduate School for PhD degrees. The graduate program in computer science provides intensive preparation in the basic concepts and techniques related to the design, programming and application of digital computers. Both the Master of Science and Doctor of Philosophy degrees are offered.

A Master of Science degree with specialization in software engineering is also offered. The program seeks to prepare students for an industrial leadership career in software engineering. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD.

A Master of Science degree with specialization in intelligent robotics is also offered. This program seeks to prepare students for an industrial career in the development of computer systems for CAD/CAM (Computer-Aided Design and Manufacturing) and robotics. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD. The emphasis is on the domain of mechanical, electromechanical and mechatronic products. (CAD for digital systems is covered by a separate program offered by the Electrical Engineering-Systems department.)

A Master of Science degree with a specialization in computer networks is offered. This specialization prepares students in the areas of computer communications, networks and distributed processing.

A Master of Science in Computer Science (Multimedia and Creative Technologies) is also offered.

A Master of Science in Computer Science (High Performance Computing and Simulations) is also offered.

A Master of Science in Computer Science (Data Science) is also offered.

A Master of Science in Computer Science (Game Development) is also offered.

A Master of Science in Computer Science (Computer Security) is also offered.

A Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China is also offered.

A Master of Science in Computer Science (Scientists and Engineers) is also offered for students with limited background in computer science.

Admission and Prerequisites

Admission is determined by the Office of Admission and the Viterbi School of Engineering, in consultation with the Computer Science Department. The applicant is required to have a bachelor's degree or its equivalent from an accredited college or university; satisfactory scores on the verbal and quantitative portions of the aptitude test of the Graduate Record Examinations (one

advanced test from computer science, mathematics or engineering is recommended); and a substantial background in computing constitutes a minimum requirement. Foreign students must earn a satisfactory score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS).

Bachelor's Degree

Computer Science (BS)

The undergraduate program in computer science is an interdisciplinary program leading to the Bachelor of Science in Computer Science. The program is designed to provide both an academic and professional orientation.

General admission requirements for the undergraduate program are the same as those of the university and the USC Viterbi School of Engineering and include 3 to 5 units of mathematics and one unit of science (biology, chemistry or physics) together with satisfactory scores on the Scholastic Aptitude Test and Achievement Tests. The minimum requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper division courses applied toward the major, regardless of the department in which the courses are taken. Candidates must complete general education requirements; see the General Education Program.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education Units: 24

Pre-Major Requirements (29-30 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (16 units)

- MATH 125g Calculus I Units: 4 ***
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4
- MATH 226 Calculus III Units: 4
  or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Statistics and Probability (3-4 units)

- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 3 or
- MATH 407 Probability Theory Units: 4

Basic Science (8 units)

One of the following science area course sequences:

Biology:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 ** and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 ** and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

Chemistry:

- CHEM 105aLg General Chemistry Units: 4 ** and
- CHEM 105bL General Chemistry Units: 4 ** or
- CHEM 115aLg Advanced General Chemistry Units: 4 ** and
- CHEM 115bL Advanced General Chemistry Units: 4 **

Physics:

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4 and
- PHYS 162L Advanced Principles of Physics II Units: 4

Major Requirements (60 Units)

Computer Science (42 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 310 Software Engineering Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
  or
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4

Electrical Engineering (4 units)

- EE 109L Introduction to Embedded Systems Units: 4

Technical electives++ (14 units)

(at least four courses for a minimum of 14 units) Units: 14

++Applicable courses include:

- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 423 Native Console Multiplayer Game Development Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 459 Computer Systems and Applications Modeling Fundamentals Units: 3
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2
- CSCI 499 Special Topics Units: 2, 3, 4
- EE 354L Introduction to Digital Circuits Units: 4
- EE 450 Introduction to Computer Networks Units: 3
- EE 451 Parallel and Distributed Computation Units: 4
- EE 454L Introduction to System-on-Chip Units: 4
- EE 457 Computer Systems Organization Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 3
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- EE 499 Special Topics Units: 2, 3, 4
- ENGR 395ax Cooperative Education Work Experience Units: 1 or 2
- ENGR 395bx Cooperative Education Work Experience Units: 1 or 2

- ENGR 395cx Cooperative Education Work Experience Units: 1 or 2
- ITP 368 Programming Graphical User Interfaces Units: 3
- ITP 380 Video Game Programming Units: 4
- ITP 435 Professional C++ Units: 3
- ITP 439 Compiler Development Units: 3
- ITP 466 Building the High Tech Startup Units: 4
- ITP 485 Programming Game Engines Units: 4
- MATH 458 Numerical Methods Units: 4

Note:
Students may also choose one adviser-approved course from the 300- and 400-level ITP offerings. Other courses may be applicable; please see an adviser for approval.

Free Electives (7-8 Units)

Total units: 128

** WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSCI majors*
***Courses selected to meet the general education life science and physical science requirements must be approved by the CSCI department to ensure that students achieve the required level of basic science content in their programs.*

****Satisfies General Education requirement.*

Computer Science (Games) (BS)

The goal of the BS in Computer Science (Games) program is to graduate students with a solid grounding in computer science and a cross-disciplinary background in game development. Topics covered in the cross-disciplinary game development portion of the degree program include game production, visual design for games and interactives, computer animation, video game programming, game hardware architectures, game engine programming, serious game development, introductory and intermediate game design, and two semester-long final game projects. Students graduating from this program will be capable of engineering next-generation games and simulations and their technologies in the entertainment and serious game fields. Additionally, graduates from this program will be able to further their education in graduate programs in game development and computer science.

The requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

General Education Units: 24

Pre-Major Requirements (18 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (8 units)

- MATH 125g Calculus I Units: 4 **
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

Linear Algebra (4 units)

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- EE 141L Applied Linear Algebra for Engineering Units: 4

Physics (4 units)

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 ** or
- PHYS 161Lg Advanced Principles of Physics I Units: 4

Major Requirements (78 units)

Computer Science

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 420 Computer Graphics Units: 4

Game Development (take 30 units out of the following 34 units)

- CSCI 281 Pipelines for Games and Interactives Units: 4
- CSCI 423 Native Console Multiplayer Game Development Units: 4
- CSCI 426 Game Prototyping Units: 4
- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 190 Introduction to Interactive Entertainment Units: 4
- CTIN 484L Intermediate Game Development Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 489 Intermediate Game Design Workshop Units: 2
- ITP 380 Video Game Programming Units: 4
- ITP 485 Programming Game Engines Units: 4

Game Capstone (6 units)

- CSCI 491aL Final Game Project Units: 4
- CSCI 491bL Final Game Project Units: 2

Free Electives (1 unit)

Total units: 128

*WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSGM majors.
**Satisfies GE requirement.

Computer Science/Business Administration (BS)

The combined Bachelor of Science degree program in computer science/business administration offers qualified students the opportunity to gain an educational foundation in both areas. The degree cannot also be combined as an additional major in either computer science or business administration. The degree is administered by the Computer Science Department.

The minimum requirement for the degree is 128 units.

A grade of C (2.0) or better is required for each of the core courses CSCI 103, CSCI 170, CSCI 104 and CSCI 201.

Courses with a grade of C- or below must be repeated; courses may only be retaken once.

Departmental approval is required in order to retake a course.

Students who do not satisfy the degree requirement after repeating a class will be disqualified from the program.

A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken.

Composition/Writing Requirements (7 Units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 *

General Education (24 Units)

- General Education Units: 24

Pre-Major Requirements (14 Units)

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Mathematics (8 units)

- MATH 125g Calculus I Units: 4 **
- MATH 126 Calculus II Units: 4
  or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

Basic Science (4 units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4 or
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 or
- PHYS 161Lg Advanced Principles of Physics I Units: 4

Major Requirements (82-86 Units)

Statistics and Probability (3-4 units)

- BUAD 310g Applied Business Statistics Units: 4 or
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 3 or
- MATH 407 Probability Theory Units: 4

Linear Algebra (4 units)

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 or
- EE 141L Applied Linear Algebra for Engineering Units: 4

Computer Science Requirements (30 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4
- CSCI 201L Principles of Software Development Units: 4
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4
- CSCI 310 Software Engineering Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
  or
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4

Business Requirements (36 units)

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 302 Communication Strategy in Business Units: 4
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 306 Business Finance Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- BUAD 311 Operations Management Units: 4
- BUAD 497 Strategic Management Units: 4
- ECON 351x Microeconomics for Business Units: 4
- ECON 352x Macroeconomics for Business Units: 4

Technical Electives (9-12 units)

Students must take one course from the Computer Science selection and one from the Business selection and a third course from either one.

Computer Science Electives

Take at least one from the following courses:

- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 485 File and Database Management Units: 4

Business Electives

Take at least one from the following courses:

- BAEP 452 Feasibility Analysis Units: 4
- BAEP 453 Venture Management Units: 4
- BUAD 301 Technology Entrepreneurship Units: 3
- DSO 431 Foundations of Digital Business Innovation Units: 4
- DSO 433 Business Process Design Units: 4
- DSO 443 The Business of Digital Entertainment Units: 4
- DSO 462 Managing a Small Business on the Internet Units: 2
- MKT 425 Marketing in a Digital World Units: 4

Free Electives (0-1 units)

Total units: 128-131

*WRIT 340 Advanced Writing (Communication for Engineers) is strongly recommended for CSBA majors.
**Satisfies GE requirement.

Minor

Computer Science Minor

The computer science minor introduces the concepts, tools and techniques that are involved in the programming of computers. The minor prepares students to achieve mastery in several current programming languages. In addition, the student will learn about creating effective user interfaces and how to build applications that are available on the Internet.

Required Courses

Lower division (18 units)

- CSCI 103L Introduction to Programming Units: 4
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 109 Introduction to Computer Science Units: 2
- CSCI 170 Discrete Methods in Computer Science Units: 4

- CSCI 201L Principles of Software Development Units: 4 or
- CSCI 270 Introduction to Algorithms and Theory of Computing Units: 4

Electives

12 units selected from the following courses:

- CSCI 310 Software Engineering Units: 4
- CSCI 350 Introduction to Operating Systems Units: 4
- CSCI 353 Introduction to Internetworking Units: 4
- CSCI 356 Introduction to Computer Systems Units: 4
- CSCI 360 Introduction to Artificial Intelligence Units: 4
- CSCI 401 Capstone: Design and Construction of Large Software Systems Units: 4
- CSCI 404 Capstone: Creating Your High-Tech Startup Units: 4
- CSCI 420 Computer Graphics Units: 4
- CSCI 430 Introduction to Computer and Network Security Units: 4
- CSCI 445L Introduction to Robotics Units: 4
- CSCI 476 Cryptography: Secure Communication and Computation Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 499 Special Topics Units: 2, 3, 4

Total units: 30

Joint Degree

Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China

The Master of Science in Computer Science Dual Degree with Tsinghua University School of Information Science and Technology – China (THU) leads to two Master of Science degrees in Computer

Science, one from each institution. The dual degrees are subject to the following stipulations:

1. All required courses for each degree are required for the dual degree.
2. The program description for the Tsinghua University Master of Science in Computer Science and Technology is online at http://www.tsinghua.edu.cn/publish/csen/4906/index.html.
3. The general requirements for the MS in Computer Science at USC in this dual degree program are the same as those for the USC general MS in Computer Science without a thesis, except that at least 19 units (of the minimum total of 28) must be completed at USC, and 9 units of pre-approved course work transferred from THU may be counted toward the degree requirements at USC. This is due to:
   - a special partnership in this area established by a Memorandum of Understanding at the University level to amplify cooperation between USC and THU and between the United States and China in an intellectual and economic arena of great importance to both, where many shared interests exist;
   - the similarity of the USC and THU curricula, which allows expanded course substitution due to interchangeable content;
   - the desirability of providing students with a wider array of relevant courses than they can get at either institution;
   - the opportunity to provide students a unique transcultural experience that will position them to be global leaders in their field.
4. The two MS degrees must be earned at the same time, generally at the end of two and one-half to three years of study. The THU degree requirements must be completed for students to receive the USC MS in Computer Science as part of the dual degree program.
5. Students who elect to receive only the USC degree must change their degree objective from the USCTsinghua University dual degree to a different MS degree objective in Computer Science. In this case they will be allowed to transfer only the standard 4 adviser-approved units from Tsinghua University toward the USC degree.
6. The following required courses must generally be taken at USC: CSCI 570 and one course from each of the following two categories: I. CSCI 551, CSCI 555, CSCI 571, CSCI 577a, CSCI 585, EE 557; II. CSCI 545, CSCI 561, CSCI 564, CSCI 574, CSCI 580, CSCI 582. There must be justification for the omission of a required course in either degree, for example a certain course in one degree may provide comparable content to the omitted course in the other degree.
7. The USC Computer Science Department has identified a list of transferrable THU courses that can be considered USC equivalents but is also willing to entertain transfer, on a case by case basis, of unique THU CSCI courses for which no obvious mapping to a USC CSCI course exists.
8. Courses taken at Tsinghua University by students sent from USC will be taught in English.
9. Other requirements for the Master of Science in Computer Science are the same as set forth in the general requirements for Viterbi School of Engineering Master of Science degrees.

Master's Degree

Computer Science (Computer Networks) (MS)

You must take the following course (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Choose two of the following courses (8 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Computer Networks - Required Core Courses (14 units)*

- CSCI 551 Computer Networking Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- EE 450 Introduction to Computer Networks Units: 3

You must take 6 units from the following:

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- CSCI 599 Special Topics Units: 2, 3, 4
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 558 Optical Fiber Communication Systems Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3

Total Units

Total Units: Minimum 32

Note:

*CSCI 402 is a prerequisite for CSCI 551, CSCI 555 and CSCI 558. CSCI 402 is automatically waived for graduate computer science students.

**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Computer Science (Computer Security) (MS)

Required Courses (20 units)

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 570 Analysis of Algorithms Units: 4

Choose two of the following courses (8 units)

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Complete 4 units from the following courses:

- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 578 Software Architectures Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (Max 2 units)
- CSCI 591 Computer Science Research Colloquium Units: 1 (Max 2 units)
- CSCI 599 Special Topics Units: 2, 3, 4 *

Total units: 32

**Topics must be pre-approved by an adviser.*

Computer Science (Data Science) (MS)

The Master of Science in Computer Science (Data Science) provides students with a core background in computer science and specialized algorithmic, statistical and systems expertise in acquiring, storing, accessing, analyzing and visualizing large, heterogeneous and real-time data associated with diverse real-world domains including energy, the environment, health, media, medicine and transportation.

Required Courses

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4

- CSCI 585 Database Systems Units: 4

Group Electives

Three Courses with a Minimum of One Course From Each Group

Group 1 (Data Systems):

- CSCI 548 Information Integration on the Web Units: 4
- CSCI 572 Information Retrieval and Web Search Engines Units: 4
- CSCI 586 Database Systems Interoperability Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- CSCI 653 High Performance Computing and Simulations Units: 4
- CSCI 685 Advanced Topics in Database Systems Units: 4
- INF 551 Foundations of Data Management Units: 4

Group 2 (Data Analysis):

- CSCI 567 Machine Learning Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 686 Advanced Big Data Analytics Units: 4
- INF 553 Foundations and Applications of Data Mining Units: 4
- ISE 520 Optimization: Theory and Algorithms Units: 3
- MATH 467 Theory and Computational Methods for Optimization Units: 4
- MATH 574 Applied Matrix Analysis Units: 3

Additional Electives

Any 500- or 600-level course in CSCI (including additional group electives or special topics)*

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1
- INF 554 Information Visualization Units: 4
- INF 558 Building Knowledge Graphs Units: 4
- MATH 458 Numerical Methods Units: 4
- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 502a Numerical Analysis Units: 3
- MATH 502b Numerical Analysis Units: 3
- MATH 505a Applied Probability Units: 3
- MATH 601 Optimization Theory and Techniques Units: 3
- MATH 650 Seminar in Statistical Consulting Units: 3

Total units required for the degree is 32

*Note: No more than 4 units may be taken at the 400-level, and maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. A maximum of 3 INF courses can be taken toward the degree.

Computer Science (Game Development) (MS)

The goal of the MS in Computer Science (Game Development) program is to graduate students with a core in computer science, an engineering-oriented game development core and a concentration in one of the key research directions in game development infrastructure, cognition and games, immersion and serious games. Infrastructure is researching and developing the software and hardware infrastructure necessary for the development of the future of interactive games and large-scale simulations; massively multiplayer online games (MMOGs) and simulation networks; game engines and tools; instant games; wireless and mobile games and infrastructures; and next generation consoles. Cognition and games is developing theories for modeling and simulating computer characters and story; developing methods for modeling, simulating and displaying human emotion; analyzing large-scale game play; and developing theories for infusing pedagogy with game play. Immersion is researching and developing the technologies to engage the mind of the game player via sensory stimulation; reading the human emotional state and providing that as an input to the game; and emotionally adaptive game software architectures. Serious games and simulations is developing a theory for the deployment of games and simulations for purposes of education and training, health, public policy and strategic communication; game evaluation; serious game development; and human performance engineering. Students graduating from this program will be capable of engineering next generation games and simulations and their required technologies immediately upon graduation in the entertainment and serious game fields. Additionally, graduates from this program will be able to further their education in graduate programs in game development and computer science. The long-term goal with this MS degree is to establish research and development directions that create a science of games and an accompanying archival literature that improves game development for both serious and entertainment purposes.

Required Courses (8 Units)

- CSCI 570 Analysis of Algorithms Units: 4

One of the following courses (4 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Game Development Core (12 Units)

- CSCI 423 Native Console Multiplayer Game Development Units: 4
- CSCI 522 Game Engine Development Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4

Project Classes (6 Units)

- CSCI 529a Advanced Game Projects Units: 4
- CSCI 529b Advanced Game Projects Units: 2

Game Development Electives

Complete 6 units from the following:*

- CSCI 424 Game Engine Tool Development Units: 4
- CSCI 425 Immersive Game Development Units: 4
- CSCI 499 Special Topics Units: 2, 3, 4 or
- CSCI 599 Special Topics Units: 2, 3, 4 **
- CSCI 520 Computer Animation and Simulation Units: 4
- CSCI 523L Networked Games Units: 4
- CSCI 524 Networked Artificial Intelligence Units: 4
- CSCI 526 Advanced Mobile Devices and Game Consoles Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1
- CTIN 401L Interface Design for Games Units: 2
- CTIN 403L Advanced Visual Design for Games Units: 2
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 405L Design and Technology for Mobile Experiences Units: 2
- CTIN 406L Sound Design for Games Units: 2
- CTIN 444 Audio Expression Units: 2
- CTIN 456 Game Design for Business Units: 2
- CTIN 458 Business and Management of Games Units: 2
- CTIN 459L Game Industry Workshop Units: 4
- CTIN 462 Critical Theory and Analysis of Games Units: 4
- CTIN 463 Anatomy of a Game Units: 4
- CTIN 464 Game Studies Seminar Units: 2
- CTIN 482 Designing Social Games Units: 2
- CTIN 486 Alternative Control Workshop Units: 2
- CTIN 488 Game Design Workshop Units: 4
- CTIN 492L Experimental Game Topics Units: 4

Total units: 32

Note:

*A maximum of 8 units of 400-level courses may be applied. A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

**Adviser approval required.

Computer Science (High Performance Computing and Simulations) (MS)

Required Courses

- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 596 Scientific Computing and Visualization Units: 4

Choose two of the following courses (8 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Technical Elective Courses

Three of the following courses — students must take at least one course from both the Computer Science Track and the Computational Science/Engineering Application Track.

A. Computer Science Track

- CSCI 520 Computer Animation and Simulation Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 599 Special Topics Units: 2, 3, 4 *
- CSCI 653 High Performance Computing and Simulations Units: 4

B. Computational Science/Engineering Application Track

- AME 535a Introduction to Computational Fluid Mechanics Units: 3 or
- AME 535b Introduction to Computational Fluid Mechanics Units: 3
- CE 529a Finite Element Analysis Units: 3
- CHE 502 Numerical Methods for Diffusive and Convective Transport Units: 3
- EE 553 Computational Solution of Optimization Problems Units: 3
- EE 653 Advanced Topics in Microarchitecture Units: 3
- EE 657 Parallel and Distributed Computing Units: 3
- EE 659 Interconnection Networks Units: 3
- MASC 575 Basics of Atomistic Simulation of Materials Units: 3
- MATH 501 Numerical Analysis and Computation Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- PHYS 516 Methods of Computational Physics Units: 3
- PTE 582 Fluid Flow and Transport Processes in Porous Media Units: 3, 2 years

Complete the remaining units from the group list above or the following:

CSCI 500- or 600-level course Units: 4

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **

Note:

**Adviser approval required.*
***A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.*

Total units: Minimum 32

Computer Science (Intelligent Robotics) (MS)

You must take the following course (4 units)

- CSCI 570 Analysis of Algorithms Units: 4

Intelligent Robotics - Required Core Courses (8 units)

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4

Choose one of the following courses (4 units)

- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Complete 16 units from the following courses*

- CSCI 445L Introduction to Robotics Units: 4
- CSCI 534 Affective Computing Units: 4
- CSCI 540 Self-Organization Units: 4
- CSCI 567 Machine Learning Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 599 Special Topics Units: 2, 3, 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1
- CSCI 646 Coordinated Mobile Robotics Units: 4
- Non Computer Science Course from the approved list Units: 3-4
- 600-level CSCI Course (adviser approval required) Units: 4
- Additional 500-level CSCI course Units: 4

*Note:

CSCI 445 must be taken **before** *CSCI 545. Alternate Robotics/AI related courses may be substituted in the elective area. A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Internship courses (ENGR 595a, ENGR 595b, and ENGR 595z) are not eligible for elective credit.*

Computer Science (MS)

Requirements for Graduation without a Thesis

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in computer science. This average must also be earned on all graduate courses completed at USC (400-level and above). Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average. A maximum of 4 units may be taken at the 400 level from approved courses in either electrical engineering or computer science; the remaining units must be approved courses at the 500 or 600 level. MS students may complete a maximum of 8 units of 600-level courses for use in the degree program. Approval for enrollment in 600-level courses must come from the faculty instructor and department adviser. Total units required for the degree is 28. No examination is required for the degree. Other requirements for the Master of Science in Computer Science are the same as set forth in the general requirements for Viterbi School of Engineering master's degrees.

The required courses are as follows:

Required course (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Choose two of the following courses (8 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Additional Course Work:

The remaining elective units necessary to earn the degree are completed by selecting additional 500-level CSCI courses.

- **Note**: A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Furthermore, only one course may be 400-level, and up to two courses may be 600-level. With adviser approval, one non Computer Science Course may be selected from the approved list. Thesis courses (CSCI 594a, CSCI 594b, CSCI 594z) and Internship courses (ENGR 595a, ENGR 595b, ENGR 595z) are not eligible for elective credit

Thesis Option:

With the approval of a supervising professor, qualified students may be allowed to pursue a thesis option. Students pursuing the thesis option must satisfy all of the policies and course requirements for the master's degree and, in addition, must enroll in a minimum of two semesters of CSCI 594a, CSCI 594b, CSCI 594z for a maximum of 4 units. Total units required for the degree with thesis is 32. The thesis must comply with all requirements set by the Graduate School. Students interested in a thesis while enrolled in a CS specialization should consult with their department adviser.

Computer Science (Multimedia and Creative Technologies) (MS)

You must take the following course (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Choose two of the following courses (8 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

You must take the following four courses (16 units):

- CSCI 420 Computer Graphics Units: 4
- CSCI 520 Computer Animation and Simulation Units: 4 *
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4 *

Complete the remaining units from one of the following options:

- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 **
- CSCI 591 Computer Science Research Colloquium Units: 1 **
- Non Computer Science Course from the approved list Units: 3-4
- 600-level CSCI Course (adviser approval required) Units: 4
- Additional 500-level CSCI course Units: 4

Note:

*CSCI 420 should be taken before CSCI 520 and CSCI 580.
**A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Total units: Minimum 32

Computer Science (Scientists and Engineers) (MS)

Designed for students with engineering or science bachelor's degree but limited background in computer science, this comprehensive, two-year, 37-unit program combines an introductory sequence of undergraduate preparatory and foundational course work with all the graduate breadth requirements necessary to satisfy the traditional master's degree. **Note:** The preparatory programming requirement and foundational requirements must be completed at USC and cannot be transferred in or waived. Applicants to this program must meet the admissions standards of the Viterbi School of Engineering.

Preparatory Programming Requirement

- CSCI 455x Introduction to Programming Systems Design Units: 4 *

Foundational Requirements

- CSCI 402 Operating Systems Units: 4

- EE 457 Computer Systems Organization Units: 4 or
- EE 450 Introduction to Computer Networks Units: 3

Breadth Requirements

You must take the following courses (16 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Electives

Select two courses, 7-8 units, from approved 500- to 600-level course work from Computer Science. Recommended options include:

- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 591 Computer Science Research Colloquium Units: 1

Note:

A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied. Internship courses (ENGR 595a, ENGR 595b, and ENGR 595z) are not eligible for elective credit.

Total program units: 37

Total degree units: 33

**Note: CSCI 455 is a preparatory requirement for this program, but the units for this course do not count toward the 33 units required for the degree.*

Computer Science (Software Engineering) (MS)

Students must satisfy all requirements for the Master of Science degree in Computer Science. In addition, they must take the following courses. Students may also include research for an optional master's thesis in their programs. This program seeks to prepare students for an industrial leadership career in software engineering. It also serves as an introduction to this area for students who wish to pursue advanced studies and research leading to a PhD.

You must take the following course (4 units):

- CSCI 570 Analysis of Algorithms Units: 4

Choose two of the following courses (8 units):

- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Software Engineering –Take all four courses:

- CSCI 510 Software Management and Economics Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 578 Software Architectures Units: 4

Software Engineering Electives – Complete one of the following courses (4 units):

- CSCI 512 Testing and Analysis of Software Systems Units: 4
- CSCI 568 Requirements Engineering Units: 4
- CSCI 591 Computer Science Research Colloquium Units: 1
- CSCI 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- CSCI 599 Special Topics Units: 2, 3, 4

Note:

A maximum of 2 units of CSCI 590 and a maximum of 2 units of CSCI 591 may be applied.

Total units: Minimum 32

University Certificate

Software Architecture Graduate Certificate

This certificate program will provide engineers with the skills required to face the increasingly complex future in architecting systems, systems of systems and software-intensive systems. Students will be exposed to the concepts, principles and state-of-the-art methods in software architectures. This program introduces principles and approaches for modeling systems using SysML; applies software engineering process models and management approaches to the design and architecture of large software systems; and guides the architect through every phase of the conception, implementation, deployment and finally retirement of software systems. It is expected that participants in the certificate program will have completed an undergraduate degree in computer science or a related field and will have several years of practical experience in software engineering and/or systems engineering. If students are later admitted to the Master of Science in Computer Science, the courses taken for the certificate may be applied to that program.

Required Courses

- CSCI 568 Requirements Engineering Units: 4
- CSCI 578 Software Architectures Units: 4
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
- SAE 549 Systems Architecting Units: 3

Electives (Choose One)

- CSCI 510 Software Management and Economics Units: 4
- CSCI 530 Security Systems Units: 4 *
- CSCI 555L Advanced Operating Systems Units: 4 *
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- CSCI 589 Software Engineering for Embedded Systems Units: 4
- EE 557 Computer Systems Architecture Units: 3 **
- SAE 541 Systems Engineering Theory and Practice Units: 3

Total units: 17-18

**Prerequisite: CSCI 402*
***Prerequisite: EE 457*

Doctoral Degree

Computer Science (PhD)

The Doctor of Philosophy with a major in computer science is awarded in strict conformity with the general requirements of the USC Graduate School. See Requirements for Graduation - GRAD. Departmental requirements for this degree consist of a concentrated program of study and research and a dissertation. Consult a separately published guide, available from the department office and Website, for more information concerning course requirements, the screening procedure, the teaching requirement, the qualifying examination, the thesis proposal and other requirements.

Course Requirements

Each student is required to complete two semesters of CSCI 697 (1 unit each, 2 maximum) and CSCI 670 (4 units). In addition, students are required to pass two semesters of CSCI 698 (1-2 units each, no maximum) as part of a teaching requirement.

Elective courses: In addition to the mandatory courses, each student must complete five CSCI courses at the 500 level and above, 4 units each. No more than two of these courses (8 units total) may be at the 500 level; the remaining must be CSCI courses at the 600 level. Directed Research units or thesis credits do not satisfy this requirement. Students are strongly advised to take at least one of their elective courses in an area of computer science that is different from their proposed area of research. The PhD adviser is expected to provide guidance on this matter to the student.

The CSCI 670 course requirement may be waived by examination only. Each course in the department has a faculty member who is designated as the course "owner." The owner of CSCI 670 is in charge of creating and grading the waiver examination. CSCI 697 and CSCI 698 may not be waived.

Course Requirements

Each PhD student is expected to demonstrate breadth of knowledge as well as depth in a chosen area of concentration. Hence, the required courses fall into two groups: (1) a common core, required of all doctoral students, and (2) additional required courses which depend on the student's area of concentration. The common core consists of five courses selected from the following five groups. Students must complete one class from each group:

Group 1

- EE 557 Computer Systems Architecture Units: 3
- CSCI 551 Computer Networking Units: 4
- CSCI 555L Advanced Operating Systems Units: 4

Group 2

- CSCI 577a Software Engineering Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 585 Database Systems Units: 4

Group 3

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3

Group 4

- CSCI 574 Computer Vision Units: 3
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 582 Geometric Modeling Units: 3

Group 5

- CSCI 670x Advanced Analysis of Algorithms Units: 4
- CSCI 581 Logic and its Applications Units: 3
- MATH 501 Numerical Analysis and Computation Units: 3

Note:

A minimum GPA of 3.5 must be obtained in these five core courses.

Additional Requirements

In addition, all PhD students must register for two semesters of CSCI 597 Seminar in Computer Science Research for a maximum of 2 units during their first year. PhD programs in computer science are grouped into the following specializations: Network and Systems (Interaction); Databases (Interaction); Software Engineering (Interaction); Robotics (Autonomy); Intelligent Agents and Organizations (Autonomy); Natural Language Processing (Autonomy); Graphics and Multimedia (Immersion); Vision (Immersion); Theory of Computation: Genomic, Molecular and Quantum Computation (Computation); Brain Theory and Neural Networks (Computation); High Performance Computing and Parallel Computation (Computation).

Each student must select a specialization as his or her area of concentration. Each specialization requires a minimum of three additional courses. Specific specialization requirements (which may change as the fields change) will be provided to the students by the department.

Required courses may be taken in any chronological order, with due attention to prerequisites, and may precede or follow the Screening Evaluation.

A total of 60 units, at least 40 at the 500 level or above, beyond the bachelor's degree is required (including the above required courses). A minimum grade point average of 3.5 must be maintained. Students with a Master of Science degree may transfer up to 27 units.

Qualifying Examination

All doctoral students must pass a qualifying examination in computer science within four years before being admitted to candidacy. The qualifying examination tests the student's broad knowledge of computer science and deep insight into a chosen area of research.

Permission to take the qualifying examination must be obtained from the dean of graduate studies at least 60 days prior to its occurrence, and must be taken in the semester for which permission is granted. The qualifying exam committee administers the qualifying examination and evaluates the student's performance. If the examination is failed, the qualifying exam committee may recommend that the student repeat the examination 6–12 months later. The examination cannot be taken more than twice.

Dissertation

An acceptable dissertation based upon original research is required. The dissertation must show mastery of some special field, must be an original contribution to that field and must be presented in scholarly form.

Defense of the Dissertation

When all other requirements are satisfied, the candidate must pass a public final oral examination in defense of the dissertation.

Electrical Engineering – Ming Hsieh Department of Electrical Engineering

Electrical Engineering-Systems
Hughes Aircraft Electrical
Engineering Center 100
(213) 740-4446
FAX: (213) 740-4449
Email: studentinfo@ee.usc.edu
Electrical Engineering-Electrophysics
Powell Hall of Information Sciences and Engineering 604
(213) 740-7874
FAX: (213) 740-8677
Email: eepdept@usc.edu

Co-Chairs: Sandeep Gupta, PhD *(Systems)*; Eun Sok Kim, PhD *(Electrophysics)*
Associate Chair (Systems): Keith M. Chugg, PhD
Associate Chair (Curriculum and Student Services): Edward W. Maby, PhD

Faculty

Presidential Chair: Andrew J. Viterbi, PhD
A.V. "Bal" Balakrishnan Chair: Petros Ioannou, PhD
Kenneth C. Dahlberg Early Career Chair: Rahul Jain, PhD
Solomon Golomb - Andrew and Erna Viterbi Chair: Andreas Molisch, PhD
Lloyd F. Hunt Chair in Electrical Power Engineering: Martin Gundersen, PhD
William M. Keck Chair in Engineering: P. Daniel Dapkus, PhD
Robert G. and Mary G. Lane Early Career Chair: Murali Annavaram, PhD
Gordon S. Marshall Chair in Engineering: Gaurav Sukhatme, PhD
Niki and Max Nikias Chair in Engineering: Shrikanth (Shri) Narayanan, PhD
Fred W. O'Green Chair in Engineering: Leonard M. Silverman, PhD
Robert C. Packard President's Chair and Malcolm R. Currie Chair in Technology and the Humanities: C. L. Max Nikias, PhD
Colleen and Roberto Padovani Early Career Chair in Electrical Engineering: Mike Chen, PhD
George T. Pfleger Chair in Electrical Engineering: Robert W. Hellwarth, PhD
Charles Lee Powell Chair in Engineering: Viktor Prasanna, PhD
Charles Lee Powell Chair in Engineering and Computer Science: Massoud Pedram, PhD
Steven and Kathryn Sample Chair in Engineering: Alan E. Willner, PhD
Leonard Silverman Chair: Alexander A. Sawchuk, PhD
Andrew and Erna Viterbi Early Career Chair: Maryam M. Shanechi, PhD
WISE Junior Gabilan Chair: Michelle Povinelli, PhD
Fred H. Cole Professorship in Engineering: Robert A. Scholtz, PhD
Dean's Professor in Electrical Engineering: Chung-Chieh Kuo, PhD
Dean's Professor of Electrical Engineering: Richard Leahy, PhD*
Dean's Professor in Electrical Engineering: Urbashi Mitra, PhD
Louise L. Dunn Endowed Professorship in Engineering: Timothy Pinkston, PhD
William M. Hogue Professorship in Electrical Engineering: Mahta Moghaddam, PhD
Stephen and Etta Varra Professor: Massoud Pedram, PhD
Viterbi Professorship in Engineering: Daniel Lidar, PhD
Ming Hsieh Faculty Fellow in Electrical Engineering: Hossein Hashemi, PhD
Ming Hsieh Faculty Fellow in Electrical Engineering: Bhaskar Krishnamachari, PhD
Professors: Todd Brun, PhD *(Computer Science, Physics and Astronomy)*; Keith M. Chugg, PhD; Stephen B. Cronin, PhD *(Physics)*; P. Daniel Dapkus, PhD *(Materials Science)*; Michel Dubois, PhD; Martin Gundersen, PhD *(Materials Science, Physics)*; Sandeep Gupta, PhD; Robert W. Hellwarth, PhD *(Physics)*; Hossein Hashemi, PhD; Kai Hwang, PhD *(Computer Science)*; Petros Ioannou, PhD *(Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*; B. Keith Jenkins, PhD; Edmond Jonckheere, PhD *(Mathematics)*; Mihailo Jovanovic, PhD; Eun Sok Kim, PhD; Bart Kosko, PhD *(Law)*; Bhaskar Krishnamachari, PhD *(Computer Science)*; Chung-Chieh Kuo, PhD *(Computer Science)*; Richard Leahy, PhD* *(Biomedical Engineering, Radiology)*; Anthony F. J. Levi, PhD *(Physics)*; Daniel Lidar, PhD *(Chemistry, Physics and Astronomy)*; William C. Lindsey, PhD; Jerry M. Mendel, PhD; Urbashi Mitra, PhD *(Computer Science)*; Mahta Moghaddam, PhD; Andreas Molisch, PhD; Shrikanth (Shri) Narayanan, PhD *(Computer Science, Linguistics, Pediatrics, Psychology)*; Krishna Nayak, PhD *(Biomedical Engineering, Pediatrics, Radiology)*; C. L. Max Nikias, PhD; John O'Brien, PhD; Antonio Ortega, PhD; Alice C. Parker, PhD*; Massoud Pedram, PhD; Timothy Pinkston, PhD; Viktor Prasanna, PhD *(Computer Science)*; C. Raghavendra, PhD *(Computer Science)*; Alexander A. Sawchuk, PhD*; Robert A. Scholtz, PhD; Leonard Silverman, PhD; John Silvester, PhD; John B. Slaughter, PhD *(Education)*; Armand R. Tanguay Jr., PhD *(Biomedical Engineering, Materials Science, Physics)*; Andrew J. Viterbi, PhD; Alan E. Willner, PhD*; Chongwu Zhou, PhD
Associate Professors: Murali Annavaram, PhD *(Computer Science)*; Salman Avestimehr, PhD; Peter Beerel, PhD; Michael Shuo-Wei Chen, PhD; Rahul Jain, PhD *(Computer Science, Industrial and Systems Engineering)*; Christos Kyriakakis, PhD; Michael Neely, PhD; Michelle Povinelli, PhD; Aluizio Prata Jr., PhD*; Konstantinos Psounis, PhD *(Computer Science)*; Benjamin W. Reichardt, PhD *(Computer Science)*; Wei Wu, PhD
Assistant Professors: Paul Bogdan, PhD; Dina El-Damak, PhD; Panayiotis Georgiou, PhD *(Computer Science)*; Justin Haldar, PhD *(Biomedical Engineering)*; Rehan Kapadia, PhD; Ashutosh Nayyar, PhD; Pierluigi Nuzzo, PhD; Xuehai Qian, PhD *(Computer Science)*; Maryam M. Shanechi, PhD; Mahdi Soltanolkotabi, PhD *(Computer Science)*; Han Wang, PhD; Insoon Yang, PhD
Adjunct Professors: Giuseppe Caire, PhD; Dan Goebel, PhD; Murali Kota, PhD; P. Vijay Kumar, PhD
Adjunct Associate Professors: Serge Dubovitsky, PhD; Alexandros Potamianos, PhD; P. Thomas Vernier, PhD
Adjunct Assistant Professor: Bindu Madhavan, PhD
Adjunct Research Professor: Dmitry Starodubov, PhD
Research Professor: Willie Ng, PhD
Research Associate Professors: Stephen Crago, PhD; Jeffrey Draper, PhD
Research Assistant Professors: Anand Joshi, PhD; Sungbok Lee, PhD; Federico Spedalieri, PhD; John Stang, PhD; Alireza Tabatabaeenejad, PhD
Professors of Engineering Practice: Mary Eshaghian-Wilner, PhD; Edward W. Maby, PhD; Gandhi Puvvada, MS*
Associate Professors of Engineering Practice: Mohammed Beshir, PhD; Shahin Nazarian, PhD; Mark Redekopp, MS *(Computer Science)**
Senior Lecturer: Douglas Burke, PhD
Lecturer: Ali Zahid, PhD
Emeritus Professors: Hans H. Kuehl, PhD*; Michael J. Safonov, PhD; William H. Steier, PhD; Lloyd Welch, PhD *(Mathematics)*
Emeritus Instructor: Sidney A. Wielin, BS
Research Professor Emeritus of Electrical Engineering: Sanjit Mitra, PhD

Joint Faculty

Joint Professors: Stanley P. Azen, PhD *(Preventive Medicine and Biomedical Engineering)*; Jack Feinberg, PhD *(Physics)*; Leana Golubchik, PhD *(Computer Science)*; Ramesh Govindan, PhD *(Computer Science)*; Ellis Horowitz, PhD *(Computer Science)*; Gerard Medioni, PhD *(Computer Science)*; Ellis Meng, PhD *(Biomedical Engineering)*; Ulrich Neumann, PhD *(Computer Science)*; Ramakant Nevatia, PhD *(Computer Science)*; Si-Zhao Qin, PhD *(Chemical Engineering)*; Suvrajeet Sen, PhD *(Industrial and*

Systems Engineering); Cyrus Shahabi, PhD *(Computer Science)*; Gaurav Sukhatme, PhD *(Computer Science)*; Paul Thompson, PhD *(Ophthalmology)*; Arthur Toga, PhD *(Ophthamology)*; William G. Wagner, PhD *(Physics)*; Curt F. Wittig, PhD *(Chemistry, Physics)*; Stanley M. Yamashiro, PhD *(Biomedical Engineering)*
Joint Associate Professors: Andrea M. Armani, PhD *(Chemical Engineering and Materials Science)*; Behnam Jafarpour, PhD *(Chemical Engineering and Materials Science)*; Jia Grace Lu, PhD *(Physics)*; Yan Liu, PhD *(Computer Science)*; Elahe Nezami, PhD *(Preventative Medicine)*; John Van Horn, PhD *(Neurology)*
Joint Assistant Professors: Ketan Savla, PhD *(Civil, Environmental Engineering)*; Yonggang Shi, PhD *(Neurology)*; Jongseung Yoon, PhD *(Chemical Engineering, Materials Science)*
Joint Research Professor: Fred Aminzadeh, PhD *(Chemical Engineering, Materials Science)*
Joint Research Associate Professor: Joseph Touch, PhD *(Computer Science)*
Joint Research Assistant Professor: Young Cho, PhD *(Computer Science)*
Joint Emeritus Professors: Michael Arbib, PhD *(Computer Science, Neurobiology, Biomedical Engineering)*; George A. Bekey, PhD *(Computer Science, Biomedical Engineering);* Aristides Requicha, PhD *(Computer Science)*
**Recipient of university-wide or school teaching award.*
Electrical Engineering Honor Society: Eta Kappa Nu

Degree Requirements

Undergraduate Program Educational Objectives

The electrical engineering program objectives are designed to promote technical competence, professional development and citizenship in the global community. Graduates of the undergraduate program in electrical engineering are expected to attain the following objectives within a few years of graduation:

Technical Competence

Graduates will apply their technical skills in mathematics, science and engineering to the solution of complex problems encountered in modern electrical engineering practice.

Graduates will model, analyze, design and experimentally evaluate components or systems that achieve desired technical specifications subject to the reality of economic constraints.

Professional Development

Graduates will compete effectively in a world of rapid technological change and assume leadership roles within industrial, entrepreneurial, academic or governmental environments in the broad context of electrical engineering.

Some graduates who choose to redirect their careers will be employed in diverse fields such as healthcare, business, law, computer science, multimedia and music through graduate-level studies and the process of lifelong learning.

Citizenship in the Global Community

Graduates will have established the foundations for critical thinking that are needed to broaden or redirect their careers in diverse disciplines such as business, health care and the arts through graduate-level studies and/or the process of life-long leaning.

Graduates will adhere to highly ethical practices, and they will make exemplary engineering decisions that balance economic, environmental and societal factors for the betterment of the global community.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Electrical Engineering provides both breadth and depth across the range of engineering topics implied by the title. The curriculum includes probability and statistics, including appropriate applications; mathematics through differential and integral calculus, and advanced mathematics, such as differential equations, linear algebra, complex variables and discrete mathematics; sciences (defined as biological, chemical or physical science); and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software and systems containing hardware and software components.

Bachelor of Science in Computer Engineering and Computer Science

See the listing under Computer Engineering Program.

Master of Science in Computer Engineering

See the listing under Computer Engineering Program.

Doctor of Philosophy in Computer Engineering

See the listing under Computer Engineering Program.

Minor in Music Recording

A minor in music recording is offered through the USC Thornton School of Music to provide undergraduate students with the background necessary to enter the field of recording engineering and to familiarize them with the design needs of modern recording equipment. The minor is recommended to electrical engineering majors with extensive musical training who would like to combine their technical and musical abilities while learning the engineering applications of physical and mathematical principles to the art of music recording. See the listing under the USC Thornton School of Music.

Master of Science in Electrical Engineering (Electric Power)

See listing in the Sustainable Infrastructure Systems Program section.

Master of Science in Systems Architecting and Engineering

See the listing under Systems Architecting and Engineering Program.

Financial Engineering

Electrical Engineering Building 100
(213) 740-4447
FAX: (213) 740-4449
Email: studentinfo@ee.usc.edu
Faculty Contact: Professor Petros Ioannou, ioannou@usc.edu

Second Master's Degree

A graduate student who already holds a master's degree from USC may apply up to 4 units toward a second master's degree with the permission of the chair of the major department. All credit, including the transferred units, must be earned within seven calendar years.

For students who earned their first master's degree at another institution, no course work may be repeated from the first program of study and no unit credit from the first program of study may be counted toward the second master's degree.

Engineer in Electrical Engineering

Requirements for the Engineer in Electrical Engineering are the same as those listed under Engineer degree, except that both areas of concentration must be in electrical engineering.

Bachelor's Degree

Electrical Engineering (BS)

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required for all courses taken at USC as well as all upper-division courses applied toward the major, regardless of the department in which the courses are taken. See also the common requirements for undergraduate degrees section.

University Requirements (31 units)

Composition/Writing Requirements (7 units)

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

General Education (24 units)

- General education Units: 24

Pre-Major Requirements (30 units)

Math Requirement (12 units)

- MATH 129 Calculus II for Engineers and Scientists Units: 4
  or
- MATH 127 Enhanced Calculus II Units: 4
  or
- MATH 126 Calculus II Units: 4 *
- MATH 229 Calculus III for Engineers and Scientists Units: 4
  or
- MATH 227 Enhanced Calculus III Units: 4
  or
- MATH 226 Calculus III Units: 4 *
- MATH 245 Mathematics of Physics and Engineering I Units: 4

Physics Requirement (12 units)

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 **
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4
- PHYS 153L Fundamentals of Physics III: Optics and Modern Physics Units: 4

Biology Requirement (4 units)

Choose one**:

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHE 301g Introduction to Engineering Biology Units: 4
- CHEM 203Lgx AIDS Drug Discovery and Development Units: 4
- CHEM 350g Molecular Principles of Biochemistry Units: 4

Engineering (2 units)

- ENGR 102 Engineering Freshman Academy Units: 2

Major Requirements (54 units)

Electrical Engineering (38 units)

- EE 105 Introduction to Electrical Engineering Units: 4
- EE 109L Introduction to Embedded Systems Units: 4
- EE 141L Applied Linear Algebra for Engineering Units: 4
- EE 155L Introduction to Computer Programming for Electrical Engineers Units: 4
- EE 202L Linear Circuits Units: 4
- EE 250L Distributed Systems for the Internet of Things Units: 4
- EE 301L Linear Systems Units: 4
- EE 330 Electromagnetics I Units: 3
- EE 355x Software Design for Electrical Engineers Units: 4
- EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science Units: 3 ***

Engineering Electives (16 units)

Students must fulfill a minimum requirement of 16 units of adviser-approved upper division elective courses in electrical engineering. Of these 16 units, 3-4 units must selected from the following list of capstone design courses:

- EE 422x Electromagnetic Systems Design Units: 3
- EE 423Lx Loudspeaker and Sound-System Design Units: 3
- EE 434Lx Digital Signal Processing Design Laboratory Units: 4
- EE 447Lx Mixed Signal Electronic Circuits Units: 4
- EE 459Lx Embedded Systems Design Laboratory Units: 3
- EE 484x Communication System Design Units: 3
- EE 494a Undergraduate Thesis Units: 2
- EE 494b Undergraduate Thesis Units: 2
  †Students may use EE 494a and EE 494b Undergraduate Thesis 2+2 units to satisfy the capstone design requirement.

Free Electives (13 units)

Free elective courses are used to complete the university minimum 128-unit requirement. Students are encouraged to investigate minor options when satisfying this requirement.

Total units: 128

*MATH 129 and MATH 229 is the preferred calculus sequence for electrical engineering students. Students advised to begin with MATH 125 as a prerequisite to MATH 129 have 4 fewer units of free electives in their programs.
**Satisfies GE requirement.
***Students enrolled in the progressive degree program may take EE 503 (4) to satisfy this requirement.

Master's Degree

Electrical Engineering (Computer Networks) (MS)

Under the computer networks option students must satisfy the MS, Electrical Engineering requirements with the exception that only 15 units of EE are required.

Fundamental Courses

It is expected that each student in this program will take or have taken the equivalent of three of the four following fundamental courses:

- CSCI 402 Operating Systems Units: 4
- EE 450 Introduction to Computer Networks Units: 3
- EE 457 Computer Systems Organization Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4

Note:

With the exception of EE 503, the fundamental courses may also be satisfied by having passed EE placement exams.

Three of the following courses are required:

- CSCI 551 Computer Networking Units: 4
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 597 Wireless Networks Units: 3

Note:

If a fourth required course is taken it can be counted toward elective credit.

Suggested elective courses include:

- CSCI 530 Security Systems Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 570 Analysis of Algorithms Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 535 Mobile Communications Units: 3
- EE 554 Real Time Computer Systems Units: 3
- EE 557 Computer Systems Architecture Units: 3
- EE 558 Optical Fiber Communication Systems Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 649 Stochastic Network Optimization Units: 3
- EE 650 Advanced Topics in Computer Networks Units: 3
- EE 652 Low-Power Wireless Networks Units: 3
- EE 659 Interconnection Networks Units: 3

Note:

Any other course must be approved by a faculty adviser.

Total units required for the degree: 27

Electrical Engineering (MS)

A minimum grade point average of 3.0 must be earned on

all course work applied toward the master's degree in electrical engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree and through an accumulation of no more than 12 units beyond the minimum needed for the specific degree program. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Electrical Engineering is also subject to the following requirements: (1) a total of at least 28 units is required; (2) every non-EE course for graduate credit requires prior written adviser approval recorded each semester on a special request form in the student's department file; (3) no more than three courses (maximum 12 units) may be counted at the 400-level - at least 19 adviser-approved units must be taken at the 500- or 600-level; (4) at least 20 units must be taken in electrical engineering, those not in EE require written adviser approval and must be technical in nature; (5) a maximum of two EE 599 Special Topics courses (8 units) may be counted toward the MSEE; (6) at most, 4 units of EE 590 (Directed Research) and 1 unit of seminar, EE 598 (or other seminar with adviser approval), may be counted toward the MSEE; (7) units to be transferred (maximum 4 with adviser approval) must have been taken prior to taking classes at USC - interruption of residency is not allowed. Curricular Practical Training units do not count toward the 28 required units in the MSEE program.

Aerospace Controls Option

The aerospace controls option is available as an area of emphasis for MSEE students interested in learning to apply innovative control techniques to aerospace control problems. In addition to 20 approved units of electrical engineering courses, students in this option will take at least two of the following aerospace and mechanical engineering courses:

- AME 453 Engineering Dynamics Units: 3
- AME 532a Flight Vehicle Stability and Control Units: 3
- AME 532b Flight Vehicle Stability and Control Units: 3
- AME 525 Engineering Analysis Units: 3
- AME 526 Engineering Analytical Methods Units: 3
- ASTE 580 Orbital Mechanics I Units: 3

Electrical Engineering (Multimedia and Creative Technologies) (MS)

Students may earn a specialization in multimedia and creative technologies by completing the general requirements for the Master of Science in Electrical Engineering and the following additional requirements:

- At most four units of electives can be taken outside of the Viterbi School of Engineering with adviser approval. Some examples are CTAN 452 Introduction to 3-D Computer Animation (2 units) and CTIN 483 Introduction to Game Development (4 units).
- Computer science courses that are cross-listed with EE can (but do not have to) count toward the 18 EE units. Up to nine units of other CSCI courses that either are or are not cross-listed can also be used. Multimedia and creative technologies draws heavily on concepts and techniques from computer science.
- Students must include the following three courses in their program

- EE 483 Introduction to Digital Signal Processing Units: 3
- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 569 Introduction to Digital Image Processing Units: 3

- A course can be waived if a student can demonstrate equivalent knowledge of the material and if the course instructor will certify it.
- Students must include six courses from the following list of courses in their programs for a total of 18 units.

Approved Courses for the Multimedia Specialization

Courses in Electrical Engineering

- EE 450 Introduction to Computer Networks Units: 3
- EE 522 Immersive Audio Signal Processing Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 577a VLSI System Design Units: 3
- EE 586L Advanced DSP Design Laboratory Units: 4
- EE 596 Wavelets Units: 3
- EE 619 Advanced Topics in Automatic Speech Recognition Units: 3
- EE 669 Multimedia Data Compression Units: 3

Courses in Computer Science

- CSCI 455x Introduction to Programming Systems Design Units: 4
- CSCI 485 File and Database Management Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 571 Web Technologies Units: 4
- CSCI 574 Computer Vision Units: 3
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 580 3-D Graphics and Rendering Units: 4
- CSCI 582 Geometric Modeling Units: 3
- CSCI 585 Database Systems Units: 4

Courses from the School of Cinematic Arts

- CTAN 452 Introduction to 3-D Computer Animation Units: 2
- CTIN 483 Introduction to Game Development Units: 4

Course in Information Technology

- ITP 411 Multimedia and Video Production Units: 3

Additional Requirements

- Students may replace courses in the above list with a combined maximum of multimedia-related EE 599 or CSCI 599 Special Topics courses in their programs. Every course requires prior approval from the faculty adviser, recorded each semester on the plan of study form.
- Students may include a maximum of 6 units of EE 590 Directed Research in their programs. Before registering for these units, the faculty adviser must approve a written description of the intended multimedia research project signed by the faculty member who will supervise the student.
- Students entering this program are expected to have already completed, either at USC or at another institution, formal course work equivalent to USC course EE 364 Introduction to Probability and Statistics for Electrical Engineering. If an approved course has either EE 441 or EE 464 as a prerequisite, then the student must first take and pass the placement examination that is given each semester for either EE 441 or EE 464 before taking the approved course. Information about placement exams can be found at ee.usc.edu.
- Although not required, students should be proficient in C or C++ programming, at the level taught in CSCI 455.
- Although not required, ITP 411 Multimedia and Video Production (3 units) will provide the student with hands-on experience in using multimedia application tools. This will help the student prepare a portfolio, which is expected by the industry from students who major in a multimedia program.

Electrical Engineering (VLSI Design) (MS)

The Master of Science in Electrical Engineering (VLSI design) is earned by successfully completing the normal requirements for the Master of Science in electrical engineering, with the following additional required courses: EE 536a; EE 577a; EE 577b or EE 536b; and EE 552. If a student chooses to take EE 536b *as well as* EE 577b, the student may *either* count EE 536b as one of the courses for Area 2 or EE 577b as one of the courses for Area 1 or Area 3. No more than three courses (maximum 12 units) may be counted at the 400 level — at least 18 adviser-approved units must be taken at the 500 or 600 level.

The students must also take two courses from one of the following areas and one course from a second area:

Area 1:

- CSCI 455x Introduction to Programming Systems Design Units: 4
- EE 560L Digital System Design Units: 4
- EE 577b VLSI System Design Units: 3 (see above)
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3
- EE 680 Computer-Aided Design of Digital Systems I Units: 3
- EE 681 Computer-Aided Design of Digital Systems II Units: 3

Area 2:

- EE 448L Communication Electronics Units: 4
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 3
- EE 536b Mixed-Signal Integrated Circuit Design Units: 4 (see above)
- EE 537 Modern Solid-State Devices Units: 3
- EE 632 Integrated Communication Systems Units: 3

Area 3:

- CSCI 455x Introduction to Programming Systems Design Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- EE 557 Computer Systems Architecture Units: 3
- EE 560L Digital System Design Units: 4
- EE 577b VLSI System Design Units: 3 (see above)
- EE 659 Interconnection Networks Units: 3
- EE 677 VLSI Architectures and Algorithms Units: 3

Note:

With explicit approval of a faculty adviser, EE 599 Special Topics and/or 3 units of EE 590 Directed Research may be used to meet requirements for any of the approved areas.

The remaining courses must be technical electives approved by the adviser, and can including the following:

- EE 457 Computer Systems Organization Units: 4
- EE 477L MOS VLSI Circuit Design Units: 4
- EE 479 Analog Integrated Circuit Design Units: 4
- EE 501 Solid State Units: 3
- EE 502 Advanced Solid State Units: 3
- EE 504L Solid-State Processing and Integrated Circuits Laboratory Units: 3
- EE 506 Semiconductor Physics Units: 3
- EE 540 Introduction to Quantum Electronics Units: 3
- EE 554 Real Time Computer Systems Units: 3
- EE 560L Digital System Design Units: 4
- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- EE 601 Advanced Semiconductor Device Physics Units: 4
- EE 677 VLSI Architectures and Algorithms Units: 3

Electrical Engineering (Wireless Health Technology) (MS)

The Master of Science in Electrical Engineering (Wireless Health Technology) reflects a partnership between the Viterbi School of Engineering, the Keck School of Medicine, and other institutions engaged in health care research. The program of study features targeted engineering courses, a rigorous exposure to general medicine, and relevant internship practice (a total of 29-32 units).

Required Courses (20 Units)

- EE 450 Introduction to Computer Networks Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 597a Health Technology Internship Units: 1
- MEDS 597b Health Technology Internship Units: 1

Take three electives from the following list (9-12 units)

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 535 Mobile Communications Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 559 Mathematical Pattern Recognition Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 567 Communication Systems Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 501 Critical Issues in Global Health Units: 4
- MEDS 502 Global Epidemiology of Diseases and Risk Factors Units: 4

Total units: 29-32

Students are expected to have a background in linear algebra equivalent to EE 441 and experience with a programming language such as C or C++. Admitted students who do not meet prerequisites by placement examination will be assigned courses to complete the deficiencies.

Electrical Engineering (Wireless Networks) (MS)

The Master of Science in Electrical Engineering (Wireless Networks) is a unique interdisciplinary degree program that prepares graduates for the design and improvement of future wireless networks such as the "Internet of Things." The program combines courses related to radio hardware, transmission techniques, the medium-access control layer, networking, applications and standards.

No more than three courses (maximum 12 units) may be counted at the 400 level — at least 18 adviser-approved units must be taken at the 500 or 600 level.

Required Courses (15 Units)

- CSCI 402 Operating Systems Units: 4
- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 511 Simulation Methods for Stochastic Systems Units: 1
- EE 535 Mobile Communications Units: 3
- EE 597 Wireless Networks Units: 3

Elective Courses (12-14 Units, at Least One Course from Two Areas)

Transmission Techniques and Signal Processing

- EE 483 Introduction to Digital Signal Processing Units: 3
- EE 558 Optical Fiber Communication Systems Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 583 Statistical Signal Processing Units: 3
- EE 586L Advanced DSP Design Laboratory Units: 4

Architectures, Protocols, and Applications

- EE 519 Speech Recognition and Processing for Multimedia Units: 3
- EE 532 Wireless Internet and Pervasive Computing Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3
- EE 652 Low-Power Wireless Networks Units: 3

Communication Hardware and Design

- EE 448L Communication Electronics Units: 4
- EE 541 Radio Frequency Filter Design Units: 3
- EE 544 Radio Frequency Systems and Hardware Units: 3

Note:

This program assumes prerequisite preparation in the area of computer networks. Students who do not meet this requirement or who do not pass a related placement exam will be required to take EE 450 Introduction to Computer Networks.

Financial Engineering (MS)

The objective of this program is the training of graduate students with engineering, applied mathematics or physics backgrounds in the application of mathematical and engineering tools to finance. Financial engineering is a multidisciplinary education program that involves the Viterbi School of Engineering, the USC Marshall School of Business and the USC Dornsife College of Letters, Arts and Sciences (Department of Economics). Financial engineering uses tools from finance and economics, engineering, applied mathematics and statistics to address problems such as derivative securities valuation, strategic planning and dynamic investment strategies, and risk management, which are of interest to investment and commercial banks, trading companies, hedge funds, insurance companies, corporate risk managers and regulatory agencies.

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in financial engineering. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average. In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Financial Engineering is also subject to the following requirements: (1) a total of at least 30 units is required; (2) every plan of study requires prior written approval by the contact faculty of the program; (3) units to be transferred (maximum of four with adviser approval) must have been taken prior to taking classes at USC; interruption of residency is not allowed.

Curriculum

The degree requirements include six required courses and two courses from each of two lists of electives for a minimum total of 30 units.

Required

- GSBA 548 Corporate Finance Units: 2, 3

- FBE 559 Management of Financial Risk Units: 3 or
- ISE 563 Financial Engineering Units: 3

- EE 503 Probability for Electrical and Computer Engineers Units: 4
- EE 512 Stochastic Processes Units: 3
- EE 518 Mathematics and Tools for Financial Engineering Units: 4

- EE 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (1) or
- ENGR 596 Internship in Engineering Units: 1

Electives (Advisor Approved)

Finance, Business, Economics Area:

Two courses (6-7 units) from the following:

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 613 Economic and Financial Time Series I Units: 4
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 535 Applied Finance in Fixed Income Securities Units: 1.5, 3
- FBE 540 Hedge Funds Units: 3
- FBE 543 Forecasting and Risk Analysis Units: 3
- FBE 554 Trading and Exchanges Units: 3
- FBE 555 Investment Analysis and Portfolio Management Units: 3
- FBE 589 Mortgages and Mortgage-Backed Securities and Markets Units: 3
- ISE 566 Financial Accounting Analysis for Engineering Units: 3

Optimization, Simulations, Stochastic Systems:

Two courses (6-7 units) from the following:

- CE 645 Uncertainty Modeling and Stochastic Optimization Units: 3
- CSCI 455x Introduction to Programming Systems Design Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- EE 500 Neural Learning and Computational Intelligence Units: 4
- EE 517 Statistics and Data Analysis for Engineers Units: 4
- EE 553 Computational Solution of Optimization Problems Units: 3 *
- EE 556 Stochastic Systems Units: 3
- ISE 520 Optimization: Theory and Algorithms Units: 3 *
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 539 Stochastic Elements of Simulation Units: 3

Note:

**Students cannot receive credit for both* ISE 520 *and* EE 553

Dual Degree

Electrical Engineering/Engineering Management (MS)

The Ming Hsieh Department of Electrical Engineering in conjunction with the Daniel J. Epstein Department of Industrial and Systems Engineering offers a program leading to the degree of Master of Science in Electrical Engineering/Master of Science in Engineering Management. This program is designed for graduate electrical engineers whose career objectives lead to increasing technical management responsibilities.

In addition to the general requirements of the USC Viterbi School of Engineering, the dual degree of Master of Science in Electrical Engineering and Master of Science in Engineering Management is also subject to the following requirements:

(1) All applicants must meet the admissions requirements of both the Department of Electrical Engineering and the Department of Industrial and Systems Engineering; (2) a total of at least 48 units is required; (3) 24 of these must satisfy the requirements of the master's degree in electrical engineering; (4) 21 units must satisfy the required courses towards the master's degree in engineering management; (5) 3 units of electives approved by the program director or adviser; (6) all courses counted towards the dual degree must be at the 500 level, except those 400-level courses required by the master's degree in electrical engineering.

Doctoral Degree

Electrical Engineering (PhD)

The Doctor of Philosophy with a major in electrical engineering is awarded in strict conformity with the general requirements of the USC Graduate School. See general requirements for graduate degrees. Departmental requirements for this degree consist of a concentrated program of study and research and a dissertation. Each student wishing to undertake a doctoral program must first be admitted to the program and then take the screening examination. This examination will emphasize comprehension of fundamental material in one of the 13 specialized areas of electrical engineering listed below. Listed under each area are courses offered by the Department of Electrical Engineering, which will provide basic background for the examination and partial preparation for the dissertation. Not all courses listed are required for preparation for the screening examination in any specific area. Consult a separately published guide, available from the department office, for more information concerning examination content and scheduling. Further guidance concerning the full completion of courses, including those given outside the department, which are recommended for preparation for the dissertation, can be obtained from the faculty in each technical area.

Green Technologies

Office of Graduate and Professional Programs
Olin Hall of Engineering 106
(213) 740-4488
FAX: (213) 821-0851
Email: masters@gapp.usc.edu
Program Director: Edward W. Maby, PhD
Email: maby@usc.edu
(213) 740-4706
Student Services Adviser: Patricia Rinehart
Email: ptrinida@usc.edu
(213) 740-0116
Stephen Schrank Early Career Chair in Civil and Environmental Engineering: Burcin Becerik-Gerber, DDes
Professors: Jiin-Jen Lee, PhD, PE *(Civil and Environmental Engineering)**; John Silvester, PhD *(Electrical Engineering)*; James E. Moore, II, PhD *(Industrial and Systems Engineering, Civil and Environmental Engineering, Public Policy)*; Priya Vashishta *(Chemical Engineering and Materials Science, Computer Science)*
Associate Professors: Burcin Becerik-Gerber, DDes *(Civil and Environmental Engineering);* Mansour Rahimi, PhD *(Industrial and Systems Engineering)*; Geoffrey R. Shiflett, PhD *(Aerospace and Mechanical Engineering)**
Professors of the Practice: Edward Maby, PhD *(Electrical Engineering)*; Azad Madni, PhD *(Astronautical Engineering, Systems Architecting and Engineering)*
**Recipient of university-wide or school teaching award.*

Master's Degree

Green Technologies (MS)

Green Technologies is a highly interdisciplinary degree program that emphasizes green systems and the environment, energy technology and efficiency, and sustainability and society. The discipline seeks opportunities for alternative sourcing, conservation, efficiency and repurposing through an understanding of product life cycles from origins to recycling or inevitable disposal. Green technologists will design products, processes and complex infrastructure systems to promote sustainable attributes of importance to the environment and the global community.

The Green Technologies program requires a minimum of 27 units (typically nine courses). At least 18 units must be at the 500-level or above, and at least 18 units must be completed in the Viterbi School of Engineering. These 18 units may reflect courses offered by other schools if cross-listed in a department in the Viterbi School. Students with BS degrees in engineering and science disciplines can be accepted into the program.

Required Courses

Students are required to take two courses in each of three topical areas:

Green Systems and the Environment (two courses)

- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- SAE 515 Sustainable Infrastructure Systems Units: 3

Energy Technology and Efficiency (two courses)

- CHE 510 Energy and Process Efficiency Units: 3 or
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3

Also take only one of the following:

- EE 513 Solid State Energy Devices Units: 3
- EE 526 Renewable Energy in Power Systems Units: 3
- ENE 505 Energy and the Environment Units: 3

Sustainability and Society (two courses)

- CE 469 Sustainable Design and Construction Units: 3

Also take one of the following:*

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3
- CE 567 Smart Infrastructures Units: 3
- ENE 502 Environmental and Regulatory Compliance Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- POSC 546 Seminar in Environmental Policy Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPDE 632 Sustainable Cities Units: 4

Electives (three courses): 9 Units

Electives shall be chosen in consultation with an adviser to develop technical specialization in an area of interest to the student. This may include up to 3 units of directed research.

Note:

**Additional courses from this list may be used to fulfill the elective requirement.*

Industrial and Systems Engineering – Daniel J. Epstein Department of Industrial and Systems Engineering

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4893
FAX: (213) 740-1120
Email: isedept@usc.edu
usc.edu/dept/ise
Chair: Julia L. Higle, PhD
Associate Chair: Kurt Palmer, PhD

Faculty

A.V. "Bal" Balakrishnan Chair: Petros Ioannou, PhD *(Electrical Engineering)*
Daniel J. Epstein Chair in Industrial and Systems Engineering: Sheldon M. Ross, PhD
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Aerospace and Mechanical Engineering, Computer Science)*
J.A. Tiberti Chair in Ethics and Decision Making: Detlof von Winterfeldt, PhD
Dean's Professor in Industrial and Systems Engineering: Behrokh Khoshnevis, PhD
Dean's Professor in Industrial and Systems Engineering: Carl Kesselman, PhD
Epstein Family Professor of Industrial and Systems Engineering: Jong-Shi Pang, PhD
Helen N. & Emmett H. Jones Professorship in Engineering: Milind Tambe, PhD *(Computer Science)*
IBM Professor of Engineering Management: Neil Siegel, PhD
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD *(Civil and Environmental Engineering)*
Kenneth C. Dahlberg Early Career Chair: Rahul Jain, PhD *(Electrical Engineering)*
TRW Professor of Software Engineering: Barry Boehm, PhD *(Computer Science)*
Professors: Ali Abbas, PhD *(Public Policy)*; Barry Boehm, PhD *(Computer Science)*; Maged Dessouky, PhD*; Randolph Hall, PhD; Julia Higle, PhD; Carl F. Kesselman, PhD *(Computer Science)*; Behrokh Khoshnevis, PhD *(Civil and Environmental Engineering; Aerospace and Mechanical Engineering)*; Stephen C-Y Lu, PhD *(Aerospace and Mechanical Engineering, Computer Science)*; Najmedin Meshkati, PhD *(Civil and Environmental Engineering)**; James E. Moore II, PhD *(Civil and Environmental Engineering; Public Policy)*; Jong-Shi Pang, PhD; Sheldon M. Ross, PhD;

Suvrajeet Sen, PhD *(Electrical Engineering; Computer Science)*; Milind Tambe, PhD *(Computer Science)*; Detlof von Winterfeldt, PhD *(Public Policy)*
Associate Professors: Yong Chen, PhD; Qiang Huang, PhD; Mansour Rahimi, PhD; Shinyi Wu, PhD *(Suzanne Dworak-Peck School of Social Work)*
Assistant Professors: John Gunnar Carlsson, PhD; Meisam Razaviyayn, PhD; Ketan Savla, PhD *(Civil and Environmental Engineering, Electrical Engineering-Systems);* Sze-Chuan Suen, PhD; Phebe Vayanos, PhD
Research Professor: Yigal Arens, PhD
Adjunct Research Professors: Wanda M. Austin, PhD; Mohamed I. Dessouky, PhD
Adjunct Research Associate Professor: Fernando Ordoñez, PhD *(Computer Science)*
Professor of the Practice of Industrial and Systems Engineering: Neil Siegel, PhD
Associate Professors of the Practice of Industrial and Systems Engineering: Geza Bottlik, Engineer, PE; Nitin Kale, MS *(Information Technology Program)*; Kurt Palmer, PhD*
Senior Lecturers: Cesar Acosta-Mejia, PhD; Richard Vawter, MS *(Information Technology Program)*
Lecturer: Shalini Gupta, PhD
Emeritus Professors: Gerald A. Fleischer, PhD, PE; Homer H. Grant, MS; Ralph Keeney, PhD *(Data Sciences and Operations)*; Peter Will, PhD *(Astronautical Engineering, Chemical Engineering)*
**Recipient of university-wide or school teaching award.*

Honor Societies

Alpha Pi Mu

Alpha Pi Mu is the industrial engineering honor society. Qualifications for election are: juniors in the upper onefifth of their class; seniors in the upper one-third of their class; master's degree students who have completed at least one-third of the courses required for their degree and rank among the top 10 students in all ISE master's degree programs; and doctoral students recommended by the department chair. The adviser is Kurt Palmer, associate professor of the practice of industrial and systems engineering, (213) 740-5960.

Omega Rho

Omega Rho is the operations research honor society to recognize academic excellence in operations research and encourage study of operations research, management science and closely associated disciplines. Election is by nomination only during the spring semester.

Undergraduate Degree Requirements

Undergraduate Education Program Mission

The mission of the Daniel J. Epstein Department of Industrial and Systems Engineering undergraduate program is to:

- Provide students: the skills and knowledge to obtain employment and achieve leadership with the industrial and systems engineering profession or to proceed with graduate education; the intellectual resources to continue life-long learning; and the knowledge of professional ethics and critical reasoning skills necessary for contributing to society.
- Provide employers of industrial and systems engineering professionals with candidates who are technically competent, business aware, collaborative, able to communicate effectively, and ethically grounded.
- Maintain and enhance the reputation of the Epstein department within the engineering, business and academic communities.

Undergraduate Program Educational Objectives

Graduates of the Bachelor of Science in Industrial and Systems Engineering program are prepared to achieve any of the following accomplishments:

- Obtain employment in an organization that values people who demonstrate both technical competence and business awareness.
- Pursue graduate or professional education.
- Assume a leadership role in their employment organization or community.
- Utilize critical reasoning, collaboration and creativity to contribute to society.

Undergraduate Program Criteria

The program leading to a Bachelor of Science in Industrial and Systems Engineering prepares graduates to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy. The curriculum includes in-depth instruction to accomplish the integration of systems using appropriate analytical, computational, and experimental practices.

For additional information, visit usc.edu/dept/ise.

Graduate Degree Requirements

Health Systems Management Engineering Program

This degree is in revision, and applications are not currently being accepted. Interested students should consider the Health Administration (MHA) program in the USC Price School of Public Policy.

Master of Science in Product Development Engineering

This interdisciplinary program is offered jointly with the Department of Aerospace and Mechanical Engineering. The program is available via distance education. See the listing under Product Development Engineering.

Master of Science in Systems Architecting and Engineering

See the listing under Systems Architecting and Engineering Program. The program is available via distance education.

Dual Degree Program (MS, Electrical Engineering / MS, Engineering Management)

See listing in the Electrical Engineering section.

Engineer in Industrial and Systems Engineering

Requirements for the Engineer in Industrial and Systems Engineering are the same as set forth in the general requirements.

Graduate Certificates

Graduate Certificate in Network Centric Systems

See listing under Systems Architecting and Engineering Program. The program is available via distance education.

Graduate Certificate in Optimization and Supply Chain Management

This abbreviated interdisciplinary program is offered jointly with the Department of Data Sciences and Operations in the USC Marshall School of Business. See here for program requirements.

Graduate Certificate in Systems Architecting and Engineering

See listing under Systems Architecting and Engineering Program. The program is available via distance education.

Graduate Certificate in Transportation Systems

This abbreviated interdisciplinary program is offered jointly with the Astani Department of Civil and Environmental Engineering and the USC Price School of Public Policy. See listing under Civil Engineering.

Graduate Certificate in System Safety and Security

Applications for this program are not currently being accepted.

Bachelor's Degree

Industrial and Systems Engineering (BS)

The Epstein Department of Industrial and Systems Engineering offers a Bachelor of Science degree in Industrial and Systems Engineering.

The requirement for the degree is 128 units. A cumulative grade point average of C (2.0) is required for all upper division courses applied towards the major, regardless of the department in which the courses are taken. See the common requirements for undergraduate degrees.

Composition/Writing Requirement

- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4 (3)

General Education

- General Education* Units: 20

Pre-Major Requirements

Math Requirement

- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4 or
- MATH 129 Calculus II for Engineers and Scientists Units: 4

- MATH 225 Linear Algebra and Linear Differential Equations Units: 4

- MATH 226 Calculus III Units: 4 or
- MATH 229 Calculus III for Engineers and Scientists Units: 4

Physics Requirement

- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

Biology Elective

- BISC 103Lgx General Biology for the Environment and Life Units: 4 or
- BISC 104Lgx How the Body Works Units: 4 or
- BISC 230Lgx The Biology of the Brain: Current Topics in Neuroscience Units: 4 or
- HBIO 205Lgx The Science of Sport Units: 4

Chemistry Elective

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4 or
- MASC 110L Materials Science Units: 4

Major Requirements

Engineering Requirement

- ENGR 102 Engineering Freshman Academy Units: 2

Computer Science Elective

- CSCI 101L Fundamentals of Computer Programming Units: 3 or
- CSCI 103L Introduction to Programming Units: 4

Industrial and Systems Engineering Requirement

- ISE 105 Introduction to Industrial and Systems Engineering Units: 2
- ISE 220 Probability Concepts in Engineering Units: 3
- ISE 225 Engineering Statistics I Units: 3
- ISE 315L Engineering Project Management Units: 3
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 331 Introduction to Operations Research: Stochastic Models Units: 3
- ISE 410 Planning and Scheduling Units: 3
- ISE 435 Discrete Systems Simulation Units: 3
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3
- ISE 495ax Senior Design Project Units: 2
- ISE 495bx Senior Design Project Units: 2

Database Design Elective

- ISE 382 Database Systems: Concepts, Design and Implementation Units: 4 or
- DSO 435 Enterprise Data Architecture Units: 4

Human Factors Elective

- ISE 370L Human Factors in Work Design Units: 4 or
- ISE 470 Human/Computer Interface Design Units: 3

Major Electives

Major Electives: 22-24 Units
At least 12 units must be from one of the approved Focus Groups
At least 9 units must be from the Approved Engineering Electives

Total units: 128

**GE Category D is fulfilled by Biology Elective*
GE Category E is fulfilled by PHYS 151 or CHEM 105a.
GE Category F is fulfilled by MATH 125.

Focus Groups

Students must select at least 12 units from one group; however, all courses in a group are recommended.

Operations Group

- ISE 335L Supply Chain Design Units: 3
- ISE 375L Facilities Design Units: 3
- ISE 426 Statistical Quality Control Units: 3
  Plus at least one course from among the following:
- ACCT 410x Foundations of Accounting Units: 4
- ISE 232L Manufacturing Processes Units: 3
- ISE 327 Six Sigma and Lean Operations Units: 3
- ISE 350 Principles of Systems Engineering Units: 3

Information Systems Group

- ITP 320 Enterprise Wide Information Systems Units: 4
  Plus at least 8 units from among the following
- DSO 431 Foundations of Digital Business Innovation Units: 4
- DSO 433 Business Process Design Units: 4
- ISE 350 Principles of Systems Engineering Units: 3
- ITP 482 Engineering Database Applications Units: 3
- ITP 487 Data Warehouses Units: 3

Approved Engineering Electives

Students must select at least 9 units. Courses not listed may be petitioned for approval through the department.
AME 341a, AME 341b, CE 408, CE 460 , CE 471, DSO 427, EE 326, ENGR 345, ENGR 401x, ISE 232, ISE 310, ISE 327, ISE 335L, ISE 344, ISE 350, ISE 375L, ISE 426, ITP 215, ITP 320, ITP 325, ITP 421, ITP 422, ITP 454, ITP 457, ITP 466, ITP 482, ITP 486, ITP 487, ITP 488, NSC 335, NSC 337

Minor

Engineering Management Minor

This minor is designed to provide students who have a sound foundation in mathematics and the sciences with tools and skills for managerial analysis and problem solving.

Science and technology are driving significant portions of American and global economies. Individuals, companies and governments are demanding products, services and systems, which grow more complicated every day. Suppliers are forced by competition to provide goods and services efficiently and economically.

Scientists and engineers are trained in scientific and technical subjects which form an excellent base for building complex, technical products, services and systems. But more and more, scientists and engineers are managing the financial, material and human resources required to turn abstract ideas into physical and virtual reality, often without any formal management training. This minor provides that training, a complement to any science or technology degree.

Application Procedures

Applicants must be upper division students in good standing and complete the Change/Addition of Major, Minor or Degree Objective form. The minor is not open to industrial and systems engineering majors.

Prerequisites

- ISE 220 Probability Concepts in Engineering Units: 3 (or equivalent)
- ISE 225 Engineering Statistics I Units: 3 (or equivalent)
- MATH 125g Calculus I Units: 4

- MATH 126 Calculus II Units: 4
- MATH 225 Linear Algebra and Linear Differential Equations Units: 4 (or equivalent)
- MATH 226 Calculus III Units: 4

Required Courses

- BUAD 301 Technology Entrepreneurship Units: 3
- ISE 330 Introduction to Operations Research: Deterministic Models Units: 3
- ISE 370L Human Factors in Work Design Units: 4
- ISE 440 Work, Technology, and Organization Units: 3
- ISE 460 Engineering Economy Units: 3

Master's Degree

Analytics (MS)

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4893

The Master of Science in Analytics is designed to satisfy the growing demand for professionals equipped with significant technical and quantitative training in the fundamentals of analytics for solving engineering and management problems in today's data-extensive digital world.

Analytics is a multidisciplinary field that relates the application of engineering approaches and methods to the analysis and management of engineering and enterprise processes based on data. Learning objectives of this program involve data collection, cleansing, fusing and curating, for the purpose of analyzing trends, discovering patterns and building decision models for well-reasoned decision support. Rigorous mathematical modeling and computational methods tools are at the heart of the program.

Graduates of this program will be prepared to convert data into meaningful information, embedded in decision support systems that can help organizations make important operational decisions and help set strategic direction and policy.

Master of Science in Analytics

The core of the MS in Analytics program consists of six foundational courses, and four elective courses, totaling 30 units. The foundational courses cover the basic topics of data science and management, statistical methods, optimization, simulation and other operations research tools. The elective courses allow students to deepen their technical skills and expose them to the applied domains where analytics is much needed; some of these domains include electricity markets, supply chains and logistics, health care systems, and transportation.

Required Courses (15 units)

- INF 559 Introduction to Data Management Units: 3
- ISE 529 Engineering Data Analytics Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 533 Integrative Analytics Units: 3
- ISE 562 Value and Decision Theory Units: 3

Group A (3 units are required)

Select one course

- ISE 538 Markov Models for Performance Analysis Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3

Adviser-Approved Electives (12 units)

Total units for the degree: 30

Engineering Management (MS)

Master of Science in Engineering Management
Gerontology Center 240
(213) 740-4893

Program Director: Geza Bottlik, Engineer, PE

This program is designed primarily, but not exclusively, for graduate engineers whose career objectives lead to increasing technical management responsibilities. Students interested in the engineering management objectives may also want to consider the MS, Industrial and Systems Engineering/MBA dual degree program.

Master of Science in Engineering Management

A total of 30 units is required for the degree. A minimum of 18 units must be taken in the Epstein Department of Industrial and Systems Engineering. A total of 21 units must be at the 500 level or above. The program is available via distance education. Applicants to the program are expected to have a degree in engineering or the equivalent.

Required Courses (12 Units)

- ISE 500 Statistics for Engineering Managers Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3

Required Engineering Elective - Select one (3 units)

- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 562 Value and Decision Theory Units: 3

Business and Mangement Area (3 units)

Select one 500 level course with business and/or managment content with adviser approval

Electives (12 units):

Four courses for at least 12 units chosen to form a coherent program with the consent of the adviser.

Industrial and Systems Engineering (MS)

The Master of Science in Industrial and Systems Engineering is awarded in strict conformity with the general requirements of the Viterbi School of Engineering. This program enhances the technical capabilities of the industrial engineer. The program is available via distance education.

The MS program is for students who want to become technical leaders in the field of industrial and systems engineering. Applicants to the program are expected to have a bachelor's degree in an engineering discipline with undergraduate course work in computing, probability and statistics, and engineering economy. Admitted students who do not meet prerequisites will be assigned courses to complete the deficiencies.

A total of 30 units is required for the degree, of which at least 18 units must be completed in the Epstein Department of Industrial and Systems Engineering. Of the 30 units, 20 must be at the 500 level or above.

Required Courses (12 units)

- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 515 Engineering Project Management Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Group A (3 units required)

Select one course

- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 536 Linear Programming and Extensions Units: 3

Group B (3 units required)

Select one course

- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3

Group C (3 units required)

Select one course

- ISE 538 Markov Models for Performance Analysis Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3

Adviser approved electives (9 units)

Total Units 30

Operations Research Engineering (MS)

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4891
Program Director: Maged Dessouky, Ph.D.

Master of Science in Operations Research Engineering

The Master of Science in Operations Research Engineering is conferred upon candidates who hold bachelor's degrees in engineering, mathematics, science or related fields who successfully complete an integrated program (with departmental approval in advance) of not less than 30 units. The program must include not less than 21 units of industrial and systems engineering courses related to operations research and 9 units of approved electives. Students will be required to make up deficiencies in mathematics and statistics. Additional courses or examinations may be required at the discretion of the department before full admission to the program. The General Test of the Graduate Record Examinations (GRE) is required. Additional information is available from the department. This program is available via distance education.

Required Courses

- ISE 532 Network Flows Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 538 Markov Models for Performance Analysis Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3

- ISE 582 Web Technology for Industrial Engineering Units: 3 or
- ISE 583 Enterprise Wide Information Systems Units: 3

Select at least two of the following 10 courses: 6 units

- CE 645 Uncertainty Modeling and Stochastic Optimization Units: 3
- ISE 513 Inventory Systems Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 520 Optimization: Theory and Algorithms Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 539 Stochastic Elements of Simulation Units: 3
- ISE 562 Value and Decision Theory Units: 3
- ISE 563 Financial Engineering Units: 3
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- 400- or 500-level computer science course, approved by faculty adviser Units: 3
- Two electives, approved by faculty adviser Units: 6

Total units: 30

University Certificate

Health Systems Operations Graduate Certificate

This 17-unit graduate certificate is jointly sponsored by the Epstein Industrial and Systems Engineering Department and the USC Price School of Public Policy (Master of Health Administration program), and administered by the Epstein ISE Department. This certificate is designed for students with bachelor's degrees in applied social science, engineering or the sciences, who are interested in operations management and health care applications. The courses taken for the certificate may be applied later to the Epstein ISE Department's Master of Science in Engineering Management degree, the USC Price School of Public Policy's Master of Health Administration degree or the jointly sponsored MS in Health Systems Management Engineering degree subject to approval of the appropriate academic unit. This program is available via distance education.

Required Courses

- ISE 507 Six-Sigma Methods and Applications Units: 3
- ISE 508 Health Care Operations Improvement Units: 3
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2

- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2 or
- PPD 514 Economic Concepts Applied to Health Units: 4

- PPD 557 Modeling and Operations Research Units: 4 or
- ISE 530 Optimization Methods for Analytics Units: 3 or
- ISE 562 Value and Decision Theory Units: 3

Total units: 17-18

Dual Degree

Master of Science, Industrial and Systems Engineering/Master of Business Administration (MS/MBA)

The USC Marshall School of Business in conjunction with the Epstein Department of Industrial and Systems Engineering offers a program leading to the degree of Master of Business Administration/ Master of Science in Industrial and Systems Engineering.

This alternative requires 66 units for graduates of industrial and systems engineering undergraduate curricula and leads to both a Master of Science in Industrial and Systems Engineering and the Master of Business Administration. The dual degree provides an education of great depth.

The total number of units required for the MBA program is 48 including all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units.

Required Courses (Minimum 18 Units)

- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 515 Engineering Project Management Units: 3

ISE Electives (Choose One from Each Group)

Systems Design (3 units)

- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3

Information Systems (3 units)

- ISE 580 Performance Modeling with Simulation Units: 3
- ISE 582 Web Technology for Industrial Engineering Units: 3
- ISE 583 Enterprise Wide Information Systems Units: 3

Quantitative Methods (3 units)

- ISE 532 Network Flows Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 538 Markov Models for Performance Analysis Units: 3
- Elective Chosen with adviser approval Units: 3

Total units: 18

Doctoral Degree

Industrial and Systems Engineering (PhD)

The degree Doctor of Philosophy in Industrial and Systems Engineering is also offered. See general requirements for graduate degrees.

Informatics Program

Henry Salvatori Computer Science Center 104
(213) 740-4494
Fax: (213) 740-7285
Email: informatics@usc.edu
Director: Cyrus Shahabi, PhD

Faculty

Professors: Michael Cody, PhD *(Communication and Jornalism)*; Ellis Horowitz, PhD *(Computer Science, Eelectrical Engineering);* Julia Higle, PhD *(Industrial and Systems Engineering)*; Carl Kesselman, PhD *(Industrial and Systems Engineering, Computer Science)*; Nenad Medvidovic, PhD *(Computer Science)*; Viktor Prasanna, PhD *(Electrical Engineering)*; Paul Rosenbloom, PhD *(Computer Science)*; Cyrus Shahabi, PhD *(Computer Science, Electrical Engineering)*; Gaurav Sukhatme, PhD *(Computer Science, Electrical Engineering)*; Milind Tambe, PhD *(Computer Science, Industrial and Systems Engineering)*; John Wilson, PhD *(Spatial Science)*
Associate Professors: Shahram Ghandeharizadeh, PhD (*Computer Science)*; Yan Liu, PhD *(Computer Science)*
Assistant Professor: Aleksandra Korolova, PhD *(Computer Science)*
Research Professors: Craig Knoblock, PhD *(Computer Science)*; Yolanda Gil, PhD *(Computer Science)*
Research Associate Professor: Clifford Neuman, PhD *(Computer Science)*
Research Assistant Professors: Yao-Yi Chiang, PhD *(Spatial Science)*; Jelena Mirkovic, PhD *(Computer Science)*; Stefan Scherer, PhD *(Computer Science)*
Associate Professor of the Practice: Wensheng Wu, PhD
Senior Lecturers: Joseph Greenfield *(Information Technology Program);* Tatyana Ryutov, PhD (*Computer Science*)

Bachelor's Degree

Informatics (BA)

Computer-based information systems facilitate, enable and often define the relationships between corporations and consumers, buyers and suppliers, businesses of all sizes, social networks, and citizens and their governments. Understanding these relationships and effectively addressing the collection, flow and distribution of information is vital to the effectiveness of any modern organization, enterprise or government agency.

The BA in Informatics is granted under the jurisdiction of the USC Dornsife College of Letters, Arts and Sciences. The program is administered by the USC Viterbi School of Engineering. Students complete 136 units, including 96 units of courses in the USC Dornsife College and 40 units of courses in the USC Viterbi School of Engineering. Units completed in the USC Dornsife College include the general education and writing requirements, the USC Dornsife College foreign language requirement, and an adviser-approved disciplinary specialization of at least 24 units.

The program teaches students to understand, design and implement effective solutions to meet organizational, societal and management needs for information and decision support.

All students undertaking this degree program must have knowledge of the following areas (the core):

- Information systems and technology fundamentals
- Web technologies
- Programming basics
- Data analytics/Statistical reasoning

In addition to the core courses, students complete courses in one of three concentration areas:

Enterprise Information Systems – Understanding information modeling together with existing and emerging needs in economics and finance, as well as algorithms and systems to address those needs by taking courses in business, artificial intelligence and mathematical modeling.

Web Information Systems – Examining the computer science problems of representing, organizing, storing, manipulating, and accessing digital information and presentation across the World Wide Web.

Data Science – Comprehending the ever-growing importance of "big data" in scientific and policy endeavors. Extracting knowledge from data requires skill in multiple areas including mathematics, statistics and information technology.

In addition to the core courses and concentration area, students complete at least 24 units of courses in an adviser-approved area of disciplinary specialization relying on course work in the USC Dornsife College of Letters, Arts, and Sciences. The disciplinary specialization must form a coherent focus on a discipline that provides students with insight into a domain in which informatics can be usefully applied. No more than 8 units may consist of lower-division course work.

Admission

Admissions are made by the USC Viterbi School of Engineering. Students normally apply to the program in the spring of the freshman year.

Major Core Requirements (32 units, 9 courses)

- CSCI 103L Introduction to Programming Units: 4 *
- CSCI 104L Data Structures and Object Oriented Design Units: 4
- CSCI 170 Discrete Methods in Computer Science Units: 4
- INF 250 Introduction to Data Informatics Units: 4 **
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2
- MATH 114x Foundations of Statistics Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4

Choose One:

- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4

Disciplinary Specialization (24 units)

Complete at least 24 units of courses in an adviser-approved area of disciplinary specialization relying on course work in the USC Dornsife College of Letters, Arts, and Sciences. The disciplinary specialization must form a coherent focus on a discipline that provides students with insight into a domain in which informatics can be usefully applied.
No more than 8 units may consist of lower-division course work.

Concentration Requirements (20 units, 5-7 courses)

Select a minimum of 20 units from the following concentrations including at least 14 units from one concentration.

Enterprise Information Systems

- ITP 320 Enterprise Wide Information Systems Units: 4
- ITP 383 Database Systems: Concepts, Design and Implementation Units: 3
- ITP 421x Advanced Programming for Enterprise Information Systems Units: 3
- ITP 422L Configuring Enterprise Resource Planning Systems Units: 3
- ITP 454x Enterprise Resource Planning, Design, and Implementation Units: 3
- ITP 486 Securing and Auditing Enterprise Resource Planning Systems Units: 3
- ITP 487 Data Warehouses Units: 3
- ITP 488 Managing Supply Chains with Advanced Planning & Optimization Units: 3

Web Information Systems

- ITP 300 Database Web Development Units: 3
- ITP 301L Interactive Web Development Units: 4
- ITP 302 Advanced Web Publishing Units: 2
- ITP 310 Design for User Experience Units: 3
- ITP 404 Modern Technologies of Web Development Units: 3

- ITP 411 Multimedia and Video Production Units: 3
- ITP 460 Web Application Project Units: 4

Data Science

- ITP 109 Introduction to Java Programming Units: 2
- INF 351 Foundations of Data Management Units: 4
- INF 352 Applied Machine Learning and Data Mining Units: 4
- INF 429 Security and Privacy Units: 4
- INF 454 Data Visualization and User Interface Design Units: 4

Note:

*INF 250 can be substituted for the corequisite CSCI 109 or EE 109L, or the corequisite (CSCI 109 or EE 109L) can be waived through advisement.
**Corequisite: ITP 115

Master's Degree

Communication Informatics (MCI)

Program Director: Cyrus Shahabi, PhD
Program Co-Director: Michael Cody, PhD
Program Associate Director: Craig Knoblock, PhD

The Master of Communication Informatics is a cross-disciplinary joint degree program offered by the Viterbi School of Engineering and the Annenberg School for Communication and Journalism. Students must be admitted by both schools.

Students explore several of the most interesting technological phenomena impacting communication today, including online communities, social media and user-generated content, Crowdsourcing, Big Data and data analytics, virtual and augmented reality, data mining and others. The goal is to educate students who are proficient users of these technologies, and who also possess the analytical and problem-solving skills to expand and improve on existing technologies, and to help define a roadmap for the communication technologies of the future. Students work on projects where the fields of communication and engineering naturally converge, namely in the engineering of communication (e.g. the design and construction of mobile apps, online networks, social media tools, the use of technology in journalism, etc.) and the communication of engineering (e.g. public relations, public awareness, and public engagement of topics relating to science and technology).

There are many career opportunities for students completing the Master of Communication Informatics degree. Traditional media outlets ranging from newspapers to network/cable news are hungry for individuals who understand the new technology-enabled social communication paradigms and can help translate this knowledge into new products. An example is the coverage of natural disasters, where it is difficult for media to get on the ground, but where social media allows victims to relay experiences and provide accounts of these situations. How to collect, manage, distribute and capitalize from this news source is a major challenge in current media.

There are also careers within these emerging communication platforms. Many technology companies realize the value in employing experts who understand the human factors aspects of their products. Communication is now so vital to the function of many products that success and failure are often determined by how well communication is performed, and how seamlessly it integrates into existing platforms. In the corporate world, the need to understand and capitalize on social media is pervasive, and the unique expertise this degree provides leaves graduates well positioned to become leaders in the space. Finally, as technology becomes ubiquitous in society, the role of the informed commentator has become very important in formal and informal formats. There is need for individuals who understand the basics of communication and have enough technology knowledge to provide analysis at a meaningful level to the public.

Requirements for completion (32 units minimum)

Foundations (16 units, 4 Courses)

- COMM 502 Theoretical Approaches to Multidisciplinary Design Projects Units: 4
- INF 510 Principles of Programming for Informatics Units: 4
- INF 549 Introduction to Computational Thinking and Data Science Units: 4
- INF 550 Overview of Data Informatics in Large Data Environments Units: 4

Informatics Core (4 units)

- ENGR 596 Internship in Engineering Units: 1
- INF 529 Security and Privacy in Informatics Units: 4
- INF 552 Machine Learning for Data Informatics Units: 4
- INF 553 Foundations and Applications of Data Mining Units: 4
- INF 554 Information Visualization Units: 4
- INF 559 Introduction to Data Management Units: 3
- INF 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Communication Core (12 Units, 3 Courses)

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 520 Social Roles of Communication Media Units: 4
- CMGT 530 Social Dynamics of Communication Technologies Units: 4
- CMGT 555 Online Marketing Communication Development and Analysis Units: 4
- COMM 648 Online Communities and Networks Units: 4

Cyber Security Engineering (MS)

Associate Director of Informatics: Clifford Neumann, PhD

The Master of Science in Cyber Security Engineering is intended for: a) graduate students who desire to obtain jobs in which computer security knowledge and skills are required; b) graduate students who wish to continue on a path toward enrollment for a doctoral degree focusing on information security; c) individuals in degree programs or job fields that have responsibility for information security. The typical admitted student will have the following qualifications:

- an undergraduate degree in computer science, electrical engineering or information security;
- programming capability;
- understanding of computer networking and computer operating systems.
- desire to learn information security techniques and tools that are directly applicable to current information security challenges; and
- above average mathematical foundation.

During completion of the program, students will learn the fundamentals of developing, engineering and operating secure information systems. They will become versed in the challenges and problems of secure operating systems, secure applications, secure networking, database security and privacy, use of cryptography and key management. They will learn to develop a security policy and how policy drives technology decisions. Students will gain the knowledge and skills necessary to administer environments that require high levels of information security, both from the standpoint of the principles of information protection and the role application technology has in meeting information protection needs. Students will understand the value of assets, the business model of threats, the threat matrix, mitigation strategies and how this integrates with the core organizational mission. They will understand why information security plans succeed or fail.

Students will have hands-on experience simulating real-world scenarios with extensive laboratory work that is designed by current and former information security practitioners.

Requirements for completion (28 units minimum)

Required Courses (20 Units)

- CSCI 530 Security Systems Units: 4
- INF 519 Foundations and Policy for Information Security Units: 4
- INF 523 Computer Systems Assurance Units: 4
- INF 525 Trusted System Design, Analysis and Development Units: 4

- INF 529 Security and Privacy in Informatics Units: 4

At least one of the following:

- INF 521 Application of Cryptography to Information Security Problems Units: 3
- INF 526 Secure Systems Administration Units: 4
- INF 528 Computer Forensics Units: 4

Plus an additional 4-5 units that may be composed of items from the above list or

- ENGR 596 Internship in Engineering Units: 1
- INF 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations Units: 3
- Other courses may be approved in consultation with department adviser.

Data Informatics (MS)

Associate Director of Informatics: Craig Knoblock, PhD

The social emergence of large data environments and infrastructures (Big Data) in diverse domains and uses has spawned a requirement for analysis of the information contained. Past experience has shown that extracting value from large information stores can often be difficult due to the intrinsic nature of data, and the limits on ability to intelligently mine the information to add value to the organization.

The USC Viterbi Master of Science in Data Informatics provides students with the knowledge and skill to: a) understand and contribute toward the significant technical challenges created by large data environments, including architecture, security, integrity, management, scalability, artificial intelligence topics and distribution; b) understand the principles and application of informatics, and the goals of enterprise intelligence; and c) utilize technical/engineering skills coupled with informatics capabilities to provide enterprise-centric solutions to stakeholders. The degree features application of knowledge and skill in hands-on type experiences, with the goal of having students leave the program having "lived in the data."

Students will understand the overall field of data analytics, the role of the analyst and/or data scientist, and the domains where informatics skills can be applied to critical organization missions. They will understand how data management, data visualization, data mining and artificial intelligence techniques (specifically machine learning) are critical to the analysis process, and how these can be applied to real world challenges. Through an extensive elective track, they can find the specializations that will help them better prepare themselves for the area(s) of analytics in which they hope to contribute.

Required Courses (20 units)

- INF 551 Foundations of Data Management Units: 4
- INF 552 Machine Learning for Data Informatics Units: 4
- INF 553 Foundations and Applications of Data Mining Units: 4

One of the following user interface/visualization classes:

- INF 554 Information Visualization Units: 4
- INF 555 User Interface Design, Implementation, and Testing Units: 4
- INF 556 User Experience Design and Strategy Units: 4

One of the following capstone classes:

- INF 558 Building Knowledge Graphs Units: 4
- INF 560 Data Informatics Professional Practicum Units: 4

Elective Courses (8 units)

- CSCI 530 Security Systems Units: 4
- CSCI 544 Applied Natural Language Processing Units: 4
- CSCI 548 Information Integration on the Web Units: 4
- CSCI 550 Advanced Data Stores Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 572 Information Retrieval and Web Search Engines Units: 4
- CSCI 587 Geospatial Information Management Units: 4
- ENGR 596 Internship in Engineering Units: 1
- INF 520 Foundations of Information Security Units: 3
- INF 528 Computer Forensics Units: 4
- INF 529 Security and Privacy in Informatics Units: 4
- INF 554 Information Visualization Units: 4 *
- INF 555 User Interface Design, Implementation, and Testing Units: 4 *
- INF 556 User Experience Design and Strategy Units: 4 *
- INF 558 Building Knowledge Graphs Units: 4 *
- INF 560 Data Informatics Professional Practicum Units: 4 *
- INF 561 Engineering Data Analytics Units: 3
- INF 562 Integration of Medical Imaging Systems Units: 3
- INF 563 Medical Diagnostics, Therapeutics and Informatics Application Units: 3
- INF 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- INF 599 Special Topics Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8

Note:

**Whichever courses* (INF 554, INF 555, INF 556, INF 558, INF 560) *are not taken as a required course may be taken as an elective*

Spatial Informatics (MS)

Viterbi School of Engineering, Department of Computer Science, Informatics Program

informatics.usc.edu

Program Director: Cyrus Shahabi, PhD

Program Associate Director: Craig Knoblock, PhD

Dornsife College of Letters, Arts and Sciences, Spatial Sciences Institute

spatial.usc.edu

Program Director: John P. Wilson, PhD

Program Associate Director: Susan H. Kamei, PhD

The Master of Science in Spatial Informatics is a cross-disciplinary joint degree program offered by the Viterbi School of Engineering and the Dornsife College of Letters, Arts and Sciences. Students must be admitted by both the Viterbi School of Engineering and the Dornsife College of Letters, Arts and Sciences.

Geospatial data accessibility, spatial decision support systems and geospatial problem solving environments are revolutionizing most industries and disciplines, including health care, marketing, social services, human security, education, environmental sustainability and transportation. Spatial informatics professionals draw upon engineering, computer science and spatial sciences principles to solve data-intensive, large-scale, location-based problems.

The USC Master of Science in Spatial Informatics provides students with the knowledge and skills to:

- Understand and contribute toward the significant technical and societal challenges created by large location-based data environments, including architecture, security, integrity, management, scalability, artificial intelligence topics and distribution;
- Understand the principles and application of informatics and geographic information science (GIS), and the goals of enterprise information intelligence and analytics; and
- Utilize technical, engineering and GIS skills coupled with

informatics capabilities to intelligently mine data to provide enterprise-centric solutions for diverse societal issues.

Students complete a core set of courses to provide a foundation in information engineering, analysis and spatial thinking with their choice of electives to optimize preparation for their preferred career path and unique professional opportunities.

Students will understand the overall field of data analytics, the role of the analyst and/or data scientist and the domains where spatial informatics skills can be applied to critical organization missions. They will understand how data management, data visualization and artificial intelligence techniques (specifically data mining and machine learning) are critical to the spatial analysis process and how these can be applied to real world challenges. Throughout their course work, students will assemble a digital portfolio of work product that is intended to help them demonstrate their capabilities and skills for the job market.

Applicants to this program are expected to have a previous degree in science, technology, engineering, math or a related social science with at least a 3.0 overall GPA and satisfactory GRE Test results. Programming experience or at least a year of calculus is required for admission.

Degree Requirements

A minimum of 32 units with an overall cumulative GPA of at least 3.0 is required for the MS in Spatial Informatics. Students should consult with an academic adviser prior to registering for any classes.

Required Courses (6 courses/24 units)

Foundation (take both courses):

- INF 549 Introduction to Computational Thinking and Data Science Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Spatial core (take both courses):

- SSCI 580 Spatial Computing Units: 4
- SSCI 583 Spatial Analysis Units: 4

Informatics core (take both courses):

- INF 510 Principles of Programming for Informatics Units: 4
- INF 550 Overview of Data Informatics in Large Data Environments Units: 4

Spatial and Informatics Elective Courses (2-3 courses/8 units)

SSCI 596 and ENGR 596 are optional.

Spatial elective (4 units)

- SSCI 582 Spatial Databases Units: 4
- SSCI 584 Spatial Modeling Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 596 Internship in Spatial Sciences Units: 1 **

Informatics elective (4 units)

- CSCI 587 Geospatial Information Management Units: 4 *
- ENGR 596 Internship in Engineering Units: 1
- INF 552 Machine Learning for Data Informatics Units: 4
- INF 553 Foundations and Applications of Data Mining Units: 4
- INF 554 Information Visualization Units: 4
- INF 555 User Interface Design, Implementation, and Testing Units: 4
- INF 559 Introduction to Data Management Units: 3

Note:

*SSCI 582 meets the CSCI 585 prerequisite for CSCI 587 and must be taken before it.

**SSCI 596 may be taken in addition to one of the 4-unit SSCI elective courses, but SSCI 596 by itself does not fulfill the Spatial Sciences elective requirement.

University Certificate

Big Data Fundamentals Certificate

This certificate program teaches students the fundamentals of data informatics, including data collection and management, data analytics, data visualization and data privacy. This certificate program is designed for students from nontechnical undergraduate backgrounds.

Students who complete this certificate are eligible to be considered for admission to the program leading to the MS in Data Informatics.

Must complete the following (4 courses, 15 units)

- INF 510 Principles of Programming for Informatics Units: 4
- INF 549 Introduction to Computational Thinking and Data Science Units: 4
- INF 550 Overview of Data Informatics in Large Data Environments Units: 4
- INF 559 Introduction to Data Management Units: 3

Information Technology Program

Olin Hall 412
(213) 740-4542
Email: itp@usc.edu
itp.usc.edu

Director: Michael Crowley, PhD
Associate Directors: Trina Gregory, MS; Nitin Kale, MS
Associate Professors of Engineering Practice: Joseph Greenfield, MS; Nathan Greenfield, MS; Nitin Kale, MS; Ashish Soni, MS
Senior Lecturers: Trina Gregory, MS; Mike Lee, MS; Sanjay Madhav, BS; Arpi Mardirossian, MS; Rob Parke, MS; Tom Sloper, BA; Richard Vawter, MS, MBA; Lance Winkel, MFA
Lecturers: Raymond Kim, MS; Chi So, MS; Kendra Walther, MS; Zune Nguyen, BS
Associate Director, Advisement and Recruitment: Alexandra Garabedian, MEd
Business Manager: Lindsay Burglin, BS
Administrative Assistant: Annie Le, BA
ITP courses are open to all USC students.

Minors

ITP minors are open to undergraduate students in all majors.

To apply for a minor, students should meet the regular admissions standards and have a declared USC major. Students will complete an application for the minor with the Viterbi School of Engineering. For specific information on admission and application procedures, contact the Information Technology Program at (213) 740-4542.

ITP Minors:
3D Computer Graphics and Modeling
Applied Analytics
Applied Computer Security
Computer and Digital Forensics
Computer Programming
Enterprise Information Systems
Innovation: The Digital Entrepreneur
Mobile App Development
Video Game Design and Management
Video Game Programming
Web Technologies and Applications

ITP Specializations

Specializations are a great alternative for students who are interested in gaining experience but do not have space in their schedule to complete a full minor program. Certificate available upon completion of required course work. Please see the Website for more details: itp.usc.edu/academics/.

Viterbi School of Engineering Students

The "x" designation indicates that engineering students require prior departmental approval to count 100-level and above ITP courses for major credit.

Minor

3D Computer Graphics and Modeling

The 3D Computer Graphics and Modeling minor merges theoretical concepts with state-of-the-art techniques to prepare students to apply 3D computer graphics across a wide range of industry applications. Hands-on courses build from a core foundation throughout the spectrum of advanced cutting edge technologies as they are used in real-world application and culminate with the production of a portfolio of work commensurate with the needs of 3D industries.

Total number of units required to complete minor: 16 units
Upper-division units of minor: 13

Required Courses (13 units)

- ITP 215L 3-D Modeling, Animation, and Special Effects Units: 2
- ITP 305 Advanced 3D Modeling, Animation, and Special Effects Units: 3 *
- ITP 315x 3D Character Animation Units: 3 *
- ITP 360 3D Compositing and Visual Effects Units: 3 *
- ITP 415 3-D Design and Prototyping Units: 2 *

Elective Courses (3 units)

- ITP 308 Computer-Aided Design for Bio-Mechanical Systems Units: 3
- ITP 450 Advanced 3D Texturing, Compositing, and Image Processing Units: 3 *
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4 (1-4 units)
- ITP 480 Information Technology Internship Units: 1, 2, 3, 4 (1-4 units)

Note:

*Prerequisite required

Applied Analytics Minor

The minor in Applied Analytics prepares undergraduate students in the field of data analytics as applied to real world situations. Applications vary from business to health care, social media to sports. The goal is to educate students to become *data analysts*, not *data scientists*.

Students in the minor will learn all aspects of analytics: technology infrastructure to stage data, techniques to analyze data, tools to visualize data, and systems to publish and share the results.
Requirements for minor completion: Minimum units 18

Required Courses (12 units)

- ITP 250x Database Systems for Analytics Units: 2
- ITP 251 Applied Statistics for Analytics Units: 2
  ** Business and Accounting students must take BUAD 310g instead of ITP 251 as these courses duplicate credit*
- ITP 350x Technologies and Practices for Analytics Units: 4
  ** Students must take ITP 250x and ITP 251 prior to taking ITP 350x.*
- ITP 449x Data Mining: Descriptive and Predictive Units: 4
  ** Students must take ITP 350x prior to taking ITP 449x.*

Electives (Choose a minimum of 6 units)

- DSO 424 Business Forecasting Units: 4
  ** Students must take BUAD 310g prior to taking DSO 424.*
- DSO 428 Essentials and Digital Frontiers of Big Data Units: 4
- ECON 317 Introduction to Statistics for Economists Units: 4
- ITP 487 Data Warehouses Units: 3
  ** Students must take ITP 250x or ITP 320 prior to taking ITP 487.*
- ITP 489 In-Memory Database Systems for Real Time Analytics Units: 3
  ** Students must take ITP 250x or ITP 320 prior to taking ITP 489.*
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4
- JOUR 477 Web Analytics for News and Nonprofit Organizations Units: 2
- PR 478 Social Media Analytics: Data and Content Creation for Real-time Public Relations Units: 4

Applied Computer Security Minor

The minor in applied computer security combines both theoretical concepts and technical skills to prepare students for a career in information security while incorporating their major field of work. Students will study various areas of computer security, including hacking, ethics, forensics, networking and security management. Electives are available depending on the students' academic and professional goals.

Requirements for completion (five core courses plus one elective)

Minimum units: 18

Required Courses (14 Units)

- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 325 Ethical Hacking and Systems Defense Units: 3
- ITP 357 Enterprise Network Design Units: 3
- ITP 370 Information Security Management Units: 3
- ITP 375 Digital Forensics Units: 3

Elective (4 Units)

- ITP 425 Web Application Security Units: 4
- ITP 457 Network Security Units: 4
- ITP 475 Advanced Digital Forensics Units: 4

Computer and Digital Forensics Minor

The computer and digital forensics minor combines both theoretical concepts and practical skills to prepare students for a career as a digital forensics investigator. Students will study various areas of cyber-forensics, including forensic methodologies and processes, digital evidence-gathering and preservation, investigations and examinations, and court presentation. Electives are available depending on the students' academic and professional goals.

Requirements for completion (core courses plus electives)

Minimum units: 18

Required Courses (4 Courses, 12 Units)

- ITP 125L From Hackers to CEOs: Introduction to Information Security Units: 2
- ITP 375 Digital Forensics Units: 3 *
- ITP 475 Advanced Digital Forensics Units: 4 *
- ITP 479 Cyber Law and Privacy Units: 3

Forensic Electives (Choose Two, 6 Units)

- ITP 325 Ethical Hacking and Systems Defense Units: 3 *
- ITP 445 Macintosh, OSX, and iOS Forensics Units: 3 *
- ITP 446 Cyber Breach Investigations Units: 3 *
- ITP 447 Mobile Device Security and Forensics Units: 3 *
- ITP 448 Cyber Litigation Support Units: 3 *

Note:

**Prerequisite required*

Computer Programming Minor

The minor in computer programming focuses on the practical programming skills necessary to solve problems in a variety of domains including on desktops, laptops, mobile devices, the Web, the cloud and for video games. Upon completion of the minor, students will have strong experience with the application of programming languages in several different contexts.

Students with a declared major in computer science, computer science and computer engineering, computer science (games), or computer science and business administration are not eligible for this minor. Students with a declared minor in computer science are likewise not eligible.

Requirements for completion (two core courses plus 12 units of electives)

Minimum units: 17

Core Courses (5 units)

- ITP 165 Introduction to C++ Programming Units: 2 *
- ITP 365 Managing Data in C++ Units: 3

Elective Courses (12 Units)

- ITP 341 App Development for Phones and Tablets Units: 3
- ITP 342 Mobile Application Development Units: 3
- ITP 368 Programming Graphical User Interfaces Units: 3
- ITP 380 Video Game Programming Units: 4
- ITP 404 Modern Technologies of Web Development Units: 3 **
- ITP 435 Professional C++ Units: 3
- ITP 439 Compiler Development Units: 3

Note:

*ITP 109 *or* ITP 115 *can be substituted for* ITP 165*, though* ITP 165 *is recommended.*
**ITP 404 *has additional prerequisites outside the minor, though these prerequisites can be waived for students in the minor (subject to faculty approval).*

Enterprise Information Systems Minor

The 21st century has seen tremendous growth in global enterprises, which has required robust and integrated information systems to support streamlined business processes. These Enterprise Information Systems, also known as Enterprise Resource Planning (ERP) systems, have continued to mature and dominate the information systems of corporations. Most Fortune 500 companies have adopted ERP systems. This minor combines business process management and information technology to prepare students for technical careers as well as business consulting in the ERP domain. Students will study various areas of ERP implementation, configuration, business intelligence, security and supply chain management. Electives are available depending on the students' academic and professional goals.

Requirements for completion (three core courses plus minimum 6 units of electives)

Minimum units: 16

Required Courses (10 Units)

- ITP 320 Enterprise Wide Information Systems Units: 4
- ITP 422L Configuring Enterprise Resource Planning Systems Units: 3
- ITP 454x Enterprise Resource Planning, Design, and Implementation Units: 3

Electives (Choose Minimum 6 Units)

- ISE 382 Database Systems: Concepts, Design and Implementation Units: 4
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4
- ITP 487 Data Warehouses Units: 3
- ITP 488 Managing Supply Chains with Advanced Planning & Optimization Units: 3
- ITP 489 In-Memory Database Systems for Real Time Analytics Units: 3

Innovation: The Digital Entrepreneur Minor

The Minor in Innovation: The Digital Entrepreneur is jointly sponsored by the Information Technology Program in the Viterbi School of Engineering and the Lloyd Greif Center for Entrepreneurial Studies in the USC Marshall School of Business. The minor is designed for students from a wide range of backgrounds who are interested in starting their own digital ventures, working for start-up companies, or pursuing traditional jobs with large corporations and consulting firms that may involve launching new digital business units. Students will learn all major elements of launching a digital venture including digital disruption, ideation, high-tech product management, online customer acquisition, technology implementation, online business models, digital marketing and monetization. Students will work on launching a digital venture in a team-based environment in the capstone class.

A minimum of 21 units are required to complete the minor, with at least 16 unique units outside of the student's major.

The Information Technology Program in the Viterbi School of Engineering handles advising and admissions relating to the minor, consulting as needed with the Greif Center for Entrepreneurial Studies in the Marshall School of Business. See Information Technology Program for course requirements.

Required Courses (19 Units)

- BAEP 452 Feasibility Analysis Units: 4 *
- BUAD 301 Technology Entrepreneurship Units: 3
- ITP 466 Building the High Tech Startup Units: 4
- ITP 476 Technologies for Interactive Marketing Units: 4
- ITP 496 The Startup Launchpad Lab Units: 2 *+ (capstone course; *Corequisite:* BAEP 496)
- BAEP 496 The Digital Startup Launchpad Units: 2 *+(capstone course; Corequisite: ITP 496)

Elective Courses (Minimum of 2 units)

- BAEP 460 Seminar in Entrepreneurship Units: 2
- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 470 The Entrepreneurial Mindset — Taking the Leap Units: 2
- BUAD 304 Organizational Behavior and Leadership Units: 4
- BUAD 307 Marketing Fundamentals Units: 4
- DSO 431 Foundations of Digital Business Innovation Units: 4
- ITP 310 Design for User Experience Units: 3
- ITP 320 Enterprise Wide Information Systems Units: 4
- ITP 411 Multimedia and Video Production Units: 3
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4
- ITP 479 Cyber Law and Privacy Units: 3

Note:

**Prerequisite required*
+ITP 496 *and* BAEP 496 *must be taken in the same semester.*

Mobile App Development Minor

Students will study and gain experience with the technologies, tools, frameworks and languages that are most commonly used in developing apps for mobile devices such as smartphones and tablets. They will learn the basics of the programming languages, how to design mobile interfaces, how to use the libraries to build apps that have the proper look and feel, how to design and handle user input, and other aspects. Students will go through the process of building a mobile app from idea to product. Students will learn the fundamental principles of mobile apps, so that they will be prepared for the new technologies and frameworks that are constantly being developed. Students should meet the regular admissions standards and have a declared USC major. Students will complete an application for the minor with the Viterbi School of Engineering. For specific information on admission and application procedures, contact the Information Technology Program at (213) 740-4542.

Requirements for completion (five core courses plus two electives)

Minimum units: 20

Required Courses (14 Units)

Choose one from the following (2 units):

- ITP 109 Introduction to Java Programming Units: 2
- ITP 115 Programming in Python Units: 2
- ITP 165 Introduction to C++ Programming Units: 2 *

Choose one from the following (3 units):

- ITP 341 App Development for Phones and Tablets Units: 3
- ITP 342 Mobile Application Development Units: 3

All of the following courses (9 units):

- ITP 140 Mobile Application Technologies Units: 2
- ITP 365 Managing Data in C++ Units: 3 *
- ITP 442 Mobile App Project Units: 4

Electives (Choose Two Courses for a Minimum of 6 Units)

- ITP 310 Design for User Experience Units: 3
- ITP 341 App Development for Phones and Tablets Units: 3
- ITP 342 Mobile Application Development Units: 3
- ITP 344 Advanced Topics in Mobile App Development Units: 3
- ITP 382 Mobile Game Programming Units: 3
- ITP 435 Professional C++ Units: 3

Note:

*ITP 165 and ITP 365 can be waived for students who have taken CSCI 103 and CSCI 104. However, these students must take an additional elective course in order to have the appropriate number of upper-division units.

Video Game Design and Management Minor

The video game design minor integrates theoretical concepts and practical skills to prepare students for a career in interactive entertainment, specifically the video game industry. Students will be exposed to a variety of design concepts related to creating video games including: level design, game-play control, user interface, multiplayer, game mechanics and storytelling. As opposed to the video game programming minor in which students will be writing code and programming game engines, students in the video game design and management minor will apply design concepts to different game genres and use game design software tools to create a working demo of a video game during the course of the minor program.

Requirements for completion

Minimum units: 18

Required Courses (14 Units Minimum)

- ITP 230x Video Game Quality Assurance Units: 4
  or
- ITP 280 Video Game Production Units: 4
- ITP 391a Video Game Project Management Units: 4
  ** Students must take ITP 230x or ITP 280 prior to taking ITP 391a.*
- CTIN 404L Usability Testing for Games Units: 2
- CTIN 488 Game Design Workshop Units: 4

And at least 4 elective units from the following:

- ITP 230x Video Game Quality Assurance Units: 4
- ITP 280 Video Game Production Units: 4
- ITP 393 Video Game Design Documents Units: 2
  ** Students must take ITP 230x or ITP 280 prior to taking ITP 393.*
- ITP 491 Level Design and Development for Video Games Units: 4
  ** Students must take ITP 230x or ITP 280 prior to taking ITP 491.*
- CTIN 458 Business and Management of Games Units: 2
- CTIN 478 Level Design Workshop Units: 2
- CTIN 497 Interactive Media Startup Units: 1

Video Game Programming Minor

The video game programming minor integrates the theoretical concepts and practical skills to prepare students for a career in interactive entertainment, specifically the video game industry. Through integration of two major disciplines (computer science and information technology), students will be exposed to a variety of programming concepts related to creating video games including: 3-D graphics, artificial intelligence, particle systems, rendering, collision detection, game algorithms, physics concepts, and math formulas. In contrast to the video game design minor where the focus is applying design concepts and using software design tools, students in the video game programming minor will evaluate, write and debug code, in addition to creating a game engine during the course of the minor.

This minor features an optional capstone that is a team-based, year-long game development project. Students are only eligible for the capstone after having completed all the required courses as well as the required three ITP elective units. The capstone must be taken in both the fall and spring semesters of a single academic year.

Requirements for completion (four core courses plus 6 units of electives)

Minimum units: 19

Core Courses (13 Units)

- ITP 165 Introduction to C++ Programming Units: 2 *
- ITP 365 Managing Data in C++ Units: 3 *
- ITP 380 Video Game Programming Units: 4
- ITP 485 Programming Game Engines Units: 4

Elective Courses (6 Units - 3 Units Must be ITP)

- ITP 382 Mobile Game Programming Units: 3
- ITP 435 Professional C++ Units: 3
- ITP 484 Multiplayer Game Programming Units: 3
- CSCI 491aL Final Game Project Units: 4 **
- CSCI 491bL Final Game Project Units: 2 **

Note:

*ITP 165 *and* ITP 365 *can be waived for students who have taken* CSCI 103 *and* CSCI 104. *However, these students must take an additional elective course in order to have the appropriate number of upper-division units.*
***Optional capstone. See details above for requirements.*

Web Technologies and Applications Minor

The Web technologies and application minor is designed to introduce students to the Web publishing and development fields. Upon completion of the minor, students will be able to design and develop Websites using major Web technologies, standards and applications. Students can use the theoretical concepts and practical applications of Web technologies not only in the Web industry, but also within a different major field of study. The broad areas of study include Web publishing, Web programming, databases and multimedia. Electives will be chosen based on the students' academic and professional goals.

Students should meet the regular admissions standards and have a declared USC major.

Requirements for completion (four core courses plus two electives)

Minimum units: 18

Core Courses (13 Units)

- ITP 104L Web Publishing Units: 2
- ITP 300 Database Web Development Units: 3
- ITP 301L Interactive Web Development Units: 4
- ITP 460 Web Application Project Units: 4

Elective (Two Courses)

- ITP 302 Advanced Web Publishing Units: 2
- ITP 310 Design for User Experience Units: 3
- ITP 404 Modern Technologies of Web Development Units: 3
- ITP 411 Multimedia and Video Production Units: 3
- ITP 425 Web Application Security Units: 4
- ITP 470 Information Technology Practicum Units: 1, 2, 3, 4 (3)

Manufacturing Engineering

Ethel Percy Andrus
Gerontology Center 240
(213) 740-4893
FAX: (213) 740-1120
Email: isedept@usc.edu
Program Director: B. Khoshnevis, PhD

Master's Degree

Manufacturing Engineering (MS)

Manufacturing engineering at USC is a multidisciplinary program that confers the degree of Master of Science and is designed to produce graduates capable of responding to the needs of modern, up-to-date manufacturing. These graduates should be able to design, install and operate complex manufacturing systems made up of people, materials, automated machines and information systems. The Departments of Computer Science, Electrical Engineering, Industrial and Systems Engineering, Materials Science, Mechanical Engineering, and Entrepreneurship participate in the Manufacturing Engineering Program.

Course work in the program will train students in traditional manufacturing engineering topics, such as materials selection and process design. Additional courses will include modern technologies such as 3D printing and system-level concepts of integrated product and process design, applications of modern information technology to design and manufacturing, hands-on laboratories using advanced manufacturing equipment and commercial software, and innovation and entrepreneurship.

Curriculum

A total of 30 units is required beyond the BS degree. A minimum of 21 units must be at the 500 level or above. A maximum of 6 units of electives may be taken from non-engineering departments. At least three courses must be taken in the student's selected area of specialization.

Required Courses

- CSCI 585 Database Systems Units: 4 or
- ISE 510 Advanced Computational Design and Manufacturing Units: 3

- ISE 511L Mechatronic Systems Engineering Units: 3

- ISE 517 Modern Enterprise Systems Units: 3 or
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3

- ISE 525 Design of Experiments Units: 3 or
- AME 525 Engineering Analysis Units: 3

- Approved electives Units: 18 *

Total units: 30

**A list of approved electives in specialization areas is available from the department. Departmental approval is required for courses not listed.*

Product Development Engineering

Olin Hall of Engineering, 430-H
(213) 740-9616
FAX: (213) 740-8071
Email: mspde@usc.edu
Program Director: Stephen C-Y Lu, PhD
Interim Director: Ang Liu, PhD
Email: angliu@usc.edu

Master's Degree

Product Development Engineering (MS)

The Master of Science in product development engineering (MS PDE) is an interdisciplinary graduate degree program at USC jointly offered by the Aerospace and Mechanical Engineering and the Daniel J. Epstein Industrial and Systems Engineering (ISE) departments. The Daniel J. Epstein Industrial and Systems department manages this joint degree program. Students can enter this program in either the fall or spring semesters, and it is available to full-time and part-time students.

Admission

The program has the following admission requirements:

- A bachelor's degree in an area of engineering or science;
- An undergraduate cumulative GPA of 3.0 or above; and
- Satisfactory general GRE scores of at least 146 verbal and 151 quantitative.

The MS PDE program requires a minimum of 27 units to complete. Although it is mainly a course work-based program, students can choose to complete the program with or without a thesis requirement. For the thesis option, 4 of the 27 units are to be thesis. At least 16 units, not including thesis, must be at the 500 level or higher, and at least 18 units must be from the AME and ISE departments. For the non-thesis option, 18 of the 27 units must be at the 500 level or higher from the AME and ISE departments, and/or closely related departments. As well, students can choose to take up to 6 units of directed research (e.g., AME 590 or ISE 590). Students must maintain a minimal cumulative GPA of 3.0 in USC course work to graduate.

The program's prerequisite is a minimum of one 400 level course in either engineering design or engineering economy. Admitted students who do not meet this prerequisite will be assigned appropriate USC course(s) to complete the deficiencies. Deficiency courses, if taken at the 400 level, may be counted toward 27 units as general electives with adviser approval.

Depending on the academic background and career interests of students, the program offers two areas of specialization, product development technology and product development systems. The product development technology specialization will prepare students for a career as future product development engineers, while the product development systems specialization will prepare students as future product development managers. Students entering this program must declare their choice of an area of specialization and follow the requirements of each area of specialization to graduate.

Curriculum

The required 27 units are grouped into four categories of courses for each area of specialization as follows:

Required Courses (6 Units)

- AME 503 Advanced Mechanical Design Units: 3
- ISE 545 Technology Development and Implementation Units: 3

Product Development Systems Required Courses (6 Units)

- ISE 515 Engineering Project Management Units: 3
- ISE 544 Management of Engineering Teams Units: 3

Product Development Systems Technical Electives (6 Units)

- ISE 460 Engineering Economy Units: 3
- ISE 470 Human/Computer Interface Design Units: 3
- ISE 511L Mechatronic Systems Engineering Units: 3
- ISE 517 Modern Enterprise Systems Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3

- ISE 528 Advanced Statistical Aspects of Engineering Reliability Units: 3
- ISE 555 Invention and Technology Development Units: 3
- ISE 561 Economic Analysis of Engineering Projects Units: 3
- ISE 567 Collaborative Engineering Principles and Practice Units: 3
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3

Product Development Technology Required Courses (6 Units)

- AME 505 Engineering Information Modeling Units: 3

- AME 525 Engineering Analysis Units: 3 or
- AME 526 Engineering Analytical Methods Units: 3

Product Development Technology Technical Electives (6 Units)

- AME 408 Computer-Aided Design of Mechanical Systems Units: 3
- AME 410 Engineering Design Theory and Methodology Units: 3
- AME 481 Aircraft Design Units: 4
- AME 501-Spacecraft System Design Units: 3
  AME 506-Design of Low Cost Space Missions Units: 3
- AME 527 Elements of Vehicle and Energy Systems Design Units: 3
- AME 544 Computer Control of Mechanical Systems Units: 3
- AME 588 Materials Selection Units: 3
- CE 550 Computer-Aided Engineering Units: 3
- CE 551 Computer-Aided Engineering Project Units: 3
- ISE 567 Collaborative Engineering Principles and Practice Units: 3
- ISE 576 Industrial Ecology: Technology-Environment Interaction Units: 3
- SAE 549 Systems Architecting Units: 3

General Electives (9 Units)

- Adviser-approved electives
- (Must be upper-division 400- or 500-level courses; up to 4 units can be transferred from other institutions)

Total units required for degree: 27

Sustainable Infrastructure Systems Program

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the Master of Science degree allow for specialization based on background and interest.

Master's Degree

Civil Engineering (Transportation Systems) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Civil Engineering (Transportation Systems)

Required Courses

- CE 471 Principles of Transportation Engineering Units: 3
- CE 501 Functions of the Constructor Units: 3
- CE 579 Introduction to Transportation Planning Law Units: 3
- PPD 633 Urban Transportation Planning and Management Units: 4, 2 years
- SAE 515 Sustainable Infrastructure Systems Units: 3

Electives Courses (Four Courses, Other Electives Upon Approval*)

- CE 583 Design of Transportation Facilities Units: 3
- CE 585 Traffic Engineering and Control Units: 3
- CE 588 Railroad Engineering Units: 3
- CE 589 Port Engineering: Planning and Operations Units: 3
- PPD 634 Institutional and Policy Issues in Transportation Units: 4
- PPD 692 Transportation and the Environment Units: 4

Note:

**Students electing the Master of Science in Civil Engineering (Transportation Systems) degree option are expected to have a background in statistics and uncertainty equivalent to ISE 225 or CE 408, and engineering economy equivalent to ISE 460. Admitted students who do not meet these prerequisites can satisfy the requirements by taking appropriate, adviser-approved electives.*

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Civil Engineering (Water and Waste Management) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Civil Engineering (Water and Waste Management)

Required Courses

- CE 451 Water Resources Engineering Units: 3
- CE 453 Water Quality Science and Engineering Units: 3
- CE 476 Design of Pressurized Hydraulic Systems Units: 3
- CE 501 Functions of the Constructor Units: 3
- SAE 515 Sustainable Infrastructure Systems Units: 3

Electives Courses (Four Courses, Other Electives Upon Approval*)

- CE 504 Solid Waste Management Units: 3
- CE 510 Groundwater Management Units: 3
- CE 511 Flood Control Hydrology Units: 3
- CE 516 Geohydrology Units: 3
- CE 520a Ocean and Coastal Engineering Units: 3

Note:

**Students electing the Master of Science in Civil Engineering (Water and Waste Management) degree option are expected to have a background in fluid mechanics equivalent to CE 309 or ENE 410. Admitted students who do not meet this prerequisite will be assigned a course to complete the deficiency.*

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Electrical Engineering (Electric Power) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Electrical Engineering (Electric Power)

Required Courses

- EE 443 Introduction to Power Systems Units: 3
- EE 444 Power Systems Technology Units: 3
- EE 521 Power Systems Analysis and Design Units: 3
- SAE 515 Sustainable Infrastructure Systems Units: 3

Elective Courses (Five Courses, Take at Least One From Each Area)

Transmission, Distribution and Planning

- CE 501 Functions of the Constructor Units: 3
- EE 516 High-Voltage DC Transmission Systems Units: 3
- EE 524 Transients in Power Systems Units: 3
- EE 525 Power System Protection Units: 3
- EE 526 Renewable Energy in Power Systems Units: 3

High-Voltage Equipment and Design

- EE 515 High-Voltage Technology Units: 3
- EE 528 Power Electronics Units: 3

Power-System Control and the Smart Grid

- EE 482 Linear Control Systems Units: 3
- EE 527 Net-Centric Power-System Control Units: 3
- EE 543aL Digital Control Systems Units: 3
- EE 585 Linear System Theory Units: 3
- EE 593 Robust Multivariable Control Units: 3

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Mechanical Engineering (Energy Conversion) (MS)

Sustainable Infrastructure Systems

The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes smart-system design for sustainable infrastructures, the societal and regulatory context of infrastructure engineering decisions, and construction management. Five plans of study for the Master of Science degree allow for specialization based on background and interest.

Master of Science in Mechanical Engineering (Energy Conversion)

Required Courses (7 Courses, 21 Units)

- AME 430 Thermal Systems Design Units: 3
- AME 525 Engineering Analysis Units: 3
- AME 526 Engineering Analytical Methods Units: 3
- AME 577 Survey of Energy and Power for a Sustainable Future Units: 3
- AME 578 Modern Alternative Energy Conversion Devices Units: 3
- CE 501 Functions of the Constructor Units: 3
- SAE 515 Sustainable Infrastructure Systems Units: 3

Elective Courses (Two Courses, 6 Units*)

- AME 513 Principles of Combustion Units: 3
- AME 514 Applications of Combustion and Reacting Flows Units: 3
- AME 579 Combustion Chemistry and Physics Units: 3
- AME 581 Introduction to Nuclear Engineering Units: 3
- AME 582 Nuclear Reactor Physics Units: 3
- ENE 505 Energy and the Environment Units: 3

Note:

**Students are encouraged to consider electives from other Sustainable Infrastructure Systems programs*

Additional Requirements

Students with MS degrees in engineering or science disciplines can be accepted in these programs. Students must satisfy all other departmental degree requirements.

Systems Architecting and Engineering Program

Rapp Engineering
Building 225
(213) 821-5817
Email: info@sae.usc.edu
Website: viterbi.usc.edu/sae
Admissions: gapp.usc.edu/graduate-programs/masters/systems-architecting-and-engineering
Executive Director: Azad M. Madni, PhD
Email: azad.madni@usc.edu; (213) 740-9211
Student Services Adviser: (213) 821-4234

Faculty

A.V. "Bal" Balakrishnan Chair: Petros Ioannou, PhD (*Electrical Engineering*)
David Packard Chair in Manufacturing Engineering: Stephen C-Y Lu, PhD *(Computer Science, Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*
Gordon S. Marshall Professor of Engineering Technology: Roger Ghanem, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering)*
John and Dorothy Shea Early Career Chair in Civil Engineering: Ketan Savla, PhD (*Civil and Environmental Engineering*)
TRW Professor of Software Engineering: Barry Boehm, PhD *(Computer Science, Industrial and Systems Engineering)*
Professors: Barry Boehm, PhD *(Computer Science, Industrial and Systems Engineering)*; Daniel Erwin, PhD *(Aerospace and Mechanical Engineering, Astronautical Engineering)**; George Friedman, PhD *(Astronautical Engineering);* Roger Ghanem, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering)*; Mike Gruntman, PhD *(Aerospace and Mechanical Engineering, Astronautical Engineering)*; Petros Ioannou, PhD *(Electrical Engineering)*; Yan Jin, PhD *(Aerospace and Mechanical Engineering)*; Behrokh Khoshnevis, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering, Industrial and Systems Engineering)*; Stephen C-Y Lu, PhD *(Computer Science, Aerospace and Mechanical Engineering, Industrial and Systems Engineering)*; Edward W. Maby, PhD *(Electrical Engineering);* Azad M. Madni, PhD *(Astronautical Engineering);* James E. Moore, II, PhD *(Industrial and Systems Engineering, Civil and Environmental Engineering, Public Policy)*; Cyrus Shahabi, PhD *(Computer Science)*; Firdaus E. Udwadia, PhD *(Aerospace and Mechanical Engineering, Civil and Environmental Engineering, Data Science and Operations, Mathematics)*
Assistant Professor: Ketan Savla, PhD *(Civil and Environmental Engineering)*
**Recipient of university-wide or school teaching award.*

***Recipient of university-wide or school research award.*

Honor Societies

Omega Alpha Association
Omega Alpha Association is the systems engineering honor society. The adviser is Professor Elliot Axelband, axelband@rand.org.

Master's Degree

Systems Architecting and Engineering (MS)

This program is recommended to graduate engineers and engineering managers responsible for the conception and implementation of complex systems. Emphasis is on the creative processes and methods by which complex systems are conceived, planned, designed, built, tested and certified. The architecture experience can be applied to defense, space, aircraft, communications, navigation, sensors, computer software, computer hardware, and other aerospace and commercial systems and activities.

A minimum grade point average of 3.0 must be earned on all course work applied toward the master's degree in systems architecting and engineering. This average must also be achieved on all 400-level and above course work attempted at USC beyond the bachelor's degree. Transfer units count as credit (CR) toward the master's degree and are not computed in the grade point average.

In addition to the general requirements of the Viterbi School of Engineering, the Master of Science in Systems Architecting and Engineering is also subject to the following requirements:

- a total of at least 30 units is required, consisting of at least 3 units in the technical management area, 3 units in the general technical area, and 9 units in the technical specialization area;
- every plan of study requires prior written approval by the director of the systems architecting and engineering program recorded on the study plan in the student's file;
- no more than 9 units at the 400 level may be counted toward the degree — the remaining units must be taken at the 500 or 600 level;
- at least 24 of the 30 units must be taken in the Viterbi School of Engineering;
- units to be transferred (maximum of seven with adviser approval) must have been taken prior to taking classes at USC; interruption of residency is not allowed;
- no more than 6 units of Special Topics courses (499 or 599) may be counted for this degree;
- thesis and directed research registrations may be allowed to individual students only by special permission of the supervising faculty member and the program director;
- a bachelor's degree in an engineering field and a minimum of three years systems experience are recommended prior to taking Systems Architecting and Design Experience courses. This program is not recommended for recent bachelor's degree graduates.

Required Courses

- ISE 460 Engineering Economy Units: 3 or
- SAE 560 Economic Considerations for Systems Engineering Units: 3

- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3

- SAE 547 Model-Based Systems Architecting and Engineering Units: 3 or
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3

- SAE 549 Systems Architecting Units: 3

Electives

- Adviser-approved electives in technical management area Units: 3
- Adviser-approved electives in general technical area Units: 3
- Adviser-approved electives in technical specialization area Units: 9

Technical Management Area: Take one course (3 units) from the following:

- CE 556 Project Controls — Budgeting and Estimating Units: 3
- DSO 580 Project Management Units: 3 *
- ISE 515 Engineering Project Management Units: 3
- ISE 517 Modern Enterprise Systems Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 562 Value and Decision Theory Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- MOR 561 Strategies in High-Tech Businesses Units: 3 *
- SAE 550 Systems Architecting and the Political Process Units: 3

General Technical Area: Take one course (3 units) from the following:

- CSCI 510 Software Management and Economics Units: 4
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- ISE 506 Lean Operations Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3
- SAE 543 Case Studies in Systems Engineering and Management Units: 3
- SAE 550 Systems Architecting and the Political Process Units: 3

Note:
**USC Marshall School of Business course.*

Technical Specialization Area:

Nine units are required, usually in the student's present or intended technical specialty. Courses are intended to complement the student's prior education and experience toward becoming a well-rounded systems architect-engineer or architect-manager. With a few exceptions, the courses should come from the recommended list, and usually all from a single specialization.

The student may choose from a large variety of technical specializations spanning all departments in the Viterbi School of Engineering. Flexibility is emphasized in this choice; the program director is expected to work closely with the student in choosing the best set of courses to meet the student's need.

Several sample specializations are listed below but are not intended to be complete.

Recommended Courses

Aerospace and Mechanical Systems:

- AME 503 Advanced Mechanical Design Units: 3
- AME 521 Engineering Vibrations II Units: 3
- AME 532a Flight Vehicle Stability and Control Units: 3
- AME 544 Computer Control of Mechanical Systems Units: 3
- AME 548 Analytical Methods in Robotics Units: 3
- AME 560 Fatigue and Fracture Units: 3
- AME 588 Materials Selection Units: 3

Artificial Intelligence/Neural Networks:

- CSCI 545 Robotics Units: 4
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 564 Brain Theory and Artificial Intelligence Units: 3
- CSCI 567 Machine Learning Units: 4
- CSCI 574 Computer Vision Units: 3

Automation and Control Systems:

- EE 543aL Digital Control Systems Units: 3
- EE 585 Linear System Theory Units: 3
- EE 587 Nonlinear and Adaptive Control Units: 3
- EE 593 Robust Multivariable Control Units: 3

Communication and Signal Processing Systems:

- EE 551 Principles of Radar Units: 3
- EE 563 Estimation Theory Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 567 Communication Systems Units: 3
- EE 583 Statistical Signal Processing Units: 3

Computer and Information Systems:

- CSCI 485 File and Database Management Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 585 Database Systems Units: 4
- EE 552 Asynchronous VLSI Design Units: 3
- EE 554 Real Time Computer Systems Units: 3
- EE 561 Foundations of Artificial Intelligence Units: 3
- EE 574 Computer Vision Units: 3
- EE 658 Diagnosis and Design of Reliable Digital Systems Units: 3

Construction:

- CE 501 Functions of the Constructor Units: 3
- CE 519 Transportation Engineering Units: 3
- CE 525 Engineering Mathematical Analysis Units: 3
- CE 533 Geotechnical Earthquake Engineering Units: 3
- CE 536 Structural Design for Dynamic Loads Units: 3
- CE 556 Project Controls — Budgeting and Estimating Units: 3
- CE 583 Design of Transportation Facilities Units: 3

Engineering Management Systems:

- ISE 515 Engineering Project Management Units: 3
- ISE 530 Optimization Methods for Analytics Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 562 Value and Decision Theory Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- SAE 550 Systems Architecting and the Political Process Units: 3

Integrated Media Systems:

- EE 450 Introduction to Computer Networks Units: 3
- EE 522 Immersive Audio Signal Processing Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 569 Introduction to Digital Image Processing Units: 4
- EE 596 Wavelets Units: 3
- CSCI 551 Computer Networking Units: 4
- CSCI 574 Computer Vision Units: 3
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 585 Database Systems Units: 4

Manufacturing Systems:

- AME 588 Materials Selection Units: 3
- EE 561 Foundations of Artificial Intelligence Units: 3
- ISE 511L Mechatronic Systems Engineering Units: 3
- ISE 514 Advanced Production Planning and Scheduling Units: 3
- ISE 517 Modern Enterprise Systems Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 570 Human Factors in Engineering Units: 3

Network-centric:

- CSCI 402 Operating Systems Units: 4
- CSCI 530 Security Systems Units: 4
- CSCI 551 Computer Networking Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 577a Software Engineering Units: 4
- CSCI 577b Software Engineering Units: 4
- EE 550 Design and Analysis of Computer Communication Networks Units: 3

Software Process Architecture:

- CSCI 510 Software Management and Economics Units: 4
- CSCI 577b Software Engineering Units: 4
- EE 554 Real Time Computer Systems Units: 3
- EE 557 Computer Systems Architecture Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 562 Value and Decision Theory Units: 3
- ISE 564 Performance Analysis Units: 3

Systems:

- EE 598 Electrical Engineering Research Seminar Units: 1
- ISE 515 Engineering Project Management Units: 3
- ISE 520 Optimization: Theory and Algorithms Units: 3
- ISE 525 Design of Experiments Units: 3
- ISE 527 Quality Management for Engineers Units: 3
- ISE 528 Advanced Statistical Aspects of Engineering Reliability Units: 3
- ISE 532 Network Flows Units: 3
- ISE 536 Linear Programming and Extensions Units: 3
- ISE 538 Markov Models for Performance Analysis Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- ISE 562 Value and Decision Theory Units: 3
- ISE 580 Performance Modeling with Simulation Units: 3
- ISE 585 Strategic Management of Technology Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3

University Certificate

Network Centric Systems Graduate Certificate

This 15-19 unit graduate certificate is jointly sponsored by the Epstein Industrial and Systems Engineering, Hsieh Electrical Engineering and Computer Science departments, and administered by the Epstein ISE Department. The computer science emphasis requires at least 16 units to complete, and may require more depending on the combination of courses students select.

This certificate is designed for practicing engineers engaged in the creation and design of complex innovative network centric systems in aerospace and commercial fields. Entering students are expected to have a bachelor's degree in engineering or a related field from an accredited institution. Three years of industry experience are recommended. Students are required to earn a cumulative B average or higher in courses taken for the certificate. The courses taken for the certificate may be applied later to the Master of Science in Computer Science, Electrical Engineering or Systems Architecting Engineering with departmental approval.

Required Courses

- SAE 574 Net-Centric Systems Architecting and Engineering Units: 3

Choose four courses from one area of emphasis (12-16 units):

Computer Science Emphasis

Required CSCI course

- CSCI 551 Computer Networking Units: 4

CSCI Electives (choose three courses, at least 9 units)

- CSCI 530 Security Systems Units: 4
- CSCI 531 Applied Cryptography Units: 4
- CSCI 555L Advanced Operating Systems Units: 4
- CSCI 556 Introduction to Cryptography Units: 4
- CSCI 558L Internetworking and Distributed Systems Laboratory Units: 3
- CSCI 561 Foundations of Artificial Intelligence Units: 4
- CSCI 573 Probabilistic Reasoning Units: 3
- CSCI 576 Multimedia Systems Design Units: 4
- CSCI 585 Database Systems Units: 4

Electrical Engineering Emphasis

Required EE course

- EE 535 Mobile Communications Units: 3

EE Electives (choose three courses, 9 units)

- EE 541 Radio Frequency Filter Design Units: 3
- EE 544 Radio Frequency Systems and Hardware Units: 3
- EE 550 Design and Analysis of Computer Communication Networks Units: 3
- EE 555 Broadband Network Architectures Units: 3
- EE 562 Random Processes in Engineering Units: 3
- EE 564 Digital Communication and Coding Systems Units: 4
- EE 567 Communication Systems Units: 3
- EE 579 Wireless and Mobile Networks Design and Laboratory Units: 3

Total units: 15-19

Systems Architecting and Engineering Graduate Certificate

The graduate certificate in systems architecting and engineering is designed for practicing engineers engaged in the creation and design of complex innovative systems, in aerospace and commercial fields. Entering students are expected to have a bachelor's degree in engineering or a related field from an accredited institution. Three years of industry experience are recommended. Students are required to earn a cumulative B average or higher in courses taken for the certificate. The courses taken for the certificate may be applied later to the Master of Science in Systems Architecting and Engineering.

Required Courses - Choose Five

- ISE 460 Engineering Economy Units: 3 or
- SAE 560 Economic Considerations for Systems Engineering Units: 3

- ISE 515 Engineering Project Management Units: 3
- ISE 544 Management of Engineering Teams Units: 3
- SAE 541 Systems Engineering Theory and Practice Units: 3
- SAE 542 Advanced Topics in Systems Engineering Units: 3
- SAE 547 Model-Based Systems Architecting and Engineering Units: 3
- SAE 548 Systems/System-of-Systems Integration and Communication Units: 3
- SAE 549 Systems Architecting Units: 3
- SAE 574 Net-Centric Systems Architecting and Engineering Units: 3

Note:

All programs of study will be approved by the technical director of the Systems Architecting and Engineering program.

USC Davis School of Gerontology

The USC Leonard Davis School of Gerontology explores all aspects of human development and aging. Course work and research opportunities in biology, psychology, sociology, policy and aging services make up its multidisciplinary curriculum.

Founded in 1975, the USC Leonard Davis School is not only the nation's premier school of gerontology, it is also the first. Named in honor of Leonard Davis, a philanthropist and businessman who pioneered insurance plans for the elderly through his involvement in AARP and his own company Colonial Penn Life Insurance, the school provides ground-breaking solutions to issues facing an aging population.

The Davis School is committed to providing students with a broad theoretical understanding of lifespan development as well as dynamic post-graduate career placement. Students on all levels often enroll in semester-long internship programs. Working with our internship director, students can apply their gerontological knowledge to an array of industries such as health, medicine, business, finance, policy, direct services, program development, counseling and many other fields.

The Davis School's Bachelor of Science degrees can be pursued with a health science, a social science or a global emphasis. The school also offers six master's degrees, seven dual master's programs, a graduate certificate, and PhD programs in gerontology and the biology of aging.

The school is located in the Ethel Percy Andrus Gerontology Center and is home to the Center for Digital Aging, the Center for Global Aging, the Fall Prevention Center of Excellence, the Long Beach Longitudinal Study, the Longevity Institute, the USC/UCLA Center on Biodemography and Population Health and the Los Angeles Caregiver Resource Center.

USC Leonard Davis School of Gerontology
(213) 740-5156
FAX: (213) 740-0792
Email: ldsgero@usc.edu
gero.usc.edu

Administration

Pinchas Cohen, MD, *Dean and Executive Director of the Ethel Percy Andrus Gerontology Center*
Kelvin JA Davies, PhD, DSc, *Vice Dean and Director of the Ethel Percy Andrus Gerontology Center*
Maria Henke, MA, *Senior Associate Dean, USC Leonard Davis School of Gerontology*

Faculty

William and Sylvia Kugel Dean's Chair in Gerontology: Pinchas Cohen, MD
AARP University Chair in Gerontology: Eileen Crimmins, PhD*
ARCO/William F. Kieschnick Chair in the Neurobiology of Aging: Caleb E. Finch, PhD*
James E. Birren Chair in Gerontology: Kelvin J.A. Davies, PhD, DSc*
The Golden Age Association/Frances Wu Chair in Chinese Elderly: Iris Chi, PhD *(Social Work)*
Edna M. Jones Chair in Gerontology: Valter D. Longo, PhD
Rita and Edward Polusky Chair in Education and Aging: Elizabeth M. Zelinski, PhD*
UPS Foundation Chair in Gerontology: Jon Pynoos, PhD*
Mary Pickford Foundation Professor of Gerontology: Kathleen H. Wilber, PhD*
Professors: Margaret Gatz, PhD *(Psychology)*; Martin Levine, PhD *(Law, Psychiatry and the Behavioral Sciences)*; Mara Mather, PhD; John J. McArdle, PhD *(Psychology)*; Michal Mor-Barak, DSW *(Social Work)*; Roseann Mulligan, DDS *(Dentistry)*; Mike Nichol, PhD *(Pharmacy and Public Policy)*; Christian Pike, PhD*; Victor Regnier, MArch *(Architecture)*; Edward L. Schneider, MD; Lon Schneider, MD *(Psychiatry and Neurology)*; John Tower, PhD *(Biological Sciences)*; Bradley R. Williams, PharmD *(Clinical Pharmacy)*
Associate Professors: Maria Aranda, PhD *(Social Work)*; Sean Curran, PhD*; Susan H. Enguidanos, PhD*; Jeffrey McCombs, PhD *(Pharmacy)*; John P. Walsh, PhD*
Assistant Professors: Cleopatra Abdou, PhD; Jennifer Ailshire, Ph.D; Changhan David Lee, PhD; Natalie Leland, PhD *(Occupational Therapy)*; Ana Marie Yamada, PhD *(Social Work)*
Research Professors: Todd Morgan, PhD; Albert Rizzo III, PhD
Research Associate Professors: Roseann Giarrusso, PhD; Jung Ki Kim, PhD
Research Assistant Professors: Donna Benton, PhD; Thomas Parsons, PhD
Adjunct Professors: Neal Cutler, PhD; Fernando Torres-Gil, PhD*
Adjunct Associate Professors: Joanna Davies, PhD; Janet Frank, PhD; Monika White, PhD
Adjunct Research Professor: Larry Rubenstein, PhD
Adjunct Research Assistant Professor: Tracy Armstrong, PhD
Adjunct Clinical Professor: Robert M. Tager, MD
Clinical Associate Professor: Raquel D. Arias, MD
Instructional Assistant Professors: Aaron Hagedorn, PhD; Carin B. Kreutzer, EdD; Freddi Segal-Gidan, PhD; George Shannon, PhD
Emeritus Professor: Vern Bengtson, PhD
Emeritus Associate Professor: Phoebe Liebig, PhD
**Recipient of university-wide or college teaching award.*

Programs

The USC Leonard Davis School of Gerontology offers a Bachelor of Science in Human Development and Aging, a Bachelor of Science in Lifespan Health, undergraduate classes through the health and humanity major in the USC Dornsife College of Letters, Arts and Sciences, two minors in gerontology and a progressive Master of Science in Gerontology open to all undergraduate students.

The school offers several graduate degrees including a Master of Science in Gerontology; a Master of Aging Services Management; a Master of Arts in Gerontology; a Master of Long Term Care Administration (with the Marshall School of Business and the Price School of Public Policy) and a Master of Science in Nutrition, Healthspan and Longevity. All master's degrees are offered online and onsite. The Davis School of Gerontology offers the premier PhD in Gerontology program in the nation and also offers a PhD in the Biology of Aging. The PhD programs are not offered online. Non-degree graduate students may complete 16 units of gerontology and be awarded a graduate level certificate in gerontology (also available online).

Master's degree students may pursue one of several dual degrees, which are jointly offered with other professional schools. These are the Master of Science in Gerontology and the Master of Business Administration (MS/MBA) with the Marshall School of Business; the Master of Science in Gerontology and the Juris Doctor (MS/JD) with the Gould School of Law; the Master of Science in Gerontology and the Master of Public Administration (MS/MPA), the Master of Science in Gerontology and the Master of Health Administration (MS/MHA), and the Master of Science in Gerontology and the Master of Planning (MS/MPl) with the Price School of Public Policy; the Master of Science in Gerontology and the Master of Social Work (MS/MSW) with the Suzanne Dworak-Peck School of Social Work; and the Master of Science in Gerontology and the Doctor of Pharmacy (MS/PharmD) with the School of Pharmacy.

In addition to the degree and minor programs, overview courses in aging are offered for undergraduates enrolled in other units of the university. Many gerontology courses can be credited as elective units.

Honor Society

The student honor society is Sigma Phi Omega, the national honor society formed in 1980 to recognize the excellence of those who study gerontology. The organization seeks to promote scholarship and professionalism, and to recognize exemplary attainment in the field of aging. Undergraduates must have a GPA of at least 3.3 and graduate students a GPA of at least 3.5. Sigma Phi Omega

is administered by the Association for Gerontology in Higher Education, an educational unit of the Gerontological Society of America.

Ethel Percy Andrus Gerontology Center

The Andrus Gerontology Center initiates, designs and executes basic and applied research on the many phases of development and aging and provides for graduate and post-graduate training in the biological, social, behavioral and policy sciences. Specific areas of study include neurobiology, cognitive science, biology, social organization behavior, human service delivery, biodemography and social policy.

The Andrus Center offers a multidisciplinary research training program in gerontology. It is directed toward graduate students pursuing the PhD as well as a limited number of post-doctoral fellows who develop research and academic careers in specialized areas of gerontology. Research training is carried out within individual disciplines.

Undergraduate Programs

Minors in Gerontology

The undergraduate minor program gives students the option of combining their major with an emphasis in gerontology. The minors provide students with the opportunity to supplement their education with a life course perspective of aging processes.

The minor programs, which are multidisciplinary in nature, allow the student to survey the sociological, political, psychological and biological aspects of aging; to gain an understanding of the current services available to older persons; and to examine the contemporary policy issues facing the field.

The two minors include the social science-focused Individuals, Societies, and Aging and the health science-focused Health, Science, and Aging.

Bachelor of Science in Human Development and Aging

The Bachelor of Science in Human Development and Aging is an undergraduate degree offered at the USC Leonard Davis School of Gerontology that allows students to specialize within a social science or health science track. Students specializing in the social science track often pursue careers related to older adults in business, law, the nonprofit sector or government agencies, psychology and sociology. The health science track combines the core gerontology curriculum with the prerequisites for admission to medical school and other health-related fields including: dentistry, pharmacy, nursing and others. In addition, students will participate in a supervised practicum experience in which they will become directly involved with aging clients in a health care setting.

Bachelor of Science in Lifespan Health

The Bachelor of Science in Lifespan Health prepares students for admission to a graduate or professional school with an emphasis on the biomedical aspects of health including disease prevention, detection and treatment. This program is designed for students wishing to pursue graduate studies in an allied health field such as dental hygiene, occupational/physical therapy, physician assistant, nutrition and other related fields.

Bachelor of Arts in Health and Humanity

The USC Leonard Davis School of Gerontology offers undergraduate classes through the Health and Humanity major in the USC Dornsife College of Letters, Arts and Sciences (see the Health and Humanity page).

Progressive Degree in Gerontology/Master of Science in Gerontology or Master of Aging Services Management

The progressive degree program allows high performing students to integrate their current undergraduate major with a Master of Science in Gerontology. Students with at least a 3.0 overall GPA may apply for admission to the degree program in their junior year.

Students will meet with the gerontology student adviser to develop a course plan that must be approved by the School of Gerontology and the student's home department. Students admitted into the progressive degree program begin taking master's level courses in their senior year and will complete the master's degree in year five. For more information on the admission process, see the gerontology student adviser. The total number of units for the master's degree, however, may be reduced by a maximum of one third. Students must obtain permission from both the bachelor's degree granting program and the USC Leonard Davis School of Gerontology. This program may be particularly attractive to students majoring in biology, psychology, policy and sociology. For more information on progressive degrees, see the entry under Undergraduate Programs or Graduate and Professional Education.

Graduate Degrees

Master of Science in Gerontology

The Master of Science in Gerontology prepares graduates to assume major leadership roles in the field of aging, primarily in the planning, administration and evaluation of programs in the private and public sectors, as well as executive positions in the delivery of direct services to older people and their families and in the instruction of older adults and service providers. The Master of Science in Gerontology requires 44 units of course work. This includes 32 units of required courses and 12 units of electives. As part of this curriculum, a field practicum assures that these skills can be applied in agencies and institutional settings. This program is offered in both residential and online formats.

Master of Arts in Gerontology

The Master of Arts in Gerontology provides an opportunity to acquire skills and formal training in gerontology. This program is offered in both residential and online formats. Admission standards and prerequisites are the same as listed for the Master of Science in Gerontology with the exception that students in the online MA program are expected to have a significant amount of experience working in human services, health care, business or similar settings. The program consists of 28 units of course work.

Master of Aging Services Management

The Master of Aging Services Management provides an opportunity for those seeking careers in the aging services industries to acquire skills and knowledge related to management of services, products and programs for older persons. The program requires a minimum of 12 units of core courses (three courses) and 20 units of electives (five courses). This program is offered in both residential and online formats. Continuous registration in the program is required.

Master of Long Term Care Administration

The Master of Long Term Care Administration provides an opportunity for professionals who are currently working in a long term care profession to acquire skills and formal training in long term care administration. The online program requires 28 units of course work. This program is offered in both residential and online formats.

Master of Science in Nutrition, Healthspan and Longevity

This degree is for those who want to pursue a career in nutrition and dietetics. It can lead to working in health care facilities, long-term care and supported living environments, tertiary and community hospitals, university and school food service programs, a business involving personal wellness, private practice, scientific research on nutrition's role in health and longevity, or in policy and advocacy. The program promotes health and longevity based on scientific evidence, integrating academic study with professional practice experience. The program requires 46 units of coursework and 1,200 hours of supervised practice in hospital, community, and food service

settings. Prerequisite courses are required as well as 40 hours of paid or volunteer work experience with a Registered Dietitian. The program is a candidate for accreditation by the Accreditation Council for Education in Nutrition and Dietetics. Graduates are eligible to take the Commission of Dietetics Registration's national registration examination and receive the Registered Dietitian Nutritionist (RDN) credential upon passing the examination.

Graduate Level Certificate in Gerontology

The graduate certificate in gerontology program provides an opportunity for those who have completed a bachelor's degree in another profession or discipline and are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology content designed to familiarize the student with several areas of the field that relate to professional practice. This program is offered in both residential and online formats.

Doctor of Philosophy in Gerontology

PhD in Gerontology students learn about the physiology of human development and aging, examining social policies related to aging as well as the psychological, behavioral and sociological impact on lifespan development. Working closely with a faculty mentor, they concentrate on a specific area of interest and begin the process of discovering and shaping their own academic specialization. They work closely with faculty on research and publications, participate in colloquia, attend and present at national organization meetings, acquire teaching experience and develop a rich academic, personal, and professional network. The program requires 60 units of course work and at least four additional dissertation units and is only available as a residential program.

Doctor of Philosophy in the Biology of Aging

The PhD in the Biology of Aging program is designed for students who want to become leaders in biogerontology. The focus is on molecular, cellular, and regenerative medicine as well as the integrative biology of aging. This unique doctoral program, the first of its kind in the field, brings together two world-renowned institutions: the USC Leonard Davis School and the Buck Institute for research on Aging in Northern California. Students can choose a mentor and Ph.D. faculty committee from either the Buck Institute or USC. Students' academic and research activities take place on both the Southern and Northern California locations. Candidates take core courses on the molecular and cellular biology of aging and age-related diseases, and then select a track among neuroscience, molecular, and cellular biology, stem cell and regenerative sciences, and biomedical sciences. The program requires 60 units of work, including courses, seminars and research credit. At least 24 of the 60 units must be formal graduate course work (lectures or seminars). It is only available as a residential program.

Dual Degree Programs

The USC Leonard Davis School of Gerontology cooperates with five other professional schools at USC in offering programs in which the student receives two master's degrees. These degrees provide the student with the knowledge and skills of gerontology as well as those of the other professional field. The dual degrees require more course work than the MS alone but offer the graduate greater breadth of education and employment options.

Dual degrees currently available are the Master of Science in Gerontology and the Master of Business Administration (MS/MBA) with the Marshall School of Business; the Master of Science in Gerontology and the Juris Doctor (MS/JD) with the Gould School of Law; the Master of Science in Gerontology and the Master of Public Administration (MS/MPA), the Master of Science in Gerontology and the Master of Health Administration (MS/MHA), and the Master of Science in Gerontology and the Master of Planning (MS/MPl) with the Price School of Public Policy; the Master of Science in Gerontology and the Master of Social Work (MS/MSW) with the Suzanne Dworak-Peck School of Social Work; and the Master of Science in Gerontology and the Doctor of Pharmacy (MS/PharmD) with the School of Pharmacy. Students must apply to both schools and if accepted to both, participate in specially designed programs combining the courses of each school.

Applicants to any of the dual degree programs must submit two separate applications to the Office of Admissions; one for the gerontology program and one indicating the other degree program. Each of the schools must accept the student for admission. Acceptance into one school's degree program does not imply acceptance into the dual degree program.

Gerontology and Business Administration

See USC Marshall School of Business for requirements.

Gerontology and Public Administration

The MS/MPA dual degree offers the student interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons. See the USC Price School of Public Policy for course requirements.

Gerontology and Health Administration

Students can specialize in health care administration (profit and non-profit) through the dual degree with the Price School of Public Policy's Health Administration Program. See the USC Price School of Public Policy for course requirements.

Gerontology and Planning

The MS/MPl dual degree is one of few in the nation which combines the knowledge of the older population with the skills needed to plan services for older people. The MPl prepares the graduate for the responsibilities involved in development of public and private institutions and programs. The MS indicates a special focus on the older person and the skills to analyze and design programs for this growing population. See the USC Price School of Public Policy for course requirements.

Gerontology and Social Work

See Master of Science, Gerontology/Master of Social Work (MS/MSW) for requirements.

Gerontology and Pharmacy

See Doctor of Pharmacy/Master of Science, Gerontology for requirements.

Gerontology and Law

The MS/JD dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 110 units of course work, 74 from the Gould School of Law and 36 from the Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to the rule for students enrolled in the law school honors program. See the USC Gould School of Law for course requirements.

Bachelor's Degree

Human Development and Aging (BS)

The Bachelor of Science in Human Development and Aging is an undergraduate degree offered at the USC Davis School of Gerontology in the social sciences. Students in this program often pursue careers related to older adults in business, law, the nonprofit sector or government agencies.

Students may also specialize in a health science track. The health science track combines the core gerontology curriculum with the prerequisites for admission to medical school and other health-related fields including: dentistry, pharmacy, occupational/physical therapy, physician assistant programs and others. In addition, students will participate in a supervised practicum experience in which they will become directly involved with aging clients in a health care setting.

Students planning to pursue a BS are urged to notify the school of this intent as early as possible during their undergraduate study. This will help ensure that the student receives proper advisement and that the student is alerted to any special requirements or program modifications.

During the freshman and sophomore years, students enroll primarily in general education required courses as specified by the university and the Human Development and Aging course (GERO 200).

During their junior and senior years, students enroll in required and elective courses in the School of Gerontology as well as other courses throughout the university. These courses are selected in consultation with an adviser and reflect the personal and professional interests of the students.

The honors program is available to juniors who maintain a GPA of 3.5 in gerontology and a GPA of 3.3 in other USC course work. The honors program includes mentored training in research and course work relevant to research methodology and statistics.

A grade point average of at least C (2.0) on all units attempted at USC is required for undergraduate degrees. The School of Gerontology requires a minimum 2.0 grade point average in upper division courses applied toward the major.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies). See http://dornsife.usc.edu/2015ge for more information.

Foreign Language or Programming Skills (12 Units)

Students must satisfy the skill level requirement in one language or complete ITP 101 and additional ITP 100-level programming courses to total 12 units. Students in the health science track are required to complete only ITP 101 and ITP 102.

Degree Requirements

Required Courses

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 350 Administrative Problems in Aging Units: 2 or 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 481 Case Management for Older Adults Units: 4
- GERO 491 Practicum Units: 2-8
- GERO 492 Senior Seminar Units: 4
- General Education Units: 24
- Writing Requirement Units: 8
- Foreign Language or Programming Units: 12
- Gerontology electives Units: 12
- One approved statistics course Units: 4
- General electives in gerontology or related disciplines (8 units upper division) Units: 32

Total Units: 128

Recommended General Electives

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- HP 402 Maternal and Child Health Units: 4
- LING 405 Child Language Acquisition Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 336L Developmental Psychology Units: 4 *
- PSYC 437 Adolescent Development Units: 4 *
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 369 The Family in a Changing Society Units: 4

Note:

**Prerequisite required.*

Human Development and Aging, Health Science Track, (BS)

Requirements for Admission

The listed requirements for admission to the health science track in human development and aging will not differ from existing requirements for admission to the Bachelor of Science in Human Development and Aging. However, because health professional schools are very competitive, USC students interested in this program will be expected to have achieved at least a 3.0 grade point average (A = 4.0). Students entering the program from high schools or transferring from community colleges will also be expected to meet the minimum admission standards.

Degree Requirements

Science and Mathematics

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 *
- CHEM 105bL General Chemistry Units: 4 *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4 *
- PHYS 135ag Physics for the Life Sciences Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *

Total units: 36

Gerontology Upper Division Core Courses

- GERO 310 Physiology of Aging Units: 4 *
- GERO 320g Psychology of Adult Development Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Additional Requirements

- ITP 101 Introduction to Business Information Technologies Units: 2
- ITP 102 Introduction to Creative Information Technologies Units: 2
- General Education Units: 24
- Writing Requirement Units: 8
- Gerontology upper division electives Units: 12
- General electives in gerontology or related disciplines (8 units upper division) Units: 24

Total units: 72

Total units: 128

Recommended General Electives

- ANTH 305 Childhood, Birth and Reproduction Units: 4
- BISC 480 Developmental Biology Units: 4 *
- HP 402 Maternal and Child Health Units: 4
- LING 405 Child Language Acquisition Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 336L Developmental Psychology Units: 4 *
- PSYC 437 Adolescent Development Units: 4 *
- SOCI 305m Sociology of Childhood Units: 4
- SOCI 369 The Family in a Changing Society Units: 4

Note:

**Prerequisite required.*

Human Development and Aging, Honors Programs, (BS)

USC Davis offers an honors program to outstanding students already pursuing studies for the BS in Human Development and Aging degree. This program offers students an opportunity to participate in mentored undergraduate research, taking course work in research methods and statistics in aging, and experience in writing an honors thesis that summarizes the research project. Honors students are required to complete GERO 497a, GERO 497b, GERO 497c for a total of 6–8 units, beginning in the fall or spring of the junior year. In the senior year, they must complete GERO 593 Research Methods with a minimum grade of B. GERO 593 is offered only in the fall semester. Completion of the program requires a minimum GPA of 3.5 in gerontology and 3.3 in other courses. The program leads to the designation on the transcript of Bachelor of Science in Human Development and Aging with Honors.

The student takes 2 units of GERO 497a in the fall or spring of the junior year as a mentored research course to begin the process of developing an honors thesis. This would be in lieu of elective units. In the fall of the junior or senior year the student would complete GERO 593 for 4 units and 2 units of GERO 497b, both in lieu of elective units. Also during the fall semester, the research design and methods for the honors thesis are finalized and the research project begun. In the spring, the student would register for 2–4 units of GERO 497c in lieu of elective units. The goal for that semester is to complete the research and write the honors thesis.

Degree Requirements

Required Courses

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 350 Administrative Problems in Aging Units: 2 or 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 481 Case Management for Older Adults Units: 4
- GERO 491 Practicum Units: 2-8
- GERO 492 Senior Seminar Units: 4
- General Education Units: 24
- Writing Requirement Units: 8
- Foreign Language or Programming Units: 12
- Gerontology electives Units: 12
- One approved statistics course Units: 4
- Electives in gerontology and related disciplines Units: 20–22

Total units: 116-118

Gerontology Honors Courses

- GERO 497a Honors Seminar Units: 2 *
- GERO 497b Honors Seminar Units: 2 *
- GERO 497c Honors Seminar Units: 2-4 *
- GERO 593 Research Methods Units: 4

Total units: 10-12

Total units: 128

**Prerequisite required.*

Requirements for Completion of the Health Science Honors Track

Science and Mathematics

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 *
- CHEM 105bL General Chemistry Units: 4 *
- CHEM 322aL Organic Chemistry Units: 4 *
- CHEM 322bL Organic Chemistry Units: 4 *
- MATH 125g Calculus I Units: 4 *
- PHYS 135ag Physics for the Life Sciences Units: 4 *
- PHYS 135bL Physics for the Life Sciences Units: 4 *

Total units: 36

Gerontology Upper Division Core Courses

- GERO 310 Physiology of Aging Units: 4 *
- GERO 320g Psychology of Adult Development Units: 4 or
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4
- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Additional Requirements

- ITP 101 Introduction to Business Information Technologies Units: 2
- ITP 102 Introduction to Creative Information Technologies Units: 2
- General Education Units: 24
- Writing Requirement Units: 8
- Gerontology upper-division electives Units: 8
- Electives in gerontology and related disciplines Units: 16–18

Total units: 60-62

Gerontology Honors Courses

- GERO 497a Honors Seminar Units: 2 *
- GERO 497b Honors Seminar Units: 2 *
- GERO 497c Honors Seminar Units: 2-4 *
- GERO 593 Research Methods Units: 4

Total units: 10-12

Total units: 128

**Prerequisite required.*

Lifespan Health (BS)

The Bachelor of Science in Lifespan Health prepares students for admission to a graduate or professional school with an emphasis on the biomedical aspects of health including disease prevention, detection and treatment. This program is designed for students wishing to pursue graduate studies in a health field such as medicine, pharmacy, occupational/physical therapy, psychology and other related fields.

Admission to this program is granted through USC's admission process, described in the admission section of this catalogue. The same foreign language requirement for the BS in Human Development and Aging default Social Science track (three semesters) is required as well as the USC Core (see the General Education for more information). Students must enroll in the following courses:

Gerontology Required Courses

- GERO 200 Gerontology: The Science of Adult Development Units: 4
- GERO 310 Physiology of Aging Units: 4 *
- GERO 320g Psychology of Adult Development Units: 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 483 Global Health and Aging Units: 4
- GERO 492 Senior Seminar Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4

Choose three from the following four courses:

- GERO 414 Neurobiology of Aging Units: 4 *
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4 **
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 481 Case Management for Older Adults Units: 4

Electives

Gerontology electives

Notes:

**Prerequisite required.*
***GERO 437 must be taken for 4 units of credit*

Minor

Individuals, Societies and Aging Minor

This minor is a fit for students in business, engineering, communication, cinematic arts, or arts and sciences interested in developing a broad knowledge of issues in aging. Based largely on disciplines in the behavioral and social sciences, students learn how aging will impact their lives, families and careers. Upon completion of 20 units and graduation, the minor is noted on the student's transcript.

Required Courses

- GERO 320g Psychology of Adult Development Units: 4
- GERO 330 Society and Adult Development Units: 4
- GERO 340 Policy, Values, and Power in an Aging Society Units: 4

Select two from the following:

- GERO 380m Diversity in Aging Units: 4
- GERO 416 Health Issues in Adulthood Units: 4
- GERO 435m Women and Aging: Psychological, Social and Political Implications Units: 4
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 481 Case Management for Older Adults Units: 4
- GERO 491 Practicum Units: 2-8

Total units: 20

Science, Health and Aging Minor

The science, health and aging minor is appropriate for students working toward careers in medicine, dentistry, pharmacy, biological sciences, public health or other health related fields. Admission to the minor is only available to students who have completed 4 units of prerequisites (BISC 220 or BISC 221) as part of their major requirements. Upon completion of 20 units and graduation, the minor is noted on the student's transcript.

Required Courses

- GERO 310 Physiology of Aging Units: 4
- GERO 414 Neurobiology of Aging Units: 4

- GERO 416 Health Issues in Adulthood Units: 4 or
- GERO 496 Introduction to Clinical Geriatrics Units: 4

Select two from the following:

- GERO 415 Neuroaffective Disorders of Aging Units: 4
- GERO 421 Managed Care for an Aging Society Units: 4
- GERO 437 Social and Psychological Aspects of Death and Dying Units: 2 or 4
- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 495 Practicum in Geriatric Care Units: 4

Total units: 20

Master's Degree

Advanced Placement Gerontology (MS)

The Advanced Placement MS program allows the outstanding student who has completed a Bachelor of Science in Gerontology to waive several courses in order to complete the master's degree in 36 units rather than the 44 units for the regular program.

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4 or
- GERO 520 Life Span Developmental Psychology Units: 2 or 4 or
- GERO 530 Life Span Developmental Sociology Units: 4 or
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology skill requirements Units: 12
- Gerontology electives Units: 4

Total units: 36

Program Adaptation

Three of the following courses, GERO 510, GERO 520, GERO 530 and GERO 540, will be waived for students in the advanced placement track. Advanced placement students admitted to dual degree programs must meet curriculum requirements for the respective programs.

Aging Services Management (MASM)

The Master of Aging Services Management provides an opportunity for those seeking careers in the aging services industries to acquire skills and knowledge related to management of services, products and programs for older persons. The program requires a minimum of 12 units of core courses (three courses) and 20 units of electives (five courses). All graduate level courses are offered on campus and via the Internet. Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time.

In order to participate in online courses, students will be required to have access to a computer with multimedia capability including a modem, printer and CD-ROM drive; an Internet provider with email and an Internet browser; and word processing software. Specific details regarding the computer requirements will be provided by the department. This program is available as a progressive degree (see Progressive Degree in Gerontology).

Students applying to the Master of Aging Services Management must have a bachelor's degree from an accredited college or university with a GPA of 3.0. If the applicant's GPA falls below 3.0 the GRE will be required.

Students must choose a minimum of 12 units of core courses from the following:

Core Courses (Minimum of 12 Units)

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 501 Applied Legal and Regulatory Issues in Aging Units: 4
- GERO 502 Marketing and Shifts in Consumer Decision Making Units: 4
- GERO 504 Current Issues in Aging Services Management Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Total units: 12

Students must select up to five courses (for a total of 20 units) from the following courses or any other adviser approved elective:

Suggested Elective Courses (20 Units)

- GERO 505 Housing and Community Policies and Programs Units: 4
- GERO 506 Technological Innovations in Aging (Gerontechnology) Units: 4
- GERO 507 End of Life Care Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 541 Health Care Delivery Models: Comparative Approaches Units: 4
- GERO 543 Continuum of Care: Systems Perspective Units: 4

- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 560 Micronutrients, Health, and Longevity Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 593 Research Methods Units: 4

Total units: 32

Gerontology (MA)

The MA in Gerontology provides an opportunity to acquire skills and formal training in gerontology. The online program requires 28 units of course work. Most courses are offered online and on campus.

Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time limit.

In order to participate in the online courses, students will be required to have access to a multimedia computer with modem, printer and CD-ROM drive; an Internet provider with email and an Internet browser; and word processing software. Specific details regarding the computer requirements will be provided by the department.

Admission standards and prerequisites are the same as listed for the Master of Science in Gerontology with the exception that students in the online MA program are expected to have a significant amount of experience working in human services, health care, business or similar settings. Students are not required to have taken an approved additional course.

Required Courses (20 Units)

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4

Total units: 20

Students must select two courses (for a total of 8 units) from the following courses:

Elective courses (8 units)

- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 560 Micronutrients, Health, and Longevity Units: 4
- GERO 585 The Aging Family Units: 2 or 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Total units: 28

Gerontology (MS)

The Master of Science in Gerontology prepares graduates to assume major leadership roles in the field of aging, primarily in the planning, administration and evaluation of programs in the private and public sectors, as well as executive positions in the delivery of direct services to older people and their families and in the instruction of older adults and service providers. The Master of Science in Gerontology requires 44 units of course work. This includes 32 units of required courses and 12 units of electives. As part of this curriculum, a field practicum assures that these skills can be applied in agencies and institutional settings.

All students take core courses in physiological, psychological, sociological, social policy and professional issues relating to aging, as well as research methods and the capstone course.

The course work includes instruction on the processes of aging and professional courses designed to develop the skills needed for practice. The field practicum includes one or two semesters of practical experience working in an organizational setting.

Continuous registration in the program is required. There is a five year completion time limit for the degree. Leaves of absence are available for limited times and are excluded from the total time limit. A maximum of two absences (one year each) is allowed. Most courses are offered on campus and online.

Prerequisites for Admission

Students applying for admission to the Master of Science in Gerontology program must have a bachelor's degree from an accredited college or university. In selecting applicants for admission, the School of Gerontology considers both academic potential (as reflected in undergraduate study or scores on the Graduate Record Examinations) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement that supplied by the USC Application for Graduate Admission. Such supplemental information usually includes a resume, statement of interest in gerontology and letters of reference. Interviews may be required.

Probation and Disqualification

Probation and Warning: Any graduate student whose cumulative or semester grade point average in the university falls below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning.

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Davis School at any time determines deficiency in academic achievement.

Common Requirements

All candidates for the Master of Science degree must complete the following common requirements:

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 28

Capstone Course

- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4

Suggested Electives (12 Units)

- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 543 Continuum of Care: Systems Perspective Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 551 Applied Policy Skills in Aging Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 591 Field Practicum Units: 1-12

Total units: 44

Additional Requirements

Common requirements for all programs include the 28 required units and GERO 555, totaling 32 units. In addition, each candidate must complete the 12 units of electives chosen from the complete list of electives approved by the student's adviser.

Field Practicum

The field practicum provides the opportunity for the student to gain valuable experience and develop needed skills by working in a community agency or institution. It involves a minimum of 240 hours of involvement. Students may elect to take an additional 4 units of GERO 591 Field Practicum as an elective.

Field placement assignments are made by the internship coordinator of the school in consultation with the student and in accordance with the resources available in the community. Every effort is made to secure placement which will reflect the student's capacity to assume the responsibilities of a professional in gerontology. Evaluations of the student's performance are sent to the school by the community agency; the student receives a grade of credit/no credit in GERO 591 Field Practicum.

Long Term Care Administration (MLTCA)

The Master of Long Term Care Administration provides an opportunity for professionals who are currently working in a long term care profession to acquire skills and formal training in long term care administration. The online program requires 28 units of course work.

The required courses are in sequential order and are restricted by availability. Continuous registration in the program is required. Leaves of absence are available for limited times and are excluded from the total time limit.

In order to participate in the online courses, students will be required to have access to a multimedia computer with modem, printer and CD-ROM drive; an Internet provider with email and an Internet browser; and word processing software. Specific details regarding the computer requirements will be provided by the department.

Admission standards are the same as for the Master of Science in Gerontology.

Transfer Credits

An admission credit evaluation is prepared for graduate students with previous graduate level course work. This review indicates which courses the university will approve but it is the relevant school (Gerontology, Business, or Public Policy) that determines if any of these courses are appropriate for this degree. A maximum of 4 units may be used toward the master's degree.

Graduate transfer credit will not be granted for life experience, credit by examination, non-credit extension courses, correspondence courses or thesis supervision. Graduate transfer credit will not be granted for any course work taken elsewhere after the student has been admitted and enrolled at USC unless the student receives prior written approval from the department.

Required Courses (24 units)

- ACCT 509 Concepts of Financial and Management Accounting Units: 4
- FBE 587 Legal and Regulatory Environment of Long Term Care Units: 4
- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4

- GERO 508 The Mind and Body Connection through the Lifespan Units: 4 or
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4

- PPD 601 Management of Long-Term Care Organizations Units: 4
- PPD 649 Concepts and Practices in Public Personnel Administration Units: 4

Note:

Students must select one course (for a total of 28 units) from the following courses.

Elective Courses (4 units)

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 589 Case Studies in Leadership and Change Management Units: 4

Nutrition, Healthspan and Longevity (MS)

The Master of Science in Nutrition, Healthspan and Longevity, a Coordinated Program (CP) in Nutrition and Dietetics, prepares graduates for roles in the field of nutrition and dietetics promoting personalized nutrition through work in hospitals and health care facilities, long-term care or school food service programs, business, teaching, research or private practice. The program has been granted candidacy for accreditation by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and integrates academic study with professional practice experience. Fifteen students are admitted each year in the fall. Students can complete the full-time degree program in two years, on-campus or online (for those living more than 100 miles from USC). Online students will be required to find and utilize facilities in their community to complete the required course laboratory activities and supervised practice (verification of facilities will be required after acceptance, and before enrollment, for first-year rotations). Successful completion of 46 units of course work is required for graduation and includes 28 units of required courses, 12 units of supervised practice and 6 units of research. The program summative experience will be an electronic portfolio, including research completed throughout the program. Students will be required to present their work at a local, state or national dietetics conference as a requirement of graduation.

Continuous registration in the program is required. Leaves of absence are available for limited times and may require the student to wait until the next year to re-enroll as some courses are offered annually, and must be taken sequentially. A maximum of two leaves of absence is allowed. Upon completion of the Master of Science degree, students are eligible to write for the Credentialing Examination for Registered Dietitian Nutritionists.

In order to participate online, students will be required to have access to a computer with multimedia capability including high-speed Internet access, audio and a digital video camera. Specific details regarding computer requirements will be provided by the program.

Field Practicum

The field practicum provides the opportunity for students to gain valuable experience and develop needed skills by working in an institutional or community environment where nutrition services are provided by registered dietitians or food services professionals. Field placement assignments begin in the second semester of the program and continue every semester until graduation. Students attending the program on campus are placed by the program coordinator in consultation with the student as resources are available in the community. Evaluations of students are sent to the school by the community agency; the student receives a grade of credit/no credit in GERO 591 Field Practicum.

Prerequisites for Admission

Students applying for admission to the Master of Science in Nutrition, Healthspan and Longevity program must have a bachelor's degree from an accredited college or university. In addition, the following prerequisites must be complete before starting the program: cellular biology with lab, microbiology with lab, general chemistry with lab, organic chemistry with lab, biochemistry with lab, human physiology with lab, general psychology or sociology, algebra or pre-calculus or calculus or statistics, speech or communications, introductory food science and human nutrition. All prerequisite courses cannot be more than 10 years old at the time of application. The exceptions are the general psychology course and the math course; there is no time limit on these two courses.

In selecting applicants for admission, the Davis School of Gerontology considers both academic potential (as reflected in undergraduate study with a GPA greater than 3.0) and professional potential (as reflected in experience, references and career goals). The school requests information from applicants to supplement

that supplied by the USC Application for Graduate Admission. Supplemental information includes a résumé, statement of interest in nutrition and longevity and two letters of reference. Applicants are required to document at least 40 hours of paid or volunteer work experience with a registered dietitian. Interviews may be required for highest ranking applicants.

Probation and Disqualification

Probation and Warning: Any graduate student with a cumulative or semester grade point average in the university falling below B (3.0) will be placed on academic probation. A graduate student whose semester average falls below B (3.0) but whose cumulative grade point average in the university is 3.0 (A = 4.0) or higher will be placed on academic warning. Students will not be allowed to begin supervised field practice in the second semester if any first semester grades fall below a B (3.0).

Disqualification: A graduate student on academic probation will be disqualified if his or her cumulative record accumulates more than 12 units of C work. A graduate student, whether on probation or not, will be subject to disqualification if the Student Affairs Committee of the USC Davis School at any time determines deficiency in academic achievement.

Course Requirements

All candidates for the Master of Science in Nutrition, Healthspan and Longevity degree must complete the following required courses.

Required Courses

- GERO 498 Nutrition, Genes, Longevity and Diseases Units: 4
- GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment Units: 4
- GERO 512 Communicating Nutrition and Health Units: 2
- GERO 513 Fundamentals of Nutrition: Macronutrients Units: 3
- GERO 515L Food Production and Food Service Management Units: 4
- GERO 517L Advanced Therapeutic Nutrition Units: 4
- GERO 518 Current Topics in Clinical Nutrition Units: 4
- GERO 560 Micronutrients, Health, and Longevity Units: 4
- GERO 590 Directed Research Units: 1-12
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

University Certificate

Gerontology Graduate Level Certificate

The residential graduate certificate in gerontology program provides an opportunity for those who have completed a bachelor's degree in another profession or discipline and are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology content designed to familiarize the student with several areas of the field which relate to professional practice.

In addition to three of the four required core course areas for the certificate program (GERO 510, GERO 520 or GERO 522, GERO 530 or GERO 585, GERO 540), each student will have the option to choose one elective course which meets his or her particular area of interest.

Certificate students do not take a field practicum. Students admitted to the non-degree certificate program are expected to enroll each semester until the program is completed.

Gerontology Online Graduate Level Certificate

The online graduate certificate in gerontology program provides an opportunity for those with a bachelor's degree in another profession or discipline who are employed in the field of aging to acquire a greater understanding of gerontology theory and research. The program consists of 16 units of gerontology courses designed to familiarize the student with several areas of the field which relate to professional practice.

Students complete the introductory course, GERO 500, two of the four required core course areas (GERO 508 or GERO 510 or, GERO 520 or GERO 522, GERO 530 or GERO 585, and GERO 540), and one elective course in a particular area of interest.

The required courses are delivered via the Internet. The courses are offered in sequential order and are restricted by availability. Continuous registration in the non-degree program is required. Leaves of absence are available for limited times and are excluded from the total time limit. Entering students are encouraged to begin their course of study by taking GERO 500.

In order to participate in the online courses, students will be required to have access to a multimedia computer with modem, printer and CD-ROM drive; an Internet provider with email and an Internet browser; and word processing software. The department will provide specific details regarding the computer requirements.

Dual Degree

Master of Science, Gerontology/Doctor of Pharmacy (PharmD/MS)

The emerging impact of the elderly on the health care system has created a need for health care providers who understand the unique needs of the elderly. As drug therapy remains the primary therapeutic option for chronic disease, the demand for prescription drugs will continue to rise. There is a demand for pharmacists who are equipped to meet the pharmaceutical care needs of this population. Geriatric pharmacy is recognized as a specialty, with board certification through the Commission for Certification in Geriatric Pharmacy. The PharmD/MS, Gerontology program will provide extensive education and training in the unique health care needs of older adults. It will allow student pharmacists with a career interest in geriatrics or gerontology to work with health care planning or delivery organizations to develop and implement progressive pharmaceutical care programs for the elderly.

Application and Admissions Requirements

Students who intend to pursue the dual PharmD/MSG degree must be accepted by both programs. This includes having completed a baccalaureate degree from an accredited college or university with a minimum G.P.A. of 3.0 and a minimum equivalent GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students, who elect this approach, must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program. Second, students can apply to the dual degree by submitting an application to the MS in Gerontology program during their first year of enrollment in the PharmD prior to the MS, Gerontology published application deadline. Students, who elect this approach, must apply through the School of Pharmacy. Students admitted to the MS program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 G.P.A. Students accepted to the dual degree program must maintain a minimum 3.0 G.P.A. in their gerontology and PharmD courses.

Graduation Requirements

Students must complete all requirements for the PharmD and MS degrees as listed in the catalogue with a minimum cumulative 3.0 G.P.A. Students must complete 32 Gerontology units as indicated. The PharmD degree course requirements are listed in the School of Pharmacy section.

Gerontology Requirements

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- Gerontology electives Units: 16 *

*Choose four of the following (16 units):

- GERO 475 Ethical Issues in Geriatric Health Care Units: 4
- GERO 496 Introduction to Clinical Geriatrics Units: 4
- GERO 508 The Mind and Body Connection through the Lifespan Units: 4
- GERO 519 Recent Advances in Neurobiology and Endocrinology of Aging Units: 2 or 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 543 Continuum of Care: Systems Perspective Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 554 Evaluation: Incorporating Evidence-Based Practices Units: 4
- GERO 591 Field Practicum Units: 1-12

Total units: 32

Master of Science, Gerontology/Juris Doctor (MS/JD)

The JD/MS dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 110 units of course work, 74 from the law school and 36 from the Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses.

Gerontology Requirements

The Master of Science in Gerontology will require 36 units of course and fieldwork that cover the core content of the MS program.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 522 Counseling Older Adults and Their Families Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
  Gerontology elective Units: 4

Notes:

The Davis School of Gerontology will waive 16 units of electives, which are required in the regular MS program, as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in law.

Law School Requirements

The law school requires 74 units of credit.

First Year Requirements

- LAW 502 Procedure I Units: 4
- LAW 503 Contracts Units: 2, 3, 4
- LAW 504 Criminal Law Units: 3
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 507 Property Units: 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 509 Torts I Units: 4
- LAW 512 Law, Language and Values Units: 2, 3, 4
- LAW 515 Legal Research, Writing and Advocacy I Units: 2, 3
- LAW 516 Legal Research, Writing and Advocacy II Units: 2

Elective Course Work

The second and third year of law study are primarily elective with one requirement. Students must satisfy the upper division writing requirement, either by completing a major, faculty-supervised writing project such as a dissertation, or by taking a course with a substantial writing component.

The law school will waive 14 units of electives, which are required in the regular JD program.

Master of Science, Gerontology/Master of Business Administration (MS/MBA)

The MS/MBA dual degree combines knowledge of the older population with the skills of business management. The program prepares graduates for a number of roles in both public and private sector organizations including the marketing of products or services to seniors, human resource development with older workers and retirement benefits.

Gerontology Requirements

The Master of Science in Gerontology requires 30 units of course and fieldwork, which covers the core content of the MS program.

Required Courses

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- Gerontology electives Units: 6

Total units: 30

Additional Requirements

Business Administration Requirements

The Master of Business Administration will require 48 units of credit. Required courses include: all required courses in an MBA program; MOR 548 Competitive Advantage Through People 3; one marketing elective chosen from among MKT 512 Customer Insights and Analysis 3, MKT 525 Consumer Behavior 3 and MKT 560 Marketing Strategy 3; and additional graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the School of Business toward the 48 units.

Program Adaptation

The USC Davis School of Gerontology will waive 18 units of electives, plus GERO 593 Research Methods (4 units) and GERO 589 Case Studies in Leadership and Change Management (4 units), which are required in the regular MS program. Students will be exposed to research and professional issues in business administration course work.

Master of Science, Gerontology/Master of Health Administration (MS/MHA)

Gerontology and health administration students can specialize in health care administration (profit and nonprofit) through the dual degree with the USC Davis School of Gerontology and the USC Price School of Public Policy's Health Administration Program. Students in the dual degree program must be admitted by both academic units and complete 78 units of post-graduate academic work.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 36

Health Administration Requirements

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 601 Management of Long-Term Care Organizations Units: 4

Total units: 42

Additional Requirements

Statistics: The statistics requirement for dual degree students is the same as those that apply to the Health Administration (MHA).
Program Adaptation: The USC Davis School of Gerontology will waive GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program will have a primary professional focus in health administration.
Students enrolled in the dual degree are not required to take PPD 511 (as opposed to the stand alone MHA degree students) because they develop the necessary proficiencies related to their career goals in long-term care administration through other courses such as GERO 550, GERO 591 and GERO 593. In addition, PPD 601 is required for the dual degree (and not the stand alone MHA program) because most of these students will work in long-term care facilities and this course is critical for success in that market.
Any course substitutions are done by petition on an individual basis and should be part of a carefully developed course of study. The USC Price School of Public Policy should be consulted concerning this program of study.

Master of Science, Gerontology/Master of Planning (MS/MPl)

The MS/MPl dual degree is one of a few in the nation which combines the knowledge of the older population with the skills needed to plan services for older people. The MPl prepares the graduate for the responsibilities involved in development of public and private institutions and programs. The MS indicates a special focus on the older person and the skills to analyze and design programs for this growing population. The MS is offered through the USC Davis School of Gerontology.

Requirements

Requirements for completion of the dual degree program are 66 units including 26 units in gerontology, 36 units in planning and a minimum of 4 units of thesis in either gerontology or planning, as follows:

Gerontology

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 591 Field Practicum Units: 1-12
- Gerontology elective Units: 4

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Note:`
2-unit courses may be offered in seven-and-a-half week blocks.

Master of Science, Gerontology/Master of Public Administration (MS/MPA)

The Master of Public Administration/Master of Science, Gerontology (MPA/MS) dual degree offers students interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons.

In the MPA/MS dual degree, students spend their first year taking the required courses in the USC Davis School of Gerontology. The research course, GERO 593 Research Methods and the capstone course GERO 555 Integrating Gerontology: A Multidisciplinary Approach, are taken in the USC Davis School of Gerontology. The student begins courses in the Price School of Public Policy during the second semester of the first year.

Two versions of this dual degree are available, one with a general orientation and one with an emphasis on health services administration. Students must apply to both schools and, if accepted to both, participate in a specially designed program combining course work from both schools.

Curriculum requirements for the general focus dual degree are detailed in the USC Davis School of Gerontology section of this catalogue. Students are encouraged to seek advisement as they plan their actual programs, since curriculum changes may occur.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
  Gerontology elective Units: 4

Total units: 40

Public Administration Requirements

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4
- PPD 542 Policy and Program Evaluation Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 546 Capstone in Public Administration Units: 4
  Elective Units: 2

Total units: 28

Additional Requirements

Program Adaptation

For the MS in Gerontology, 12 units of electives are waived as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a

primary professional focus in public administration. For the Master of Public Administration, 12 units of gerontology courses are used as the substantive specialization.

Master of Science, Gerontology/Master of Social Work (MS/MSW)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The MS/MSW dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Students enrolled in this dual degree receive an MSW as well as an MS in Gerontology. This dual degree requires completion of 73 units: 32 units of work in the Davis School of Gerontology and 41 units in the Suzanne Dworak-Peck School of Social Work. The course work is usually completed over a 24-month period for full-time students.

Students must complete MSW course work in foundation, foundation field instruction and core courses specific to the AMHW or SCI departments.

See the Master of Master of Social Work/Master of Science, Gerontology (MSW/MS) in the Suzanne Dworak-Peck School of Social Work for course requirements.

Doctoral Degree

Biology of Aging (PhD)

Application deadline: December 1

The purpose of the PhD in the Biology of Aging is to provide interdisciplinary research training in an age-centric environment. Students will focus on basic mechanisms of aging as well as translational research related to medical applications. Students will approach aging as a major risk factor for disease.

Admissions Requirements

Applicants must have a bachelor's degree from an accredited four-year college or university preferably in one of the biological sciences. Applicants are evaluated by their transcripts and GPA; scores on the GRE General Test, three letters of recommendation and a statement of interest.

Degree Requirements

Course Requirements

The PhD in the Biology of Aging will provide each student with detailed knowledge and expertise in the biology of aging. The PhD in the Biology of Aging requires the following courses (GERO 600, GERO 601, GERO 602a, GERO 602b, GERO 603, plus 8-10 units from the list of suggested electives or other department approved courses). A minimum of 60 units is required, consisting of formal courses, seminars and research credit. At least 24 of the minimum 60 total units required are to be formal graduate course work (lecture or seminar courses).

Screening Examination

After completion of the core Biology of Aging course work (GERO 600, GERO 601, GERO 602a GERO 602b and GERO 603) during the first year, the student's degree progress is discussed and evaluated by a screening committee composed of members of the gerontology faculty and the Buck Institute as well as the student's faculty adviser. The purpose of this written and oral evaluation is to determine competence to continue graduate study and identify areas to be strengthened prior to the qualifying examination.

Qualifying Examination

By the end of the third semester, students should choose a guidance committee consistent with the requirements of the graduate school composed of gerontology faculty, Buck Institute faculty and one outside member. This committee will conduct the qualifying exam and provide guidance during dissertation research. The chair of the committee will serve as the principal adviser. Students should consult extensively with each committee member regarding subjects to be covered in the exam.

The qualifying exam consists of written and oral parts. Both parts must be finished before the end of the fifth semester. For the written exam, the adviser will consult with each of the members of the qualifying exam committee. The written part will incorporate evaluation and synthesis of existing knowledge related to the topic areas, creation of a set of experiments to test a relevant hypothesis, and interpretation of anticipated results. The oral exam consists of an oral defense of the written part and will be conducted with a month of the written part of the qualifying exam.

Doctoral Dissertation

The dissertation is based on original, publishable and significant research conducted independently by the student under the guidance of the dissertation committee. Upon admission to candidacy, a dissertation committee is established which consists of three members of the faculty, some of whom may be from the guidance committee, one of whom must hold his or her primary appointment outside of the Davis School of Gerontology.

The dissertation committee is responsible for providing guidance and consultation during the research process, approving the dissertation, conducting the final oral examination, and recommending the candidate for the PhD degree.

Foreign Language Requirements

There are no foreign language requirements for the PhD in the Biology of Aging program.

Transfer Credits

Students with a master's degree of prior graduate course work in biology can petition to apply the credit toward required courses. Petition for credit will be based on the Graduate School's policies and requirements for transfer of credit and on approval by the doctoral advisory committee. Transfer credits toward the PhD requirements will be limited to 20 units and must be taken within 10 years of entering the program.

Gerontology (PhD)

The purpose of the PhD in Gerontology is to provide research training in the multidisciplinary field of aging. The program is designed to enhance the potential of able students to make scholarly and professional contributions to the field of gerontology through research and teaching. To obtain this goal, the PhD in Gerontology provides (1) high level rigorous research training, (2) the acquisition and application of scientific knowledge in the field of aging and (3) the development of leadership skills.

Admission Requirements

Applicants for admission to the doctoral program must meet the following requirements:

1. Recipient of a bachelor's degree from an accredited college or university by anticipated enrollment date.
2. Academic promise, as evidenced by above average achievement in previous undergraduate and graduate education. A minimum GPA of 3.5 on all prior graduate work is required. In addition, a 3.25 GPA in an appropriate undergraduate major and a baccalaureate degree are required.

3. Personal qualities compatible with high level performance in gerontology and indicating a potential for leadership in the field. This includes a strong commitment to developing a scientific research program. Applicants to the PhD program must submit a resume of professional and academic experience, three letters of reference (academic and professional), a statement of objectives and examples of written work.
4. Satisfactory performance on the Graduate Record Examinations — existing test scores may be submitted if the GRE has been completed no more than five years prior to the date of application. A satisfactory score on the Verbal and Quantitative GRE is required. Students should also provide scores from the Analytic exam.
5. Submission of application materials as required. Instructions for application to the Doctor of Philosophy in Gerontology may be obtained by contacting the Davis School of Gerontology.

Degree Requirements

Course Requirements

Students must complete a minimum of 60 units of course work (with at least 24 of these units being completed in residency at USC), as well as additional dissertation units (at least 4 units) as required. All students will take courses in three areas: a set of required core courses, research courses and elective courses.

There are two tracks in the gerontology PhD program: the social, behavioral, and policy track and the biology of aging track.

Students will be advised about course selection during the first year by the PhD committee. As soon as a student has selected a specialization (e.g., biology, psychology, sociology/demography, policy), an advisory committee of appropriate faculty will be appointed. The purpose of the advisory committee is to help the student in the selection of courses and a research agenda; to monitor the student's progress; and to insure preparation for the qualifying examination.

Basic Scientific Core

Each track has a basic scientific core. The core for the social, behavioral and policy track stresses the physiological, psychological, sociological and policy dimensions of individual and population aging. The scientific core for the biology of aging track emphasizes the understanding in the molecular, cellular and physiological mechanisms of aging and age-related disease. Special emphases include mechanisms associated with chronic disease such as cancer, heart disease, Alzheimer's and Parkinson's disease, and the interplay between genetic and environmental influences.

Social, Behavioral and Policy Track Required Core Courses

- GERO 610 The Aging Society Units: 4
- GERO 613 Health and Aging Units: 4
- GERO 620 Psychology of Aging Units: 4
- GERO 645 Politics and Policy Processes in an Aging Society Units: 4

Biology of Aging Track Required Core Courses

- BISC 502a Molecular Genetics and Biochemistry Units: 4 and
- BISC 502b Molecular Genetics and Biochemistry Units: 4 or
- BISC 502a Molecular Genetics and Biochemistry Units: 4 and
- BISC 502b Molecular Genetics and Biochemistry Units: 4 and
- BISC 505 Genomics and Molecular Genetics Units: 4 or
- NEUR 524-Advanced Overview of Neurosciences Units: 4 and
- NEUR 531-Molecular and Cellular Neurobiology Units: 4 and
- NEUR 532-Systems and Behavioral Neurobiology Units: 3

Research Core

A second core area focuses on development of research skills. For social scientists this includes research design, methods and statistics. Biologists will learn methods appropriate to biological sciences as well as research design and statistics. Students in the social, behavioral and policy track are required to take GERO 593 and GERO 640 and at least one additional statistics course — generally from another department — on the student's research focus. Students in the biology of aging track are required to take GERO 593 and GERO 590 (2 semesters of 4 units).

Students in both tracks are also required to take two semesters of GERO 592, a research seminar in which participants will develop and carry out their own research. This course is generally taken after the first year.

Elective Core

A third core involves electives that allow students to create a concentration in a particular area of focus or analytic field of inquiry. Students should select courses in consultation with their adviser. Courses should be selected to provide in depth knowledge in the specialized area or general knowledge in the field of gerontology. A number of gerontology courses can be taken as electives.

Students should note that Gerontology courses at the 600 level are usually offered only every second year. Students are encouraged to review the course schedule to determine how to best complete these courses in a timely manner. Successful completion of the required course work does not complete the educational experience of the student. Students are expected to enhance their exposure to research by attending the colloquium lecture series, working on research with a faculty member and presenting original research at the annual meeting of the Gerontological Society of America and other professional meetings.

Additional Requirements

Foreign Language Requirements

There are no foreign language requirements for the PhD program.

Transfer Credits

Students with master's degrees or prior graduate course work in gerontology can petition to apply the credit toward required courses. Petition for credit will be based on the Graduate School's policies and requirements for "transfer of credit" and on approval by the doctoral advisory committee. Transfer credits toward the PhD requirements will be limited to 20 units and must be credits taken within 10 years of entering the program.

Time Limit

The normal time for completing the PhD is four to five years (without a prior master's degree). The first two years will consist of required and elective courses. The third year will consist of electives, the PhD qualifying exams and completion of the dissertation proposal. The final year(s) will involve the completion of the dissertation. The maximum time to complete all requirements for the PhD degree is eight years from the first course at USC applied toward the degree.

Students who have completed an applicable master's degree at USC or elsewhere within five years of the proposed enrollment in the PhD program must complete the PhD in six years.

Screening Procedures

When students have completed a minimum of 16 but not more than 24 units of doctoral course work, the doctoral advisory committee assesses their performance through a screening process and makes a decision regarding their ability to continue in the program. If the student is granted permission to continue, a guidance committee is established.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members, at least three from the School of Gerontology. The function of the qualifying exam committee is to oversee the development of the student's academic progress through the qualifying examination, including the preliminary dissertation proposal.

Qualifying Examination

As a prerequisite for candidacy for the PhD, students must pass a qualifying examination, which is multidisciplinary and comprehensive in nature and that necessitates independent study beyond course requirements. Students must have completed at

least 28 units of course work in the doctoral program with a GPA of at least 3.25 before attempting the qualifying exam. The exam is designed to test mastery of knowledge and scholarly skills and to test readiness to undertake independent research. If the student fails this exam, it may be repeated one time. When the exam is successfully completed, the student then must develop and have a dissertation proposal approved before the student is officially admitted to candidacy for the PhD degree.

Doctoral Dissertation

Upon admission to candidacy, a dissertation committee is established which consists of three members of the faculty, some of whom may be from the qualifying committee.

The dissertation committee has responsibility for providing guidance and consultation during the research process, approving the dissertation, conducting the final oral examination, and recommending the candidate for the PhD degree. The doctoral dissertation should make an original contribution to the development of knowledge and theory in gerontology.

Final Oral Examination

Upon approval of the final draft of the dissertation by all members of the dissertation committee, the candidate must pass a final oral examination. Upon successful completion of this final examination, the committee recommends the candidate to the Graduate School for award of the PhD degree.

USC Independent Health Professions at the Herman Ostrow School of Dentistry

The USC Division of Biokinesiology and Physical Therapy and the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy are administered by the Herman Ostrow School of Dentistry of USC. Both of these divisions offer outstanding education at the graduate level and the Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy offers an undergraduate program.

The USC Division of Biokinesiology and Physical Therapy was established in 1944. For those entering the physical therapy profession, the division offers the Doctor of Physical Therapy, the top-ranked DPT program in the country. For practicing physical therapists, the division offers a Master of Science degree as well as clinical residency programs in neurology, orthopedics, pediatrics and sports. In addition, the division offers the nation's longest-standing PhD degree program in Physical Therapy, now a PhD in Biokinesiology. Experienced clinicians with a master's degree in physical therapy may be eligible for the Doctor of Physical Therapy in an Advanced Standing program. The division is headquartered on the Health Sciences Campus.

The USC Chan Division of Occupational Science and Occupational Therapy opened in 1942 and is headquartered on the Health Sciences Campus. More than 50 percent of the recipients of the American Occupational Therapy Association's highest awards have been USC alumni. The division offers a professional degree program allowing students to earn a BS degree and, in one additional year, an MA in occupational therapy. These graduates are eligible to sit for the National Board for Certification in Occupational Therapy® examination. The division offers three graduate degrees: the Master of Arts, the world's first PhD in Occupational Science and the professional Occupational Therapy Doctorate (OTD). The USC Chan Division of Occupational Science and Occupational Therapy master's-level professional degree program is fully accredited by the Accreditation Council for Occupational Therapy Education®, c/o Accreditation Department, American Occupational Therapy Association, Inc., 4720 Montgomery Lane, Suite 200, Bethesda, Maryland 20814-3449, (301) 652-6611 x2914, acoteonline.org. A minor in occupational science is also offered for undergraduate students pursuing a major outside occupational therapy.

Biokinesiology and Physical Therapy

Health Sciences Campus
Center for the Health Professions
1540 E. Alcazar Street, CHP 155
Los Angeles, CA 90089-9006
(323) 442-2900
FAX: (323) 442-1515
pt.usc.edu

Faculty

Associate Dean and Chair: James Gordon, EdD, PT, FAPTA
Associate Chair: Cheryl Resnik, PT, DPT, FNAP, FAPTA
Professors: James Gordon, EdD, PT, FAPTA; Christopher Powers, PhD, PT, FAPTA; Carolee J. Winstein, PhD, PT, FAPTA; Francisco Valero-Cuevas, PhD
Professors (Clinical Scholars): Linda Fetters, PhD, PT, FAPTA; Kornelia Kulig, PhD, PT, FAPTA
Professors of Clinical Physical Therapy: Beth Fisher, PT, PhD, FAPTA; Rob F. Landel, PT, DPT, OCS, CSCS, FAPTA; Lori Michener, PT, PhD, FAPTA
Associate Professors: Lucinda L. Baker, PhD, PT; Nina S. Bradley, PhD, PT; George J. Salem, PhD; Nicolas Schweighofer, PhD
Assistant Professors: Jason Kutch, PhD; James Finley, PhD; Sook-Lei Liew, PhD, OTR/L
Associate Professors of Clinical Physical Therapy: Beth Fisher, PhD, PT; Cheryl Resnik, PT, DPT, FNAP; E. Todd Schroeder, PhD; Susan Sigward, PhD, PT, ATC; Julie Tilson, PT, DPT, MS, NCS
Assistant Professors of Clinical Physical Therapy: Jesus Dominguez, PhD, PT; Jacquelyn Dylla, PT, DPT, OCS; Rose Hamm, DPT, CWS; Robbin Howard, PT, DPT, NCS; Yogi Matharu, PT, DPT, OCS; Marisa Perdomo, PT, DPT; Amy Pomrantz, PT, DPT, OCS, ATC; Barbara Sargent, PhD, PT, PCS; Michael S. Simpson, PT, DPT, CCS; Jonathan Sum, PT, DPT, OCS, SCS; Kimiko Yamada, PT, DPT, OCS, ATC, CSCS
Assistant Professors of Research: Christina Dieli-Conwright, PhD, CSCS, CET; Beth Smith, PT, DPT, PhD
Instructors of Clinical Physical Therapy: Elizabeth Acreman, PT, DPT; Geoffrey Cariker, PT, DPT, GCS; Jessica Curran, PT, DPT, OCS; Lauren Davis, PT, DPT; Aimee M. Diaz, PT, DPT, SCS, ATC; Ryan Frendewey, PT, DPT; Lori Ginoza, PT, DPT, NCS; Janelle Gilmer PT, DPT, GCS; Erin Hayden, PT, DPT, OCS; Lydia In, MPT; Nicole Irizarry, PT, DPT, CCS; Eileen V. Johnson, PT, DPT; Yasuyuki Kasayama, DPT, MHA, OCS; Kenneth Kim, PT, DPT, OCS, CSCS; Daniel Kirages, PT, DPT, OCS, FAAOMPT; Angela Kwan, MPT; Cherise Lathan, PT, DPT, NCS; Valerie Matthews, PT, DPT; Brian McNeill, PT, DPT; Jennifer Okuno, MPT; David Richards, PT, DPT, NCS; Terry Richardson, PT, DPT; Scott Russell, PT, DPT; Don Shimabukuro, MPT; Jennifer Tanaka, PT, DPT, NCS; Jeff Thompson, PT, DPT; Erica Sigman, DPT, OCS; Stephanie Woelfel-Dyess, PT, MPT, CWS, FACCWS; Noriko Yamaguchi, PT, DPT, CSCS, GCS; Maria Zibell, PT, DPT
Adjunct Associate Professors: Joseph Godges, DPT; Larry Ho, PT, DPT, OCS; Jing-Ching (Sally) Ho, PT, DPT, OCS; Ning Lan, PhD;
Adjunct Assistant Professors of Clinical Physical Therapy: Michael Andersen, PT, DPT, OCS; Kyle F. Baldwin, PT, DPT; Julia Burlette Itamura, PT, DPT, OCS; Jason Cozby, PT, DPT, OCS; Sean Flanagan, PhD, ATC, CSCS; Kathryn L. Havens, PhD; John Jankoski, MPT, NCS, OCS; Rebecca Lewthwaite, PhD; Ndidiamaka Matthews, PT, DPT, NCS; John Meyer, PT, DPT, OCS, FAFS; Elizabeth Poppert, PT, DPT, MS, OCS; Gary Souza, PT, DPT, OCS
Adjunct Instructors of Clinical Physical Therapy: Ginelle Amormino, PT, DPT; Andrea Austin, PT, DPT, OCS, ATC; Melissa Brose, PT, DPT; Erin Caudill, PT, DPT, NCS; Manjiri Dahdaul, DPT; Oscar Gallardo, MS, PT; Julie A. Guthrie, PT, DPT, OCS; Julie Hershberg, PT, DPT, NCS; Mils Hillman, PT, DPT, OCS; Becky Kern, PT, DPT, OCS; Covey Lazouras, PT, DPT, NCS; Andrew Myler, PT, DPT, NCS; Lisa Meyer, PT, DPT, OCS; Jill Ordorica, PT, DPT, PCS; Pamela Ressler, PT, DPT, NCS; Joseph Robinson, PT, DPT; Jo Armour Smith, PhD; Rachel Tabak Tran, PT; Jared Vagy, PT, DPT, OCS, CSCS; Jena Van Loo, MPT; Cynthia Wederich, PT, DPT; Jeremy Wong, PT, DPT, PCS; Jennifer Yue, PT, DPT, NCS

Programs

The Division of Biokinesiology and Physical Therapy offers multiple degrees, certificates and clinical residency programs allowing graduates the opportunity to choose educational programs that will expose them to cuttingedge research and scientific advancements, in turn creating innovators in the physical therapy profession. The largest degree program is the top-ranked three-year Doctor of Physical Therapy (DPT). Post-professional programs include the clinical residency programs in neurologic, orthopedic, pediatric and sports physical therapy. The division also offers a PhD in Biokinesiology, one of the nation's first PhD degrees in physical therapy education, as well as a PhD in Biokinesiology and Physical Therapy. The graduate curricula for the master of science and doctor of philosophy degrees are open to all qualified students who are or are not physical therapists.

Master's Degree

Biokinesiology (MS)

Graduate study for the Master of Science in Biokinesiology is open to individuals who have a bachelor's degree and who have a strong interest in movement science.

Admission Requirements

Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). Applicants should score at least 150 in each area of the Graduate Record Examinations. Applicants are to provide the department with three letters of recommendation. The faculty may request a personal interview before making a decision on admission. Admission will be considered for the fall semester only. The application deadline is November 1. All applicants should contact the Division of Biokinesiology and Physical Therapy for advisement.

Prerequisites

The prerequisite for applicants to the Master of Science program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, physics, calculus and biology. Highly recommended is course work in anatomy, physiology, histology, kinesiology, trigonometry, neuroscience, analytical geometry, exercise physiology, biochemistry and computer programming. Applicants with no background in cellular or molecular biology may be required to take PT 509 in the entry-level DPT program. Candidates should have some degree of computer literacy. International applicants will be considered on a special evaluation of credentials.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subjects will not be part of the required units for the Master of Science.

Degree Requirements

Completion of the degree requires satisfactory completion of a minimum of 32 credits of course work at the 500 level or above, a research project (BKN 559 and BKN 590), and a summative experience.

Required Courses

- BKN 550 Neurobehavioral Basis of Movement Units: 4
- BKN 551 Musculoskeletal and Biomechanical Basis of Movement Units: 4
- BKN 552 Physiological Basis of Voluntary Movement Units: 4
- BKN 559 Readings in Biokinesiology Units: 1, 2, 3, 4 (max 8)
- BKN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 510L Principles of Biostatistics Units: 4

Additional Requirements

Students must complete the three biokinesiology core courses (BKN 550, BKN 551, BKN 552) before sitting for their comprehensive examination. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.

In order to fulfill the research project requirement, the following plan is suggested; however, each plan can be individualized based on the needs of the student and/or adviser:

1. Select a research professor (from the department) whose work interests them. This should be done by the end of the first year of study.
2. After receiving the professor's approval, sign up for BKN 559 (4 units) and complete a semester reading the literature pertinent to the professor's work.
3. The following semester, sign up for BKN 590 (4 units) and participate in an ongoing research project that is being conducted by the professor. The research paper must be completed within the semester for which BKN 590 units are being given.

See the Doctor of Philosophy in Biokinesiology section for a list of courses available to MS students.

Dual Degree

Doctor of Physical Therapy/Master of Public Health (DPT/MPH)

The Post Professional Doctor of Physical Therapy (DPT) and the Master of Public (MPH) dual degree program offers the opportunity for physical therapy clinicians to pursue a doctoral-level education in combination with an integrated approach to health care. The program spans four years. Students begin the first one to two years completing MPH core and elective course work in the Department of Preventive Medicine. The remaining years are devoted to program requirements in physical therapy.

Doctoral Degree

Biokinesiology (PhD)

The graduate program leading to the Doctor of Philosophy in Biokinesiology is designed to prepare candidates for research and teaching at the university level. Actual programs of study will be designed with a degree of flexibility directed toward individual students who seek to become independent scholars.

Admission Requirements

Applicants must meet all general admission requirements of the university. Admission requirements include a superior grade point average in cumulative undergraduate and graduate course work (if applicable). In addition, applicants should score at least 150 in each area of the Graduate Record Examinations (GRE) and have some research experience. Students admitted for the Master of Science degree are not automatically admitted to the Doctor of Philosophy program. The Master of Science is not required as a prerequisite to the PhD but may be advised.

Applicants must have a personal interview with the program faculty. A student can be considered for admission only when a member of the full-time PhD faculty has agreed to serve as the student's PhD adviser. Three letters of recommendation and duplicate transcripts must be sent to the division for preliminary evaluation, although final acceptance is based upon the official USC application procedure.

Prerequisites (PhD Program)

The prerequisite for applicants to the PhD program in biokinesiology is either: (a) a bachelor's degree or higher with a science major or equivalent; or (b) a bachelor's or master's degree in physical therapy with appropriate basic science content. Courses completed at the time of application must include work (with appropriate laboratory study) in chemistry, calculus, physics and biology. Highly recommended is course work in anatomy, physiology, histology, cell biology, exercise physiology, kinesiology, biochemistry, neuroscience, trigonometry, analytical geometry and computer programming.

Candidates should be computer literate. International applicants will be considered upon evaluation of credentials by the USC Office of Admission.

Students deficient in certain prerequisites may be admitted subject to completion of requirements within two years after admission. An additional year may be granted upon review of the student's program by a faculty committee. Work in any prerequisite subject will not be part of the required 60 units for the Doctor of Philosophy.

Screening Procedure

A screening procedure will be offered twice each year for qualified students. It must be taken prior to the completion of 24 units at the 500-level or higher. The purpose of the screening procedure is to assess the progress of the PhD student and to determine whether that progress is sufficient to continue in the PhD program. Passing the procedure is a prerequisite for continuation in

the PhD program.

Course Requirements

A minimum of 60 units is required for the Doctor of Philosophy degree.

Required Course Work

- BKN 550 Neurobehavioral Basis of Movement Units: 4
- BKN 551 Musculoskeletal and Biomechanical Basis of Movement Units: 4
- BKN 552 Physiological Basis of Voluntary Movement Units: 4
- BKN 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 794a Doctoral Dissertation Units: 2
- BKN 794b Doctoral Dissertation Units: 2
- BKN 794c Doctoral Dissertation Units: 2
- BKN 794d Doctoral Dissertation Units: 2
- BKN 794z Doctoral Dissertation Units: 0
- INTD 500 Ethics and Accountability in Biomedical Research Units: 1 *
- PM 510L Principles of Biostatistics Units: 4 **
- PM 511aL Data Analysis Units: 4 **

Note:

**Or equivalent graduate ethics course.*
***Or equivalent graduate level statistics.*
PhD students must complete three core courses (BKN 550, BKN 551, BKN 552) before participating in the screening procedure. Substituting a course for one of the core courses may be allowed after receiving approval from the Biokinesiology Program Committee prior to the beginning of the course.
Other course requirements (to complete 60 units) will vary according to the specific needs of each student. Course work other than departmental offerings is encouraged and may be required by the student's qualifying exam committee.

Courses Available for MS/PhD Students

- BKN 559 Readings in Biokinesiology Units: 1, 2, 3, 4 , max 8
- BKN 563 Biomechanics Units: 2, 2 years
- BKN 566 Neurobiology of Locomotion Units: 2
- BKN 567 Advanced Topics in Biomechanics Units: 2
- BKN 573a Advanced Dissection Anatomy Units: 2
- BKN 573b Advanced Dissection Anatomy Units: 2
- BKN 575 Principles of Musculoskeletal Imaging Units: 2
- BKN 585 Systematic Research Writing Units: 3
- BKN 587a Physiological Correlates of Therapeutic Exercise Units: 4
- BKN 587b Physiological Correlates of Therapeutic Exercise Units: 4
- BKN 588 Physiology and Biomechanics of Resistance Exercise Units: 2
- BKN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 593 Behavioral Basis of Motor Control and Learning Units: 3
- BKN 594a Master's Thesis Units: 2
- BKN 594b Master's Thesis Units: 2
- BKN 594z Master's Thesis Units: 0
- BKN 599 Special Topics Units: 2, 3, 4 , max 8
- BKN 615 Principles of Skeletal Adaptation Units: 4, 2 years
- BKN 617 Modeling the Motor System: An Introduction Units: 2, 2 years
- BKN 618L Modeling the Motor System: Laboratory Units: 1, 2 years
- BKN 621 Electromyography in Research and Practice Units: 3, 2 years
- BKN 623 Neuroplasticity and Neural Repair Units: 3, 2 years
- BKN 672 Advanced Independent Study in Biokinesiology Units: 1, 2, 3, 4 , max 8
- BKN 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- BKN 794a Doctoral Dissertation Units: 2
- BKN 794b Doctoral Dissertation Units: 2
- BKN 794c Doctoral Dissertation Units: 2
- BKN 794d Doctoral Dissertation Units: 2
- BKN 794z Doctoral Dissertation Units: 0

Additional Requirements

Foreign Language Requirement

There is no foreign language requirement.

Qualifying Exam Committee

Upon successful completion of the screening examination the student and the research adviser will select a qualifying exam committee for continuing course work and independent study. The qualifying exam committee comprises five full-time faculty members.

The qualifying exam committee will recommend course work, independent study and readings in the major and cognate areas.

Qualifying Examination

The PhD qualifying examination is offered during the fall or spring semesters. The qualifying examination concentrates on the student's ability to demonstrate knowledge in the major academic area chosen and its relation to other areas of study offered in the department. The qualifying examination has both written and oral components. A student failing any part of the examination may be allowed one additional opportunity to pass that portion at the discretion of the qualifying exam committee, within the regulations of the Graduate School governing the repetition of qualifying examinations.

Dissertation Committee

After the qualifying examination has been passed and a dissertation topic approved, the qualifying exam committee shall be known as the dissertation committee and may be reduced to three members upon unanimous recommendation to the dean of graduate studies. One of the three members must be from outside the major division. The chair of the dissertation committee will be the principal research adviser.

Dissertation and Oral Defense

An acceptable dissertation based on original investigation is required. The dissertation must show technical mastery of a special field, capacity for independent research and scholarly ability.

The dissertation and the defense or final oral must have the unanimous approval of the dissertation committee. The dissertation should be complete within three years of the date the proposal is approved.

Professional Entry-Level Doctor of Physical Therapy Program (DPT)

This program comprises six semesters and two summer sessions for completion of the required 115 units. Clinical experience (clerkship) is part of the curriculum during all three years. The Division of Biokinesiology and Physical Therapy awards the DPT to enrolled students who have satisfactorily completed the three-year curriculum. For successful completion, students must pass all course work with a minimum cumulative GPA of 2.75, meet all professional standards and pass all clinical clerkships.

Admission Requirements (Entry-Level)

Applicants are required to complete the equivalent of a U.S. baccalaureate degree at an accredited college or university prior to matriculation. Prerequisite course work must include: a minimum of four semesters/six quarters of course work in the mammalian biological sciences (and must include one course in human anatomy with laboratory and one course in human physiology with laboratory), two semesters/three quarters of chemistry course work with laboratory (which may include general chemistry, organic chemistry or biochemistry), two semesters/three quarters of physics course work with laboratory, a minimum of two courses in psychology (which may include general psychology or abnormal psychology), and one college-level statistics course (generally from the biology, mathematics and psychology departments). A minimum of 150 hours of clinical experience in a variety of physical therapy settings is required. This can be in a volunteer or paid capacity. Applicants should be computer literate.

Students from foreign countries must have completed one year of study in the United States prior to application. Credits from foreign institutions must be approved by the USC Office of Admission.

Graduate Record Examinations (GRE)

The GRE is required of all applicants. In general, minimum scores of 150 are required on each of the general test measures of verbal and quantitative ability.

Applications

Applications are available beginning in July on the Physical Therapist Centralized Application Service (PTCAS) Website for the class entering in August of the following year. The deadline for receipt of applications is on or about December 1 of each year. Only one class is admitted each year.

The Admissions Committee reviews all information submitted. Applicants may be requested to appear for a personal interview. It is highly recommended that all applicants make an appointment to visit the division's office located on the Health Sciences Campus and talk with students and members of the faculty.

Notice of Acceptance

Notice of acceptance will be sent to successful candidates no earlier than December of the year prior to the August program start date (with the exception of Early Decision applicants who are typically informed of a decision by late September) and continually thereafter until the class is filled. In no case will an acceptance be offered earlier than one year before anticipated enrollment.

Candidates should reply to an offer of acceptance within three weeks enclosing a $1,000 deposit (nonrefundable), which is credited to tuition at the time of registration. A second nonrefundable $500 deposit is required by mid-May of the program start year (also to be applied in its entirety as a tuition credit). A letter of withdrawal is required if applicants wish to relinquish their place in the class; release is granted automatically upon receipt of the letter.

Degree Requirements (Entry-Level)

The DPT is awarded to enrolled students who have satisfactorily completed the three-year curriculum of 115 credits (depending on electives chosen). The minimum number of credits required for graduation is 115. The minimum GPA required for graduation is 2.75. Clinical experience (clerkship) is part of the curriculum during all three years.

The Division of Biokinesiology and Physical Therapy uses a system of student evaluation and grading that is designed to encourage self-reliance, to stimulate the student's independent quest for knowledge and to promote excellence in clinical and academic achievement.

Faculty of the program are responsible for establishing evaluation criteria appropriate to the objectives of each course and for specifying the manner in which evaluative information is to be gathered. For clinical evaluation, descriptive comments based on the student's performance are submitted by faculty and clinical instructors to the student's permanent file.

Required Courses

- PT 509 Cellular and Systems Physiology Units: 3
- PT 514L Musculoskeletal Anatomy Units: 4
- PT 516 Principles of Disease Units: 1
- PT 521L Basics of Patient Management Units: 4
- PT 529 Life Span Motor Control Units: 2
- PT 530a Therapeutic Exercise Units: 2
- PT 530b Therapeutic Exercise Units: 2
- PT 534L Neuroanatomy Units: 3
- PT 536 Pathology of Cardiopulmonary Disease and General Medical Conditions Units: 3
- PT 539 Clinical Pharmacology Units: 1
- PT 546 Neuropathology Units: 3
- PT 549L Clinical Exercise Physiology Units: 4
- PT 551L Therapeutic Application of Physical Agents Units: 3
- PT 554L Analytical Anatomy Units: 3
- PT 561a Evidence for Physical Therapist Practice Units: 2
- PT 561b Evidence for Physical Therapist Practice Units: 2
- PT 561c Evidence for Physical Therapist Practice Units: 2
- PT 561d Evidence for Physical Therapist Practice Units: 2
- PT 561e Evidence for Physical Therapist Practice Units: 2
- PT 566 Disorders of the Musculoskeletal System Units: 3
- PT 569 Fundamentals of Neuroscience Units: 4
- PT 571L Clinical Management of Cardiopulmonary Dysfunction Units: 4
- PT 574 Clinical Biomechanics Units: 3
- PT 581L Clinical Management of the Patient with Neurological Dysfunction Units: 5
- PT 582 Mechanics of Human Gait Units: 2
- PT 583L Clinical Electrophysiology Units: 1
- PT 600a Clinical Experience Units: 1
- PT 600b Clinical Experience Units: 3
- PT 600c Clinical Experience Units: 1
- PT 600d Clinical Clerkship Units: 4
- PT 600z Clinical Clerkship Units: 0
- PT 606 Clinical Imaging Units: 2
- PT 621L Clinical Management of the Patient with Musculoskeletal Dysfunction Units: 5
- PT 630 Integrated Management of the Upper and Lower Extremities Units: 3
- PT 631 Integrated Patient Management of the Axial Skeletal System and Related Movement Disorders Units: 3
- PT 632 Integrated Patient Management Seminar Units: 5
- PT 650 Differential Diagnosis in Physical Therapy Units: 2
- PT 660 Advanced Clinical Experience with Academic Integration Units: 5
- PT 665 Advanced Clinical Experience Units: 8

USC Chan Division of Occupational Science and Occupational Therapy

Health Sciences Campus
Center for the Health Professions
1540 Alcazar St., CHP 133
Los Angeles, CA 90089-9003
(323) 442-2850
Toll Free: (866) 385-4250
FAX: (323) 442-1540
Email: info@chan.usc.edu
chan.usc.edu

Administration

Associate Dean and Chair: Grace Baranek, PhD, OTR/L, FAOTA

Faculty

Mrs. T.H. Chan Professorship in Occupational Science and Occupational Therapy, Associate Dean and Chair: Grace Baranek, PhD, OTR/L, FAOTA

Associate Chairs: Sarah Bream, OTD, OTR/L; Julie McLaughlin Gray, PhD, OTR/L, FAOTA; Katie Jordan, OTD, OTR/L; Mary Lawlor, ScD, OTR/L, FAOTA

Professors: Grace Baranek, PhD, OTR/L, FAOTA; Sharon Cermak, EdD, OTR/L, FAOTA; Florence A. Clark, PhD, OTR/L, FAOTA; Gelya Frank, PhD; Mary Lawlor, ScD, OTR/L, FAOTA; Cheryl Mattingly, PhD; William Morgan, PhD

Associate Professor: Lisa Aziz-Zadeh, PhD

Assistant Professors: Natalie Leland, PhD, OTR/L, BCG *(Gerontology)*, FAOTA; Sook-Lei Liew, PhD, OTR/L; Elizabeth Pyatak, PhD, OTR/L; Shawn C. Roll, PhD, OTR/L, RMSKS *(Sonography)*, FAOTA; Olga Solomon, PhD; Barbara Thompson, PhD

Professor of Clinical Occupational Therapy: Erna Blanche, PhD, OTR/L ; Julie McLaughlin Gray, Ph.D., OTR/L, FAOTA; ; Katie Jordan, OTD, OTR/L

Associate Professors of Clinical Occupational Therapy: Sarah Bream, OTD, OTR/L; Celso Delgado Jr., OTD, OTR/L; Karrie Kingsley, OTD, OTR/L; Linda Liang, MOT, OTR/L; Jaynee Meyer, OTD, OTR/L; Deborah Pitts, PhD, MBA, OTR/L, BCMH *(Mental Health)*; Samia Rafeedie, OTD, OTR/L, BCPR *(Physical Rehabilitation)*, CBIS *(Brain Injury)*; Chantelle Rice, OTD, OTR/L; Shelby Surfas, OTD, OTR/L
Assistant Professors of Clinical Occupational Therapy: Yasi Amanat, OTD, OTR/L; Amber Bennett, OTD, OTR/L; Elizabeth Carley, OTD, OTR/L; Adley Chan, OTD, OTR/L; Allison Chu, OTD, OTR/L; Catherine Crowley, OTD, OTR/L; Karen Crum, OTD, OTR/L; Rebecca Cunningham, OTD, OTR/L; Camille Dieterle, OTD, OTR/L; Don Gordon, PhD, OTR/L;Caitlin Greene, OTD, OTR/L; Ashley Halle, OTD, OTR/L; Marisa Hernandez, OTD, OTR/L; Rebecca Heymann, OTD, OTR/L; Jess Holguin, OTD, OTR/L; Michelle Hsia, OTD, OTR/L; Tracy Jalaba, OTD, OTR/L; Jennifer Jones, OTD, OTR/L; Kimberly Perring Lenington, OTD, OTR/L; John Margetis, OTD, OTR/L; Jenny Martinez, OTD, OTR/L; Erin McIntyre, OTD, OTR/L; Michael McNulty, OTD, OTR/L; Stephanie Mielke, OTD, OTR/L; Tessa Milman, OTD, OTR/L; Stacey Morikawa, OTD, OTR/L; Phuong Nguyen, OTD, OTR/L; Alexandra Nishi, OTD, OTR/L; Kristin Nxumalo, OTD, OTR/L; Emily Ochi, OTD, OTR/L; Jazminne Orozco, OTD, OTR/L; Daniel Park, OTD, OTR/L; Joanne Park, OTD, OTR/L; Karen Park, OTD, OTR/L; Tara Perry, OTD, OTR/L; Elyse Peterson, OTD, OTR/L; Lindsey Reeves, OTD, OTR/L; Chantelle Rice, OTD, OTR/L; Kimberly Rice, OTD, OTR/L; Janice Rocker, OTD, OTR/L; Clarissa Saunders-Newton, PhD, OTR/L; Bari Turetzky, OTD, OTR/L; Ashley Uyeshiro, OTD, OTR/L; Jamie Wilcox, OTD, OTR/L; Myka Winder, OTD, OTR/L
Instructors of Clinical Occupational Therapy: Aimee Aguillon, OTR/L; Kim Eggleston, OTD, OTR/L; Scott Orr, OTD, OTR/L; Whitney Pike, BS, OTR/L; Carey Sokol, MA, OTR/L; Joan Vartanian, BS, OTR/L
Research Professor: Michael Carlson, PhD
Research Associate Professors: Jesus Diaz, OTD, OTR/L; Cheryl Vigen, PhD
Research Assistant Professors: Stefanie Bodison, OTD, OTR/L; Leah Duker, PhD, OTR/L; Stacey Schepens Niemiec, PhD, OTR/L
Research Adjunct Assistant Professor: Nora Kashani, JD, OTR/L
Adjunct Assistant Professors of Clinical Occupational Therapy: Susan Bowles, OTD, OTR/L; Janet Gunter, OTD, OTR/L; Shawn Phipps, PhD, OTR/L; Pamela Roberts, PhD, OTR/L, FAOTA
Adjunct Instructors of Clinical Occupational Therapy: Cynthia Burt, MA, OTR/L; Remy Chu, MHA, OTR/L; Lisa Deshaies, MA, OTR/L; Heidi Dombish, MS, OTR/L; Dawn Hironaka, BS, OTR/L; Joan Surfus, MA, OTR/L
Distinguished Emeritus Professor: Elizabeth J. Yerxa, EdD, LHD (Hon.), ScD (Hon.), DMed (Hon.), FAOTA
Emeritus Professor: Ruth Zemke, PhD, FAOTA

Degrees Offered

The USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy offers a Bachelor of Science in Occupational Therapy, a minor in Occupational Science, and a Master of Arts in Occupational Therapy. The Master of Arts in Occupational Therapy is offered for students continuing their education following their undergraduate degree in occupational therapy, for students whose first degree is in another field and also for certified occupational therapists seeking a post-professional degree. The division also offers the Doctor of Occupational Therapy (OTD) and the PhD in Occupational Science. The USC Chan Division of Occupational Science and Occupational Therapy master's-level professional degree program is fully accredited by the Accreditation Council for Occupational Therapy Education®, c/o Accreditation Department, American Occupational Therapy Association, Inc., 4720 Montgomery Lane, Suite 200, Bethesda, Maryland 20814-3449, (301) 652-6611 x2914, acoteonline.org.

Entry into occupational therapy practice is at the graduate degree level only. In order to practice, students in the bachelor's program must earn an MA degree in Occupational Therapy, successfully complete a minimum of 24 full-time weeks of clinical fieldwork, sit for the National Board for Certification in Occupational Therapy® (NBCOT) exam and apply for a license (in most states including California).

Pi Theta Epsilon

Pi Theta Epsilon is the national honor society for occupational therapy students and alumni. This society recognizes and encourages superior scholarship among students enrolled in entry-level graduate programs of occupational therapy across the United States.

The Alpha Eta Chapter of Pi Theta Epsilon (PTE) at the University of Southern California selects candidates early in the spring semester of each year based on National PTE guidelines related to academic standing and students' potential for leadership in the profession.

Bachelor's Degree

Occupational Therapy (BS)

Return to: USC Independent Health Professions at the Herman Ostrow School of Dentistry

The undergraduate curriculum leads to the Bachelor of Science with a major in Occupational Therapy. As of fall 2015, only incoming freshmen may apply to the five-year bachelor's to master's program in occupational therapy. Students may not change their major to occupational therapy once admitted to USC. Students majoring in occupational therapy begin professional study during their junior year. Students can earn a USC master's degree in occupational therapy with just one additional year instead of the traditional two years, substantially reducing their overall cost of education and preparing them sooner for the National Board Certification in Occupational Therapy® (NBCOT) examination. Successful completion of the Master of Arts degree and successful completion of a minimum of 24 full-time weeks of clinical fieldwork are required for eligibility to sit for the NBCOT examination. Certification from the board and licensure (most states) are required to practice as an occupational therapist. (See Occupational Therapy (MA) for a description of the MA degree program.)

Admission Criteria and Application Procedures for Incoming Freshmen

See the Undergraduate Admission section of this catalogue for admission criteria and application procedures for the university.

Program Requirements

A total of 128 units is required for the Bachelor of Science degree. An occupational therapy major cannot count any 300-level OT course toward the BS degree.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education for more information.

Required Pre-Professional Courses

Students in the bachelor's to master's program are required to meet with their academic adviser within the division once each semester to ensure satisfactory completion of requirements outlined below. Students must successfully complete the pre-professional required courses prior to taking the advanced professional courses.

All pre-professional courses must be completed:

- Within the last five years
- With a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- From an accredited junior college, four-year college or university

- Either in a classroom setting or online; however, anatomy must be completed in a classroom setting (refer to Course Work Taken Elsewhere)
- For a total of three semester units each (with the exception of medical terminology, which may be 1 or 2 units)

Required Pre-Professional Courses (USC course numbers are noted)

- Students who wish to transfer credit for courses taken at another institution must gain university approval:

Pre-Professional Courses

- OT 200 Medical Terminology for Health Professions Units: 1

- SOCI 200gm Introduction to Sociology Units: 4 or
- ANTH 201g Principles of Human Organization Units: 4

- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4

- OT 260 Human Functional Anatomy for Allied Health Professions Units: 3 (with laboratory) , or
- HBIO 301L Human Anatomy Units: 4 (with laboratory)

- OT 261 Human Physiology for Allied Health Professions Units: 3 or
- BISC 307L General Physiology Units: 4

- MATH 114x Foundations of Statistics Units: 4
- PSYC 274Lg Statistics Units: 4 or
- HP 340L Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4 or
- BUAD 310g Applied Business Statistics Units: 4

- PSYC 360 Abnormal Psychology Units: 4
- A course in Gerontology or adult development (recommended but not required)

Notes:

Four-week intensive courses are offered by the division in human anatomy (OT 260) and human physiology (OT 261) from mid-May to mid-June (just prior to the start of summer professional courses) for students unable to complete those courses earlier. These courses are also offered fall and spring semesters.

Students may take OT 405, OT 406, OT 440 and OT 441 in the junior year, after having completed Human Anatomy and Lifespan Development. Human Physiology must be completed by fall of the junior year. The remaining pre-professional courses must be completed by the start of the senior year.

Required Professional Courses

Enrollment in professional occupational therapy courses is limited to junior and senior occupational therapy majors only.

Required Professional Courses

- OT 405 Foundations: Occupation Units: 2
- OT 406L Foundations: Creativity, Craft and Activity Analysis Units: 2
- OT 440L Foundations: Kinesiology Units: 2
- OT 441L Foundations: Neuroscience Units: 2
- OT 511 Therapeutic Use of Self Units: 2
- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 521 Clinical Reasoning Units: 3
- OT 523 Communication Skills for Effective Practice Units: 3
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4

Two of the following:

- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8
- OT 502L Practice Immersion: Mental Health Units: 8
- OT 503L Practice Immersion: Pediatrics Units: 8

Additional Requirements

Scholastic Standards

Undergraduate occupational therapy students must maintain a GPA of at least 3.0 (A = 4.0) in all required OT courses and successfully complete the Graduate Record Examinations in order to continue into the master's (MA) program. If an undergraduate student's OT grade point average (GPA) falls below 3.0, or if the cumulative undergraduate GPA falls below 3.0 at the end of the fall semester of the senior year, continuance is not assured.

Advising

Students enrolled in the occupational therapy major are required to meet with an academic adviser within the Division each semester.

Minor

Occupational Science Minor

The division offers a minor in the discipline of occupational science. It is one of a select few programs in the world that offers undergraduates the opportunity to explore the fields of occupational science and occupational therapy.

Unlike other creatures, humans are innately driven to fill their time with interesting, meaningful activities, which scholars call "occupations." That is, humans need to be occupied. These occupations have a profound impact on physical and mental health, one's sense of well-being and the experience of quality of life. Occupational Science seeks to understand the precise nature and function of occupations and the critical effect of daily activity on human beings. Scientists working in the field examine questions such as: what is the relationship between childhood occupations and adult competency and achievement; what constitutes a healthy balance of work, rest and leisure; and what factors contribute to a good fit between a particular individual and his or her occupations.

The minor in occupational science requires a total of 20 units: a required gateway course (OT 250) for 4 units plus 16 units selected from the elective courses. It is open to all majors at USC. An occupational therapy major cannot count any 300-level OT course toward the BS degree.

Required Course

- OT 250 Introduction to Occupational Science and Occupational Therapy Units: 4

Elective Courses (16 units)

- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4
- OT 280 Essential Occupations of Emerging Adulthood Units: 2
- OT 300 Occupational Expressions of Diverse Identities and Lifestyles Units: 4
- OT 310 Creativity Workshop Units: 2
- OT 312 Creating a Sustainable Lifestyle Units: 2
- OT 320 The Nature of Human Occupation: Form, Function, and Meaning Units: 4
- OT 325 The Brain: Mind, Body, and Self Units: 4
- OT 330 Perspectives on the Daily Life of Families Units: 4
- OT 333 Sports Ethics Units: 4
- OT 340 Occupational Foundations of Human-Animal Interaction Units: 4
- OT 350 Disability, Occupations, and the Health Care System Units: 4
- OT 355x Occupational Reconstructions and Social Transformations Units: 2
- OT 360 Creating the Self through Narrative: Acts of Life Story Production Units: 4
- OT 370 Understanding Autism: Participation Across the Lifespan Units: 4
- OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation Units: 4

Master's Degree

Occupational Therapy (MA)

The Master of Arts program is open to students with or without an undergraduate degree in occupational therapy. Students without a prior degree in occupational therapy take both the foundation courses and the advanced courses listed below. Students with a degree in occupational therapy may apply for Advanced Standing, reducing the units required for the degree from 80 units to 32 units (or 76 units to 28 units for the thesis option). Students who have earned a BS, Occupational Therapy, from USC may apply for Advanced Standing, and follow the prescribed courses under Advanced Core Courses for the Bachelor to Master Program, reducing total units required for the degree from 80 units to 36 units, which includes 4 units of Clinical Internship with Seminar (or 76 units to 32 units for the thesis option). All students must complete either the Thesis or Comprehensive Exam Option.

Admission Requirements

Applicants must have a bachelor's degree from an accredited college or university; a minimum grade point average of 3.0 (A = 4.0); a minimum score of 153 on the verbal section, 144 on the quantitative section and a 3.5 on the analytical writing section of the Graduate Record Examinations taken within five years of application; three letters of recommendation and an autobiographical statement of purpose. A satisfactory score on the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) within two years of enrollment is a requirement for most international students.

Those with a baccalaureate degree in occupational therapy from an accredited college or university or a World Federation of Occupational Therapy (WFOT) approved program may apply for Advanced Standing.

Those with a baccalaureate degree in a field other than occupational therapy also must have completed all of the following prerequisites:

- Within five years of enrollment
- Prior to the start of the program with a minimum GPA of 3.0 (pass/fail or grades below a C are not accepted)
- From an accredited junior college, college or university
- Either in a classroom setting or online; however anatomy should be completed in a classroom setting
- With each course totaling the equivalent of at least three semester units (with exception of medical terminology which may be 1 or 2 units) as follows (course numbers refer to USC courses, but prerequisites can be taken at any accredited college or university):

Prerequisites

- OT 200 Medical Terminology for Health Professions Units: 1

- SOCI 200gm Introduction to Sociology Units: 4 or
- ANTH 201g Principles of Human Organization Units: 4

- HBIO 301L Human Anatomy Units: 4 * (with laboratory)

- OT 261 Human Physiology for Allied Health Professions Units: 3 * or
- BISC 307L General Physiology Units: 4

- OT 251x Across the Lifespan: Occupations, Health and Disability Units: 4
- OT 260 Human Functional Anatomy for Allied Health Professions Units: 3 (with laboratory)

- MATH 114x Foundations of Statistics Units: 4 and
- PSYC 274Lg Statistics Units: 4 or
- HP 340L Health Behavior Statistical Methods Units: 4 and
- HP 350L Health Behavior Research Methods Units: 4 or
- BUAD 310g Applied Business Statistics Units: 4

- PSYC 360 Abnormal Psychology Units: 4

- A course in Gerontology or adult development (recommended but not required)

Notes:

**If anatomy and physiology are combined, students must take two sequential semesters with a laboratory each semester (6–8 units).* Four-week intensive courses are offered by the division in human anatomy (OT 260) and human physiology (OT 261) from mid-May to mid-June (just prior to the start of summer professional courses) for students unable to complete those courses earlier. These courses are also offered fall and spring semesters.

Application Procedures

For those with a baccalaureate degree in occupational therapy: applications are accepted at any time, preferably by February 15 for fall admission.

For those with a baccalaureate degree in a field other than occupational therapy: applications for early decision are due by November 30; all other applications are due February 15 for summer admission.

Applications received after the February 15 deadline are considered on a space-available basis.

Application materials include: 1) USC Online Graduate Application with Division Supplemental Application (only required for those with a baccalaureate degree in occupational therapy); 2) OTCAS online application(only required for applicants with a baccalaureate degree in a field other than occupational therapy); 3) three letters of recommendation; 4) transcripts from all colleges/universities attended; 5) results of the aptitude test of the Graduate Record Examinations; and 6) TOEFL or IELTS scores if required. A personal interview may be requested. Please see the division Website for the most up-to-date application procedures: chan.usc.edu/.

International Students

Students educated outside the United States must have their credentials evaluated by the Office of Admission before their application to the division can be reviewed. See the Admission section of this catalogue. International students must demonstrate competency in English, as measured by the TOEFL or the IELTS.

Degree Requirements

The MA degree is under the jurisdiction of the USC Graduate School. Students should also refer to the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the Graduate School.

Requirements include: GPA of 3.0 in all course work attempted and all course work applied to the degree; at least two-thirds of units applied to the degree must be at the 500 level or higher.

Students without a prior degree in occupational therapy take both the foundation courses and the advanced courses listed below. OT 405 , OT 406L, OT 440L and OT 441L are foundational courses that students are required to pass before they may register for the advanced core courses in the professional program. Students must complete all subsequent courses in the professional program on a full-time basis and in sequence, except for students requiring disability accommodations.

Students with a degree in occupational therapy outside of USC may apply for Advanced Standing, reducing the units required for the degree from 80 units to 32 units (or from 76 units to 28 units for the thesis option). Students who have earned a BS, Occupational Therapy, from USC may apply for Advanced Standing, and follow the prescribed courses under Advanced Core Courses for the Bachelor to Master Program, reducing total units required for the degree from 80 units to 36 units, which includes 4 units of Clinical Internship with Seminar (or 76 units to 32 units for the thesis option). All students must complete either the thesis or comprehensive exam option.

Thesis Option

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Comprehensive Examination Option

In addition to the required courses, 4 units of electives and 8 units of occupational therapy electives are required. All electives must be 500 level or above. Successful performance on a written comprehensive examination administered on campus each fall and spring semester completes the degree.

Required Courses

Foundation Core Courses

- OT 405 Foundations: Occupation Units: 2
- OT 406L Foundations: Creativity, Craft and Activity Analysis Units: 2
- OT 440L Foundations: Kinesiology Units: 2
- OT 441L Foundations: Neuroscience Units: 2
- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8
- OT 502L Practice Immersion: Mental Health Units: 8
- OT 503L Practice Immersion: Pediatrics Units: 8
- OT 511 Therapeutic Use of Self Units: 2

Advanced Core Courses

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 521 Clinical Reasoning Units: 3
- OT 523 Communication Skills for Effective Practice Units: 3
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 537 Occupation-Centered Programs for the Community Units: 4
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2
- OT 586 Clinical Internship with Seminar Units: 1, 2 (4 units required)*

  *Students are expected to take two 2-unit sections of this course.

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan Division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Advanced Core Courses (Required for Advanced Standing Students with a BS, Occupational Therapy, outside of USC)

- OT 515 Neuroscience of Behavior Units: 4

- OT 518 Quantitative Research for Evidence-Based Practice Units: 4 or
- OT 581 Quantitative Research for the Practicing Clinician Units: 4

- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan Division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Advanced Core Courses for the USC Bachelor to Master Program

Complete Immersion Series (8 units):

- OT 501L Practice Immersion: Adult Physical Rehabilitation Units: 8 or
- OT 502L Practice Immersion: Mental Health Units: 8 or
- OT 503L Practice Immersion: Pediatrics Units: 8

- OT 534 Health Promotion and Wellness Units: 2
- OT 537 Occupation-Centered Programs for the Community Units: 4
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2
- OT 586 Clinical Internship with Seminar Units: 1, 2 (2 units required)*

  *Students are expected to take one 2-unit section of this course.

Comprehensive Examination Option (12 units)

In addition to the required courses, 12 units of elective are required, 4 units of electives may be taken from outside the Chan Division. All electives must be 500 level or above. Successful performance on a written comprehensive examination, administered on campus each fall and spring semester, completes the degree.

Thesis Option (8 units)

In addition to the required courses, 4 units of electives at 500 level or above, and 4 units of Master's Thesis, OT 594a and OT 594b are required. Acceptance of the thesis by the master's committee and the university completes the degree.

Online MA in Occupational Science and Occupational Therapy

The Online Master of Arts program is open to occupational therapists with a bachelor's degree in occupational therapy from outside USC. All students must complete either the Thesis or Comprehensive Exam Option. This online program requires a total of 32 units for the Comprehensive Exam Option, or a total of 28 units plus OT 594a and OT 594b for the Thesis Option.

Online MA in Occupational Therapy

The Online Master of Arts program is open to occupational therapists with a bachelor's degree in occupational therapy from outside USC. All students must complete either the Thesis or Comprehensive Exam Option. This online program requires a total of 32 units for the Comprehensive Exam Option, or a total of 28 units plus OT 594a and OT 594b for the Thesis Option.

Admission Requirements

Applicants must have a bachelor's degree in occupational therapy from an accredited college or university outside USC; a minimum grade point average of 3.0 (A = 4.0); a minimum score of 153 on the verbal section, 144 on the quantitative section and a 3.5 on the analytical writing section of the Graduate Record Examinations taken within five years of application; three letters of recommendation and an autobiographical statement of purpose. A satisfactory score on the TOEFL or IELTS within two years of enrollment is a requirement for most international students.

Required Core Courses

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4
- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Required Elective Courses

- OT 578 Therapeutic Communication: Facilitating Change in Clients Units: 4
- OT 582 Occupational Science Foundations of Lifestyle Redesign Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4

Comprehensive Exam Option (12 units)

In addition to the required core courses, all required elective courses (12 units) must be successfully completed prior to taking the comprehensive exam. Successful performance on a written comprehensive examination administered each fall and spring semester completes the degree.

Thesis Option (8 units)

In addition to the required core courses, students are required to take 4 units of OT 594a and OT 594b Master's Thesis for a total of 28 units.

University Certificate

Lifestyle Redesign® Graduate Certificate (online)

The Graduate Certificate in Lifestyle Redesign® is designed for occupational therapists who wish to obtain an advanced certificate in the area of Lifestyle Redesign®. Certificate courses prepare the occupational therapist to be able to design and implement Lifestyle Redesign® interventions with diverse client populations.

Admission Requirments

Applicants must be working professional occupational therapists with a baccalaureate or higher degree from an accredited college or university; a minimum grade point average of 3.0 (A = 4.0); a minimum score of 153 on the verbal section, 144 on the quantitative section and a 3.5 on the analytical writing section of the Graduate Record Examinations taken within five years of application; three letters of recommendation and an autobiographical statement of purpose. A satisfactory score on the TOEFL or IELTS within two years of enrollment is a requirement for most international students.

Required Courses

- OT 578 Therapeutic Communication: Facilitating Change in Clients Units: 4
- OT 582 Occupational Science Foundations of Lifestyle Redesign Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4

Doctoral Degree

Occupational Science (PhD)

The PhD in Occupational Science educates individuals to engage in the scientific study of human occupation, the purposeful activities that constitute our life experiences. This evolving science is chiefly concerned with the unique capacity of humans to develop adaptive skills, such as tool use and related occupational behaviors, and to choose and orchestrate daily occupations. It also seeks to understand the function, structure and interrelationship of these occupations and their impact on individuals and institutions.

The focus on occupation distinguishes this program from closely related disciplines such as psychology, sociology and anthropology. The program emphasizes the development of research skills and encourages students to organize and synthesize knowledge to contribute to occupational science theory and interdisciplinary understandings of occupation, health and social participation.

Admission Requirements

Applicants for admission to the PhD program are expected to have a baccalaureate degree in an appropriate field, such as one of the biological or social sciences or occupational therapy, with a minimum GPA of 3.0 (A = 4.0). Applicants must also complete the Graduate Record Examination (GRE) within five years of application. While USC has no minimum GRE score requirement, the admitted PhD students receive an average score of 160.8 on the verbal section, an average score of 154.3 on the quantitative section, and an average score of 4.6 on the analytical section. At least three academic letters of reference and a personal statement must also be submitted. Other considerations include evidence of academic potential based on master's level study (if relevant), and research skills and interest. International students must demonstrate competency in English, as measured by the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) examination.

Degree Requirements

This degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue for general regulations. All courses applied toward the degree must be courses accepted by the USC Graduate School.

Course Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required, including the following courses:

Required Courses

Satisfactory completion of 60 units beyond the baccalaureate degree is required. Students with an earned masters and/or doctoral degree at the time of admission may apply for Advanced Standing, reducing the units required for the degree from 60 units to 40 units. All students must complete the required core courses and successfully complete an independent dissertation. Program requirements include the following courses:

- OT 640 Conceptual Foundations of Occupational Science Units: 4
- OT 641 The Nature of Occupation Units: 4
- OT 648 Researching Occupation: Engagement, Meaning, and Society Units: 4
- OT 649 Researching Occupation: Function, Participation, and Health Units: 4
- OT 660 Research Practicum Units: 2 (2 units — Four Semesters)
- OT 661 Grant Writing for Occupational Science Units: 2

Required Core Electives

Completion of a minimum of 26 units in a topic area such as one of the following is required: quantitative research approaches, qualitative research approaches, occupational science and/or therapy, neuroscience, social development, life span development or gerontology.

Additional Requirements

Those students who also wish to participate in clinical practice in occupational therapy may opt to complete a master's degree in occupational therapy. Such students are required to complete the requirements for that degree, as well as the occupational therapy undergraduate major courses if they are not registered occupational therapists or eligible for registration prior to study.

Cognate Courses

Completion of a minimum of 26 units in a topic area approved by the student's faculty mentor is required. Examples of cognate areas include: research methodologies related to dissertation research, neuroscience, health disparities, gerontology and health promotion.

Research Practicum

Each student will enroll in 2 units of OT 660 Research Practicum per semester for four consecutive semesters, for a total of 8 units. Students are required to begin enrolling in OT 660 in their first semester of doctoral study. In this practicum the student will develop research skills by working as part of a research team under the direction of a faculty member.

Screening Procedures

Passing the screening is prerequisite to continuation in the doctoral program. Directions for obtaining and filing the Report on PhD Screening Procedures are found in the The Graduate School section of this catalogue.

Dissertation Enrollment

Doctoral students must submit a dissertation according to the policies and procedures described in The Graduate School section of this catalogue. Registration in OT 794a Doctoral Dissertation, OT 794b Doctoral Dissertation, OT 794c Doctoral Dissertation, OT 794d Doctoral Dissertation, OT 794z Doctoral Dissertation for a minimum of 4 units (2 units in each of two consecutive semesters) is required.

Summary of All Course Requirements

Required core courses are OT 640, OT 641, OT 648, OT 649, OT 660, OT 661 for a total of 26 units.

Required cognate courses for a minimum total of 26 units.

Dissertation requires 2 units per semester for at least two semesters for a minimum total of 4 units.

Additional 4 units can include 4 further units of dissertation, OT 660 or cognate courses.

Total: 60 units

Foreign Language or Research Skills

The PhD in Occupational Science does not require the demonstration of competence in a foreign language. However, each student is expected to achieve expertise, as defined by the student's qualifying exam committee, in research methods through participation in course work and the research practicum.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members. Three members of the committee must be regular faculty from the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy. One member must be from outside the division. Complete regulations for establishing a qualifying exam committee are found in The Graduate School section of this catalogue.

Qualifying Examination

The qualifying examination is comprehensive in nature and requires the student to demonstrate a grasp of content from the core courses and the cognate area. The examination is both written and oral and is set and administered by the student's qualifying exam committee. Refer to The Graduate School section of the catalogue for additional information about the qualifying exam.

Dissertation Committee

The dissertation committee is composed of at least three faculty members. The chair of the committee and at least one additional member of the committee must be regular faculty from the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy. One member must be from outside the division. Complete regulations for establishing a dissertation committee are found in The Graduate School section of this catalogue.

Dissertation

Doctoral students must submit a dissertation based on students' original research according to the policies and procedures of The Graduate School section of this catalogue. Upon approval of the preliminary copy of the dissertation by all members of the dissertation committee, the candidate must pass an oral defense of the dissertation. Upon successful completion of the oral defense and revisions, the manuscript is approved and the committee recommends the candidate to the Graduate School for the PhD.

Teaching

To prepare students for anticipated roles as faculty members, a teaching component is incorporated into the program. Students work with their faculty advisor for their research immersion (OT 660) experience to identify an appropriate course or courses, arrange mentoring experience, and ensure that the timing of the teaching experience complements research lab participation and dissertation plans. If students are not assigned a full course, they are required to present a minimum of four lectures or seminars.

Additional Information

Further information about the baccalaureate, master's and doctoral programs can be obtained by writing or calling the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy, 1540 Alcazar Street (CHP 133), Los Angeles, CA 90089-9003; (323) 442-2850, toll free (866) 385-4250, or by sending email to info@chan.usc.edu. Information regarding the USC Chan Division of Occupational Science and Occupational Therapy is available at *chan.usc.edu*.

Required Courses (Students with Advanced Standing)

Students with an earned masters and/or doctoral degree at the time of admission may apply for Advanced Standing, reducing the units required for the degree from 60 units to 40 units. All students must complete the required core courses and successfully complete an independent dissertation. Program requirements include the following courses:

- OT 640 Conceptual Foundations of Occupational Science Units: 4
- OT 641 The Nature of Occupation Units: 4
- OT 648 Researching Occupation: Engagement, Meaning, and Society Units: 4
- OT 649 Researching Occupation: Function, Participation, and Health Units: 4
- OT 660 Research Practicum Units: 2 (2 Units - Four Semesters)
- OT 661 Grant Writing for Occupational Science Units: 2

Cognate Courses (Students with Advanced Standing)

Completion of a minimum of 10 units in a topic area such as one of the following is required: quantitative research approaches, qualitative research approaches, occupational science and/or therapy, neuroscience, social development, life span development or gerontology.

Research Practicum (Students with Advanced Standing)

Each student will enroll in 2 units of OT 660 per semester for four consecutive semesters, for a total of 8 units. Students are required to begin enrolling in OT 660 in their first semester of doctoral study. In this practicum the student will develop research skills by working as part of a research team under the direction of a faculty member.

Summary of all Course Requirements (Students with Advanced Standing)

Required core courses are OT 640, OT 641, OT 648, OT 649, OT 660, OT 661 for a total of 26 units.

Required cognate courses for a minimum total of 10 units.

Dissertation requires 2 units per semester for at least two semesters for a minimum total of 4 units.

Total: 40 units for students with advanced standing

Occupational Therapy (OTD)

The Doctor of Occupational Therapy (OTD) is a post-professional degree program that provides graduates with advanced knowledge and skills in one of four leadership concentrations: 1) advanced clinical practice; 2) policy and administrative leadership; 3)

educational leadership; and (4) research expertise. OTD students graduate from the program with a strong foundation in occupational science as well as in-depth mentored residency experience. The OTD prepares graduates to secure positions as expert clinicians in specialty or emerging practice areas, as administrative leaders within health care organizations, as non-tenure track faculty in institutions of higher education, and as contributors to clinical research teams.

Admission Requirements

Applicants for admission to the OTD program are expected to have at least a baccalaureate degree from an accredited college or university and must be certified or licensed as an occupational therapist or be eligible to sit for the National Board for Certification in Occupational Therapy® (NBCOT) examination at time of matriculation. Domestic students not certified upon matriculation must pass the NBCOT examination by the end of the first semester of the program to maintain enrollment. At the discretion of the OTD Program Director, some international students may not be required to obtain NBCOT certification. A minimum GPA of 3.0 (A = 4.0) and a minimum score of 153 on the Verbal section, a minimum score of 144 on the Quantitative section, and a minimum of 3.5 on the Analytical Writing section of the Graduate Record Examination (GRE) must be achieved within 5 years of application. Applicants must have earned a minimum cumulative 3.0 GPA in the 400- and 500-level required courses. At least three letters of reference, an autobiographical statement of purpose and a current resume are required. Applicants' leadership potential, previous academic record, clinical experiences and professional accomplishments will also be considered.

International Students

Students educated outside the United States must have graduated from a program approved by the World Federation of Occupational Therapists (WFOT). USC maintains additional admissions requirements for international students (see the Admission section of this catalogue), including English language competence as measured by the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) examination.

Application Procedures

Applications are accepted on a continuous basis. For consideration for fall semester admission, applications must be received by October 1 for maximum funding consideration. Applications received after October 1 will be considered on a space-available basis. Application requirements include: 1) USC Online Graduate Application; 2) USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy online supplemental application for graduate admission; 3) three letters of reference; 4) autobiographical statement of purpose; 5) transcripts from all colleges/universities attended; and 6) GRE General Test scores.

Degree Requirements

Satisfactory completion of 60 units beyond the baccalaureate degree is required. Students with a Master's degree in Occupational Therapy may apply for Advanced Standing, which requires 36 units beyond the first graduate degree. These students do not take the 24 units of foundation courses listed below. If not admitted with advanced standing, a student may receive partial credit for course work taken for a previous graduate degree.

The degree is awarded under the jurisdiction of the Graduate School. Refer to the Requirements for Graduation section and the Graduate School section of this catalogue, for general regulations. All courses applied toward the degree must be accepted by the USC Graduate School.

Course Requirements (60 Units)

Required Occupational Therapy Foundation Courses (20 Units Required)

- OT 515 Neuroscience of Behavior Units: 4
- OT 518 Quantitative Research for Evidence-Based Practice Units: 4 or
- OT 581 Quantitative Research for the Practicing Clinician Units: 4

- OT 525 Qualitative Research for Evidence-Based Practice Units: 4
- OT 534 Health Promotion and Wellness Units: 2
- OT 538 Current Issues in Practice: Adulthood and Aging Units: 2
- OT 540 Leadership Capstone Units: 2
- OT 545 Advanced Seminar in Occupational Science Units: 2

Electives (8 Units Required)

500-level course within the Division Units: 4
500-level course within or outside the Division Units: 4

Required Occupational Science Advanced Courses (8 Units Required)

- OT 620 Current Issues in Occupational Science and Occupational Therapy Units: 4
- OT 621 Occupational Therapy Leadership: Contemporary Issues Units: 4

Residency (24 Units Required)

- OT 686 Residency Units: 6 or 12

Additional Requirements

Elective Courses (4 units required)

Students will complete a minimum of 4 course units at the 500-level or higher selected from courses within or outside the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy.

Residency Requirement (24 units required)

Students will complete 24 units of OT 686 residency. The residency ensures that graduates of the OTD program demonstrate competence in one of the following leadership concentrations: 1) advanced clinical practice; 2) clinical research; 3) policy and administration; and 4) pedagogy.

At least 20 units applied toward the OTD must be successfully completed before enrolling in OT 686 unless advanced standing has been granted. Students may complete their residency over three consecutive semesters (6 units, 6 units and 12 units) or over four consecutive semesters. It is highly recommended that one semester of OT 686 be enrolled full-time (12 units without any other simultaneous course enrollment). Full-time residency ensures the opportunity for full immersion in residency. Faculty must approve each student's residency plan prior to enrollment. OTD residency provides students the opportunity for mentorship by experts in their OTD leadership concentration (e.g., a master clinician, a world-class occupational science researcher, a leader in professional policy or administration, or a faculty member with at least three years of academic experience).

Portfolio Requirement

In the final semester of enrollment, each student will submit a portfolio demonstrating competence in his or her chosen leadership concentration. The final portfolio will include documentation of both written and oral presentation skills and expertise as designated in the residency plan.

Clinical Experience Criterion

If the student has less than three years of clinical experience as a registered and/or licensed occupational therapist at time of admission, he or she may be required to complete at least 8 units of clinical occupational therapy courses, which may include:

- OT 500a Clinical Problems in Occupational Therapy Units: 2, 3, 4
- OT 500b Clinical Problems in Occupational Therapy Units: 2, 3, 4
- OT 500c Clinical Problems in Occupational Therapy Units: 2, 3, 4

- OT 560 Contemporary Issues in School-Based Practice Units: 4
- OT 564 Sensory Integration Units: 4
- OT 572 Ergonomics Units: 4
- OT 574 Enhancing Motor Control for Occupation Units: 4
- OT 583 Current Applications of Lifestyle Redesign Units: 4
- OT 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- OT 610 Sensory Integrative Dysfunction Units: 4

Course Requirements – Advanced Standing (36 units)

Required Occupational Science Advanced Courses (8 Units Required)

- OT 620 Current Issues in Occupational Science and Occupational Therapy Units: 4
- OT 621 Occupational Therapy Leadership: Contemporary Issues Units: 4

Electives (4 Units Required)

500-level course within or outside the division Units: 4

Residency (24 Units Required)

- OT 686 Residency Units: 6 or 12

USC Gould School of Law

The USC Gould School of Law provides a forward-looking, interdisciplinary and inter-professional legal education guided by nationally renowned professors and energized by an engaged and collegial student body. As one of the most diverse of the nation's top law schools, USC Gould is made up of students from throughout the country and around the world whose ideas and experiences enrich the learning process and provide new perspectives on the law. Through close collaboration, interdisciplinary academic training and hands-on application of skills, students acquire the experiences and knowledge necessary to succeed as leaders in a global environment.

USC Gould alumni are partners in the world's largest law firms, CEOs and presidents of multimillion-dollar companies, and leaders in government and public service organizations. Since its founding in 1900, the school has produced hundreds of judges on state and federal courts and elected officials ranging from mayor of cities large and small to a United States senator.

USC Gould School of Law
(213) 740-7331
Email: admissions@law.usc.edu
gould.usc.edu

Administration

Andrew T. Guzman, JD, PhD, *Dean**
Alexander M. Capron, LLB, *Vice Dean**
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University Professor, Emeritus: Marshall Cohen, MA, MA (Oxon) *(Philosophy)**
University Professor of Journalism, Communication and Law: Geoffrey Cowan, LLB *(Journalism)*
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Clinical Assistant Professor: Valerie Barreiro, JD
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Clinical Emeritus Professors: Lee W. Campbell, JD; Noel M. Ragsdale, JD*
Emeritus Professor of Lawyering Skills: Robert M. Saltzman, JD
**Recipient of university-wide or school teaching award.*

Degree Programs

Juris Doctor

The Juris Doctor (JD) is the basic law degree. To obtain the degree, full-time attendance for six semesters is required. During the first year, the student takes a curriculum of basic courses that examine fundamental legal institutions and address legal problems relevant to today's society and the modern practice of law. During the second and third years the student must complete a writing requirement and at least six units in experiential courses. The remainder of the courses taken in the last two years are primarily elective.

Dual Degrees

USC Gould maintains dual degree programs with the graduate programs in accounting, business administration, economics, gerontology, pharmacy, philosophy, public administration, public policy, social work, politics and international relations, real estate development and communication. These programs enable qualified students to earn a law degree (JD) and the appropriate master's degree. If the master's degree normally requires one year of study, a student in a dual degree program earns both degrees in only three years. If the master's normally requires two years of post-baccalaureate courses, a total of four years is required. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC beyond the first year curriculum.

The goal of these programs is to encourage law students to gain a recognized competence in another discipline that has a direct relevance to the roles lawyers play in society. The dual degree programs are based on the premise that some topics covered in the law school are also covered in the programs of the cooperating departments, so that some credit toward the law degree may appropriately be given for specified graduate work taken in the cooperating department. Similarly, the cooperating departments have recognized that some credit toward the master's degree may appropriately be awarded for certain work completed in the law school.

Master of Laws (LLM) Degree

The residential Master of Laws (LLM) program is a master's degree program for foreign graduate students trained in law. This two-semester, full-time program introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. After successfully completing the program, students will be awarded the Master of Laws degree.

The online LLM program is a master's degree program for foreign graduate students trained in law. This program is offered on a part-time or full-time basis in an online modality and introduces foreign lawyers to American law and the U.S. legal system and prepares them for leadership roles in the global market. After successfully completing the program, students will be awarded the Master of Laws degree.

Master of Laws in Alternative Dispute Resolution (LLM in ADR) Degree

The Master of Laws in Alternative Dispute Resolution (LLM in ADR) program is a master's degree program for law graduates and attorneys interested in building strength as advocates in ADR processes or gaining skills and a prestigious credential for pursuing career opportunities as mediators or arbitrators. In addition to building valuable negotiation, mediation and arbitration skills as an advocate for a client or as a neutral, students develop a deep understanding of underlying policies and legal ramifications for a full range of ADR options.

Master of Comparative Law (MCL) Degree

The Master of Comparative Law (MCL) program is a master's degree program for foreign graduate students trained in law who have already earned an LLM degree. This two-semester, full-time program is focused on the study of comparative law. Students are provided with the opportunity to study the differences, similarities and interrelationships of different systems of law around the world. After successfully completing the program, students will be awarded the Master of Comparative Law degree.

Master of Studies in Law (MSL) Degree

The online Master of Studies in Law (MSL) program is designed for new graduates as well as seasoned professionals from varying fields of studies and careers, who seek an understanding of how the U.S. legal system functions. The MSL degree gives non-lawyers an expertise in legal issues related to their specific professional fields and academic interests. After successfully completing the program, students will be awarded the Master of Studies in Law degree.

Master of Dispute Resolution (MDR) Degree

The Master of Dispute Resolution (MDR) program is a master's degree program for graduates from varying fields of study who are interested in building strength as advocates in alternative dispute resolution processes. In addition to building valuable negotiation, mediation and arbitration skills as an advocate for a client or as a neutral, students develop and hone business management skills to optimally position yourself for leadership roles in alternative dispute resolution organizations.

Honor Society

Order of the Coif: Order of the Coif is a national honorary scholastic society that encourages excellence in legal education.
Qualifications: Membership will be extended to a graduating law student whose cumulative grade point average ranks in the top 10 percent of all graduating students, provided that he or she has completed at least 75 percent (66 units) of law studies in graded courses.
Adviser: Kyle Jones, Associate Dean, Gould School of Law, (213) 740-6314, kwjones@law.usc.edu
Applications: Students are nominated by the law school.

Continuing Legal Education

USC Gould is a national leader in continuing education, presenting six annual programs designed for sophisticated attendees from the bar, judiciary, accounting, business, and law student communities and supported by both law firm and corporate sponsors.

USC Gould has been approved as a provider of Minimum Continuing Legal Education (CLE) credit by the State Bar of California and offers general CLE and Legal Specialization Credit for lawyers, as well as continuing education credits for accountants, real estate professionals, and certified financial planners.

CLE programs in 2017–2018 include the Institute on Entertainment Law and Business, Trust and Estate Conference, Tax Institute, Institute for Corporate Counsel, Real Estate Law and Business Forum, and Intellectual Property Institute.

For detailed program and registration information, visit gould.usc.edu/cle. For additional questions, call (213) 821-3580 or email cle@law.usc.edu.

Tuition and Fees (Estimated)

Students in the law school's JD program pay tuition of $61,898 per year (two semesters) (26–34 units). For less than 13 units the tuition is $2,393 per unit, and tuition is an additional $2,393 for each unit over 17.

Students in the law school's residential LLM and MCL programs pay tuition of $61,898 per year (two semesters). Students in the law school's online LLM program pay tuition on a per unit basis.

The university reserves the right to assess new fees or charges as it may determine. The rates listed are subject to change without notice by action of the Board of Trustees.

These fees are based upon current information available at the time of publication and are subject to possible later change.

In addition to the mandatory fees charged to all USC students, law students must also join the Student Bar Association. In 2015–2016, this membership fee was $25 per semester.

Admission Requirements — JD and Dual Degrees

First-year students must have earned a bachelor's degree from a regionally accredited college or university and be able to provide an official transcript denoting the degree conferred by the beginning of their law school classes. USC Gould does not require applicants to take any specific college courses, and discourages pre-law students from enrolling in college courses that duplicate the law

school curriculum. The faculty recommends college courses that are intellectually challenging and require disciplined study. Training in careful reading and skilled writing is most valuable, as are courses involving seminar discussion and sustained research. The student will find that a broad exposure to such fields as economics, philosophy, history, political science, anthropology, mathematics and psychology is more useful than narrow exposure to vocationally oriented courses.

All applicants are required to take the Law School Admission Test (LSAT) administered by the Law School Admissions Council (LSAC). Applicants must take the test no later than February if they seek to start law school the following August.

Like most law schools, the USC Gould School of Law requires students to apply online through the LSAC and register for the Credential Assembly Service (CAS). The CAS assembles an applicant's transcripts, LSAT scores and letters of recommendation and forwards copies of them to law schools of the applicant's choosing. Further information about the LSAT and the CAS may be obtained from the Law School Admission Council, 662 Penn St., Box 40, Newtown, PA 18940 and online at lsac.org.

Detailed information regarding admission application procedures is available from the Dean of Admissions, University of Southern California Gould School of Law, University Park, Los Angeles, CA 90089-0074 and on the school's Website (gould.usc.edu).

Accelerated BA/JD Program (3+3)

The program is open only to USC undergraduate students who can complete their required bachelor's major course work by the end of their junior year (or only have minimal units of upper division elective courses remaining). Admitted students complete their undergraduate and law school studies in a total of six years. After year one of law school (at the latest), students must have all necessary course work completed to earn their bachelor's degree and after year three, their law degree. However, the preference is that the bachelor's degree requirements be completed prior to beginning law school course work.

Students are not required to take the LSAT for admittance. Students must have a minimum cumulative undergraduate GPA of 3.80 both at the time an application is submitted and at enrollment. Additionally, strong faculty letters of recommendation, a personal statement, and an interview are required components of the application. The program is open to all participating majors.

Transfer Students and Visiting Students

A student in good standing at a law school that is approved by the American Bar Association may apply for admission with advanced standing either as a transfer student or as a visiting student. Transfer students enter USC Gould after one year at another law school; they then spend two years at the law school and earn the JD degree from USC. Visiting students spend one or two semesters at the law school during their third year of law school; they are not eligible for a USC degree. For further information, please request Transfer/Visitor Information from the Admissions Office at USC Gould.

USC Gould also admits a small number of highly qualified transfer students with LLM degrees from an American Bar Association accredited law school. These students will have taken a large number of JD courses in their LLM course of study and received strong grades in those courses. For further information, please contact the Graduate & International Programs Office at USC Gould.

Transfer LLM Students

USC Gould School of Law offers an LLM to JD Transfer Program to non-U.S. law school graduates who have received an LLM degree from an ABA-accredited law school.

USC Gould School of Law students enrolled in our LLM Program may apply to our JD Program as Transfer LLM students during the transfer application period in the spring semester. In addition, current LLM students of other ABA-accredited law schools may submit applications during the spring semester. Only a limited number of outstanding students from USC Gould and other ABA-accredited law schools will be offered admission each year.

For further information, request LLM transfer information from the Graduate and International Programs Office at USC Gould.

Admission Requirements — LLM Degree

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent. Some experience following the completion of the first professional degree is preferred. For further information, contact the law school at (213) 821-5916 or visit the school's Website (gould.usc.edu).

Admission Requirements – LLM in ADR Degree

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB), a Juris Doctor (JD), or the foreign equivalent. Some experience following the completion of the first professional degree is preferred. For further information, contact the law school at (213) 821-5916 or visit the law school's Website (gould.usc.edu).

Admission Requirements — MCL Degree

Students submitting an application must have earned a basic law degree, a Bachelor of Laws (LLB) degree or the foreign equivalent and will have previously earned their LLM degree. Some experience following the completion of the first professional degree is preferred. For further information, contact the law school at (213) 821-5916 or visit the school's Website (gould.usc.edu).

Admission Requirements — MSL Degree

Students submitting an application must have earned an undergraduate degree in some field of study by the time they begin the Online MSL degree. Prior exposure to or experience in law is not required. For further information, contact the law school at (213) 821-5916 or visit the school's Website (gould.usc.edu).

Admission Requirements — MDR Degree

Students submitting an application must have earned an undergraduate degree in some field of study by the time they begin the MDR program. Prior exposure to or experience in law is not required. For further information, contact the law school at (213) 821-5916 or visit the law school's Website (gould.usc.edu).

Registration

Registration is handled by the USC Gould School of Law Office of the Registrar. First-year students will automatically be registered in their fall semester courses approximately two to three weeks prior to the beginning of the school year and for their spring semester courses during the week listed in the law school calendar for upper-division student registration.

Grading and Attendance Policies

Grading

The grading system uses both numbers and letters in a range from 1.9 to 4.4 with letter-grade equivalents ranging from F to A+. The grade equivalents are: A+ (4.1–4.4); A (3.8–4.0); A- (3.5–3.7); B+ (3.3–3.4); B (3.0–3.2); B- (2.7–2.9); C+ (2.5–2.6); C (2.4); C- (2.1–2.3); D (2.0); and F (1.9). Students receiving a grade of 1.9 will not be given credit for the course toward graduation. A student who fails a first-year course must repeat the course, but both grades will be included in computing that student's general average. Other courses may not be repeated except on petition to the associate dean. A student with a weighted cumulative average of less than 3.0 at the end of the year will be placed on restricted enrollment. A Juris Doctor student with a weighted cumulative average of less than 2.7 at the end of any year will not be permitted to continue. An overall grade point average of at least 2.6 is required for graduation with graduate students who are enrolled in the LLM, LLM in ADR, MCL, MDR or MSL, Alternative Dispute Resolution Certificate, Business Law Certificate (online), Compliance Certificate (online), and Entertainment Law and Industry Certificate (online) programs.

Credit/D/F

After the first year, a student may take up to a total of 8 units on an elected CR/D/F basis, chosen from among courses otherwise graded in a normal manner. No more than 4 such units may be taken in a semester. The student must elect to take a course CR/D/F during

the first two weeks of the semester. Courses or seminars may, at the instructor's option, be designated prior to registration as not available for CR/D/F grading. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC beyond the first year curriculum.

Students may also take such courses regularly offered only on a CR/D/F basis, in addition to courses taken under this rule.

Withdrawals from Courses

A student may not withdraw from a course later than two weeks after the first day of classes of any semester without permission of both the associate dean and the instructor.

Attendance

Class attendance is an important part of law school education. It assists both the individual and fellow students in making the most of the educational opportunity offered. Students should, therefore, attend class regularly and participate in the discussion. Professors may require attendance and may take attendance into account in evaluating student performance.

Degree Programs

Dual Degrees

Admission

Students may be accepted for a dual degree program when they are accepted to the law school, although most students do not apply until near the end of the first year. All programs require that students successfully complete the required first year of law school before beginning work toward the master's degree. Credit toward the law degree may not be given for graduate work completed prior to the completion of the first year of law school, although some credit toward the master's degree may be allowed by the faculty of the cooperating department of approved work completed prior to the first year of law school. Students are not eligible for either of their dual degrees until they complete the requirements for both degrees. All students (including dual degree students) must complete at least 35 numerically graded USC Gould units beyond the first year curriculum.

Following are general descriptions of the dual degree programs. Students interested in further information should consult the USC Gould Admissions Office.

Juris Doctor/Master of Business Administration

In addition to the LSAT, applicants to this dual degree program are required to take the Graduate Management Aptitude Test. Requirements for the dual degree program are listed here and in the USC Marshall School of Business section of this catalogue.

Juris Doctor/Master of Business Taxation

The Leventhal School of Accounting offers a specialized program in taxation leading to the Master in Business Taxation (MBT). Requirements for this dual degree program are listed here and in the USC Leventhal School of Accounting section of this catalogue.

Juris Doctor/Master of Public Administration

Students are required to complete 97 units of course work. Candidates for the dual degree must fulfill the statistics requirement of the MPA degree. See the Master of Public Administration section. Requirements for this dual degree program are listed here and in the USC Price School of Public Policy section of this catalogue.

Juris Doctor/Master of Public Policy

The USC Price School of Public Policy and the law school offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

The dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making process and craft legislation to aid in achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Students must apply to, and be accepted by, both schools. They may be accepted to the dual degree at the time of their acceptance to the law school or at the beginning of their second year of law school. Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, including 78 units in the Gould School of Law and 36 units in the USC Price School of Public Policy. The MPP program has a statistics prerequisite. See Public Policy (MPP). Requirements for this dual degree are listed in the USC Price School of Public Policy section.

Other Graduate Courses

Students interested in combining an expertise in another discipline with the law degree may arrange individually to take approved graduate courses for limited credit toward the law degree.

Students may receive up to 12 units for graduate work taken outside the law school with the prior permission of the administration. These units may be concentrated in a single appropriate discipline; they may not, however, be applied to another graduate degree in progress unless it is a certificate program offered by another department.

JD Study Abroad Programs

USC Gould offers five study abroad programs for JD students that provide opportunities to learn about foreign legal systems and to experience different cultures. Qualified second- and third-year JD candidates are exposed to international law as they take part in exchange programs with leading partner institutions worldwide.

University of Hong Kong: The semester exchange program at the University of Hong Kong (HKU) allows USC Gould JD students to experience Hong Kong and its legal culture and business in the Pacific Rim.

HKU was established in 1911 and is a leading university in Asia. It is linked with over 80 partner institutions in 15 countries and has exchange programs with prominent universities worldwide. The language of teaching at HKU for its law courses is English.

Bocconi University: USC Gould JD students have the opportunity to learn about law and business in Milan, Italy, in this semester exchange program with Bocconi University. An Italian course is available to interested exchange students who wish to study the language before the law program begins.

Bocconi University, a private institution in Milan, Italy, has a global reputation as a research university in business, economics and law. Bocconi offers its exchange students law courses in English. These include courses in international and European law, international trade law, and comparative business and corporate law.

University Jean Moulin Lyon 3: The semester abroad program at the University Jean Moulin Lyon 3 allows USC Gould JD students the chance to study in English at a leading law school in Lyon, France. After earning the JD degree, graduates may elect to return to Lyon for a semester to complete an LLM in international and European law.

The University Jean Moulin Lyon 3 is a public university ranked among the top in France. Lyon 3 is one of three universities in Lyon with a combined population of 100,000 students. Lyon is the second-largest city in France with a great selection of cultural and professional opportunities.

Bond University: USC Gould JD students have the opportunity to live in Queensland, on the Gold Coast of Australia, for a semester while studying at Bond University.

Bond University has a distinctly global perspective, aspiring to a 50:50 ratio of Australian to international students, who come from 80 countries worldwide. Under the guidance of Australia's most eminent legal professionals, internationally renowned criminologists and specialists, students benefit from the mentoring relationship fostered at Bond where professors take an active role in charting student success.

Fundação Getulio Vargas University: The semester exchange with Direito GV, the law school of FGV, allows JD students to study at their campus in São Paulo, Brazil. Direito GV has one of the top

law faculties in Brazil. They offer law courses in English for their exchange students.

Fundação Getulio Vargas has developed a highly innovative curriculum. The Brazilian Ministry of Education and Culture and the Brazilian Bar Association have granted FGV their highest classification of academic rigor. This exchange introduces JD students to the Brazilian legal system and promotes a broad debate on the issues of global relevance within a South American perspective.

Degree Programs

Graduate Degree Programs

USC Gould's graduate degree programs include an LLM program, an online LLM program and an MCL program for foreign law graduates. USC Gould also offers an LLM in ADR program for domestic or international law graduates, plus an online MSL program and an MDR program, both of which do not require a law background. Through the graduate degree programs, students have opportunities to meet and interact with faculty and JD students and also with practicing lawyers from around the world.

Course Requirements

The LLM, online LLM and MCL programs are intended for individuals who are trained in law abroad and wish to gain a basic knowledge of U.S. law and our legal system and/or who wish to engage in comparative legal study. The LLM in ADR and MDR programs are designed for students who wish to learn alternative dispute resolution skills and the functions of alternative dispute resolution organizations. The online MSL program is designed for new graduates as well as seasoned professionals from varying fields of studies and careers, who seek an understanding of how the U.S. legal system functions.

Undergraduate Programs

BA Philosophy, Politics and Law

This interdisciplinary program consists of nine courses chosen from philosophy, political science, law and anthropology courses. See Philosophy for degree requirements.

Minor in Law and Public Policy

The minor in law and public policy draws upon four fields of study: public policy and management, law, economics and political science. It provides students with an understanding of the political and economic contexts in which laws are made, as well as how legal institutions shape policy formulation. Students learn to analyze the consequences of policy and alternatives; the roles played by government, business and nonprofit organizations in public decision-making; and the legal bases for various areas of public policy. See USC Price School of Public Policy for requirements.

Minor in Law and Society

This interdisciplinary program focuses on the effect of law on society and the way in which social forces influence the legal system. The idea is that students will understand the law if they look beyond "law in books" to "law in action." See Political Science for requirements.

Minor in Psychology and Law

This interdisciplinary minor brings together courses in psychology that focus on the social, ethical, cognitive and societal aspects of psychology and how it relates to law. This knowledge is augmented with law courses that identify the relationship between mental health, social psychology and law. See Psychology for requirements.

Master's Degree

Dispute Resolution (MDR)

The Master of Dispute Resolution (MDR) is designed to prepare high caliber students who are planning to practice Alternative Dispute Resolution (ADR) in the context of the U.S. legal system. The program's track in Management of ADR Organizations provides an opportunity for top current and future leaders within the field to further their understanding of the complexities of ADR law and explore many areas of law and business practice with which they may be involved. The program offers both part-time and full-time options for students, and those who wish to carry full academic loads may complete the program within one academic year.

To obtain a Master of Dispute Resolution (MDR), students must take a total of at least 27 units of the core curriculum and elective courses listed below. Twelve units are required core curriculum and the remaining units may be electives, unless the student has earned a U.S. JD from an ABA-accredited law school and has received a waiver for LAW 570 ADR Legal Principles. Students who have received a waiver from LAW 570 ADR Legal Principles will be required to complete 10 units of the core curriculum, and must satisfy the remaining 17 units required for the degree with elective courses. Students choose electives according to their interests; however, those desiring a designated track in Management of ADR Organizations must take at least 9 units from those listed in the Management of ADR Organizations Track, including GSBA 520.

Students can apply four (4) credits of graduate-level courses taken at another accredited educational institution toward the MDR course requirements, subject to the approval of the director of the MDR Program.

Core Curriculum

Students must successfully complete, or receive a waiver for, the following courses to receive the MDR degree.

- LAW 570 ADR Legal Principles Units: 2
- LAW 573 ADR Specialized Study Units: 1, 2, 3
- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2
- LAW 829 Cross-Cultural Dispute Resolution Units: 2

Elective Courses

Students may select among the following elective courses as part of the MDR degree.

- LAW 572 Practical Mediation Skills Clinic Units: 3
- LAW 626 International Investment Law and Arbitration Units: 2
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 503 Contracts Units: 2, 3, 4
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 521 Topics in American Law Units: 1, 2, 3, 4
- LAW 528 Constitutional Law Units: 2
- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 607 Gifts, Wills, and Trusts Units: 3 or 4
- LAW 608 Evidence Units: 3 or 4
- LAW 625 Remedies Units: 3 or 4
- LAW 642 Secured Transactions Units: 2, 3, 4
- LAW 705 Community Property Units: 1, 2, 3
- LAW 727 Partnerships and Limited Liability Companies Units: 2, 3, 4
- LAW 778 Sales Units: 2, 3, 4
- LAW 871 First Amendment Units: 2, 3, 4

Management of ADR Organizations Track

Students pursuing this track must complete a minimum of nine units of the following courses, including GSBA 520. Courses taken to complete the track may apply to overall elective units required for the MDR degree.

- BAEP 591 Social Entrepreneurship Units: 2, 3
- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- LAW 571 Organizational Conflict Units: 3
- PPD 685 Human Resources Management in Public and Non-Profit Sectors Units: 2

Master of Laws (LLM) in Alternative Dispute Resolution

The Master of Laws (LLM) in Alternative Dispute Resolution (ADR) degree, is designed to prepare high caliber U.S. and foreign law graduates who are interested in the specialized and advanced knowledge in ADR. The program will offer emphasis tracks in arbitration practice and mediation practice. It will reside within the new Judge Judith O. Hollinger Alternative Dispute Resolution Program. The Hollinger ADR Program's mission is to design, develop, and implement a world class educational program in dispute resolution that will rival and ultimately surpass the quality of similar programs offered by other institutions of higher education. The goal is to have USC Gould emerge as a preeminent leader in dispute resolution and ADR education.

Core Curriculum Requirements

Students must complete the following courses to earn the LLM degree in ADR Law.

- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2

International Student Core Requirements

Students who have not previously earned a JD degree must also complete the following courses to earn the LLM degree in ADR Law.

- LAW 520 Introduction to U.S. Legal System Units: 2
- LAW 570 ADR Legal Principles Units: 2

Elective Courses

Students may select among the following electives to complete the 24 units required for the LLM in ADR Law degree.

- LAW 503 Contracts Units: 2, 3, 4
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 521 Topics in American Law Units: 1, 2, 3, 4
- LAW 528 Constitutional Law Units: 2
- LAW 571 Organizational Conflict Units: 3
- LAW 572 Practical Mediation Skills Clinic Units: 3
- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 607 Gifts, Wills, and Trusts Units: 3 or 4
- LAW 608 Evidence Units: 3 or 4
- LAW 625 Remedies Units: 3 or 4
- LAW 626 International Investment Law and Arbitration Units: 2
- LAW 642 Secured Transactions Units: 2, 3, 4
- LAW 705 Community Property Units: 1, 2, 3
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 727 Partnerships and Limited Liability Companies Units: 2, 3, 4
- LAW 778 Sales Units: 2, 3, 4
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 825 International Arbitration Competition Units: 1, 2, 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 833 Labor Arbitration Units: 2
- LAW 869 Family Law Mediation Clinic Units: 4
- LAW 871 First Amendment Units: 2, 3, 4

Master of Studies in Law (MSL) Program

The Master of Studies in Law (MSL) Program is a legal education program designed for non-lawyers and will provide legal training in various areas of legal specialization. This program is designed for mid-career professionals, including corporate executives, government officials, and others from the U.S. and from around the globe, whose employment or whose area of research would benefit from the study of our legal system. It will appeal also to those who would like to pursue current trends in law and an in-depth understanding in their areas of legal interest.

Mandatory MSL Courses

All MSL students must successfully complete the following two courses as part of the MSL degree.

- LAW 510 Legal Research Units: 0 or 1
- LAW 520 Introduction to U.S. Legal System Units: 2

Elective MSL Courses

Students must complete 18 units of the following elective courses to receive the MSL degree.

- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 521 Topics in American Law Units: 1, 2, 3, 4
- LAW 528 Constitutional Law Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 632 Business for Lawyers Units: 2, 3, 4
- LAW 658 Mergers and Acquisitions Units: 1, 2, 3, 4
- LAW 710 Contract Drafting and Strategy Units: 2, 3
- LAW 749 Securities Regulation Units: 2, 3, 4

University Certificate

Alternative Dispute Resolution Certificate

JD students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate. Interested JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate.

LLM students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate. LLM students complete the certificate requirements during the year they are taking their LLM course work, and courses may count both toward the LLM degree and the certificate.

Certificate-only students must complete at least 12 units of arbitration and mediation-related classes to receive this certificate.

All students are required to take both mandatory courses (Survey of ADR Law and Policy And Domestic Ethics in ADR) and a selection of elective courses (such as ADR Clause Drafting and Business Mediation).

Mandatory Courses

All students must complete the following two mandatory courses for this certificate.

- LAW 715 ADR Law and Policy: Mediation and Arbitration Units: 2, 3, 4
- LAW 819 ADR Ethics Units: 1, 2

Additional Mandatory Courses

Students must select at least one of the following mandatory classes for this certificate.

- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 829 Cross-Cultural Dispute Resolution Units: 2

Elective Courses

Students may select from among the following elective courses to complete the 12 units required for this certificate.

- LAW 626 International Investment Law and Arbitration Units: 2
- LAW 630 Mediation Clinic I Units: 2, 3, 4
- LAW 631 Mediation Clinic II Units: 2, 3, 4
- LAW 712 Negotiation Theory and Application Units: 2, 3
- LAW 813 Arbitration in the United States Units: 3
- LAW 817 International Arbitration Units: 3
- LAW 822 Alternative Dispute Resolution Clause Drafting Units: 1
- LAW 824 Arbitration Advocacy Units: 1, 2
- LAW 825 International Arbitration Competition Units: 1, 2, 3
- LAW 826 Employment Dispute Mediation Units: 1
- LAW 828 Mediation Advocacy Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 833 Labor Arbitration Units: 2

- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- LAW 869 Family Law Mediation Clinic Units: 4
- LAW 893 Advanced Clinical Training Units: 1, 2, 3, 4, 5

Business Law Certificate (Online)

USC Gould School of Law Online LLM and Business Law Certificate students will enroll in the Online Business Law Certificate program and will take each of their courses in the online modality.

USC Gould School of Law JD and LLM residential students will enroll in the residential Business Law Certificate program and will take each of their courses in residence.

The Online Business Law Certificate program requires Business Organizations (4 units) as a core, mandatory course. Students are required to complete an additional 10 business law units online to earn the certificate. Electives include Securities Regulation (3 units), Business for Lawyers (2 units), Contract Drafting and Strategy (2 units) and Mergers and Acquisitions (3 units and for which Business Organizations is a prerequisite). Students must complete a minimum of 12 units to receive this online certificate.

The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

Certificate in U.S. Legal Studies

This is a two-year program designed to introduce students to core doctrines of American law. During the first year, students will enroll in courses that explore the fundamental principles underlying the U.S. legal system and prepare them for the Master of Laws program. Students may also enroll in courses designed to improve their English fluency. During the second year, students will enroll in courses to complete our Master of Laws degree.

ALI Language Courses

Students will be required to take an English placement exam at the beginning of the program. Students must complete 2 units of English language course work each semester, for a total of 4 units, unless they receive a waiver. Students may elect the ALI courses identified below that best suit their skill level.

- ALI 224 Low Intermediate Oral Skills Units: 2
- ALI 225 Low Intermediate Writing Skills Units: 2
- ALI 234 Intermediate Oral Skills Units: 2
- ALI 235 Intermediate Writing Skills Units: 2
- ALI 244 High Intermediate Oral Skills Units: 2
- ALI 245 High Intermediate Writing Skills Units: 2
- ALI 254 Advanced Oral Skills Units: 2
- ALI 255 Advanced Writing Skills Units: 2

Introduction to U.S. Legal Studies

Students will enroll in the following 16 units of LAW courses during the first year of this program. These courses will explore the fundamental principles underlying the U.S. legal system.

- LAW 560 Academic and Professional Skills for U.S. Law Studies I Units: 2
- LAW 561 Fundamentals of Legal Writing Skills Units: 2
- LAW 562 Introduction to U.S. Legal Culture and Practice Units: 2
- LAW 563 Presentation Skills for International Lawyers Units: 2
- LAW 564 Persuasive Advocacy Units: 2
- LAW 565 U.S. Common Law Analysis and Skills Units: 3
- LAW 566 Academic and Professional Skills for U.S. Law Studies II Units: 1
- LAW 890 Directed Research Units: 1, 2, 3, 4

Entertainment Law (Residential) Certificate

JD students must complete at least 21 units of entertainment-related classes to receive this certificate. JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate.

LLM students must complete at least 12 units of entertainment-related classes to receive this certificate. LLM students complete the certificate requirements during the year they are taking their LLM course work, and courses may count both toward the LLM degree and the certificate.

All students are required to take both mandatory entertainment law courses (such as intellectual property) and a selection of elective entertainment law courses (such as copyright, legal issues in music and sports law).

Public Interest Certificate

The Public Interest Certificate is intended for students who plan to spend a significant part of their careers in the nonprofit or government (including criminal) sectors. It serves at least three functions. First, it signals to future employers that the student has made a significant commitment to acquiring the substantive knowledge, practical skills and familiarity with the landscape of nonprofit and government law, which will prepare him or her for a successful career in these sectors. Second, the certificate assists students in discerning and following a law school path that will provide the fundamentals they need for a career in nonprofit or government law, and exposes them to a range of substantive law areas, practitioners and experiences in the public interest sector. Third, the certificate allows the Law School to affirm and showcase its support for public interest law and its offerings for students and potential students interested in this career path.

Clinical and Practicum Units

Students must complete at least one semester of work in one of the following Gould clinics or practicums. In the event a student is unable to gain entry into one of the listed clinics or practicums, an externship for at least 3 units with a qualifying organization shall fulfill this requirement.

- LAW 630 Mediation Clinic I Units: 2, 3, 4
- LAW 631 Mediation Clinic II Units: 2, 3, 4
- LAW 711 Access to Justice Practicum Units: 2, 3, 4
- LAW 776 Immigration Clinic I Units: 2, 3, 4, 5
- LAW 781 Clinical Internship/Externship I Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
- LAW 782 Clinical Internship/Externship II Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
- LAW 796 Immigration Clinic II Units: 2, 3, 4, 5
- LAW 808 Medical-Legal Community Partnership Seminar and Practicum Units: 1, 2, 3, 4
- LAW 849 International Human Rights Clinic I Units: 4, 5
- LAW 850 International Human Rights Clinic II Units: 4 or 5
- LAW 865 Legislative Policy Practicum Units: 3
- LAW 891 Post-Conviction Justice Seminar I Units: 1, 2, 3, 4, 5
- LAW 892 Post-Conviction Justice Seminar II Units: 1, 2, 3, 4, 5
- LAW 893 Advanced Clinical Training Units: 1, 2, 3, 4, 5
  A student may only satisfy this requirement with LAW 781 or LAW 782 if he or she is unable to enroll in one of the other listed courses.

Required Courses

A student must complete both of the following courses:

- LAW 531 Ethical Issues for Public Interest, Government and Criminal Lawyers Units: 3
- LAW 777 Administrative Law and Regulatory Policy Units: 1, 2, 3, 4

Core Courses

A student must complete at least one of the following courses for a numerical grade:

- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 635 Employment Discrimination Law Units: 2, 3, 4
- LAW 686 Civil Rights: The Enforcement of the Constitution Units: 3
- LAW 704 Poverty Law Units: 2, 3, 4

- LAW 713 International Human Rights Units: 2, 3, 4
- LAW 775 Immigration Law Units: 2, 3, 4, 5

Substantive Courses

A student must complete at least 6 units from the following list of courses.

- LAW 602 Criminal Procedure Units: 2, 3, 4
- LAW 611 Advanced Topics in Constitutional Law Units: 1, 2, 3, 4
- LAW 619 Employment Law Units: 2, 3, 4
- LAW 623 Family Law Units: 3 or 4
- LAW 635 Employment Discrimination Law Units: 2, 3, 4
- LAW 636 Labor Law Units: 3 or 4
- LAW 646 Advanced Topics in Employment Discrimination Units: 1, 2, 3
- LAW 655 Environmental Law Units: 2, 3, 4
- LAW 661 National Security Law Units: 2, 3, 4
- LAW 662 Public International Law Units: 3, 4
- LAW 675 Mental Health Law Units: 2, 3, 4
- LAW 684 Suing the Government Units: 2, 3, 4
- LAW 686 Civil Rights: The Enforcement of the Constitution Units: 3
- LAW 697 Foreign Relations and National Security Law Units: 2, 3, 4
- LAW 700 Health Care Regulations Units: 1, 2, 3, 4
- LAW 702 Children, Sexuality and the Law Units: 2, 3, 4
- LAW 703a Children's Legal Issues Units: 1, 2, 3, 4
- LAW 704 Poverty Law Units: 2, 3, 4
- LAW 706 Public Health Law Units: 2, 3, 4
- LAW 707 Global Health, Law and Human Rights Units: 1, 2, 3
- LAW 713 International Human Rights Units: 2, 3, 4
- LAW 714 U.S. Foreign Policy and International Law Units: 1, 2, 3, 4
- LAW 716 Race and Gender in the Law Units: 1, 2, 3, 4
- LAW 725 Bioethics and Law Units: 3
- LAW 726 Stereotypes, Prejudice, and the Rule of Law Units: 2, 3, 4
- LAW 734 Local Government Law Units: 3 or 4
- LAW 743 Federal Criminal Law Units: 2, 3, 4
- LAW 746 Critical Race Theory Units: 2, 3, 4
- LAW 751 Sexual Orientation and the Law Units: 2, 3, 4
- LAW 757 Sex, Gender and the Law Units: 1, 2, 3, 4
- LAW 758 Identity Categories Units: 2, 3, 4
- LAW 763 Federal Courts: The Federal System II Units: 3, 4, 5
- LAW 775 Immigration Law Units: 2, 3, 4, 5
- LAW 791 Law and Society Units: 2, 3, 4
- LAW 798 Law, Mental Health and Ethics Units: 2, 3, 4
- LAW 811 Health Law and Policy Units: 2, 3, 4
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 847 Refugee and Forced Migration Law Units: 2, 3, 4
- LAW 851 Topics in Criminal Law and Criminology Units: 1, 2, 3, 4
- LAW 860 International Criminal Law Units: 4
- LAW 866 Counterterrorism, Privacy and Civil Liberties Units: 2, 3, 4
- LAW 871 First Amendment Units: 2, 3, 4
- LAW 875 Constitutional Theory Seminar Units: 1, 2, 3, 4
- LAW 880 Treating Difference Equally Units: 2, 3, 4
- LAW 881 Constitutional Innovation Units: 2, 3, 4
- LAW 888 First Amendment: Law and Religion Units: 1, 2, 3

Technology and Entrepreneurship Law Certificate

The Technology and Entrepreneurship Certificate program provides a rigorous course sequence for students who have an interest in legal practice areas involving the intersection of technology and business law issues. The program features a combination of traditional doctrinal courses taught principally in a lecture format, skills-based courses taught principally in a workshop format, and experiential field-based opportunities outside the classroom. The program emphasizes the importance of acquiring strong legal skills and business awareness to prepare for legal practice.

Mandatory Courses (JD Students and LLM Students)

Students must complete both of the following courses:

- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 810 Patent Law Units: 3, 4

Core Optional Courses (JD Students)

Select at least three credits from the following courses:

- LAW 627 Business Planning Units: 3, 4
- LAW 673 Deal Strategy, Structure and Negotiation Units: 4
- LAW 770 Technology Transactions Units: 2, 3
- LAW 801 Venture Capital and Emerging Companies Units: 2, 3
- LAW 812 Patent Litigation Units: 3
- LAW 815 Deals Units: 3, 4
- LAW 827 Counseling the Startup Company Units: 2, 3, 4
- LAW 838 Patent Drafting and Prosecution Units: 3

Non-Core Optional Courses (JD Students)

Select sufficient units to reach the required number of total credits.

- LAW 648 Topics in Entertainment Law Units: 1, 2, 3, 4
- LAW 719 Corporate Finance Units: 2, 3, 4
- LAW 736 Small Business Clinic I Units: 2, 3, 4
- LAW 737 Small Business Clinic II Units: 2, 3, 4
- LAW 753 Antitrust Law I Units: 3 or 4
- LAW 765 Topics in Intellectual Property Law Units: 1, 2, 3, 4
- LAW 771 Intellectual Property and Technology Law Clinic I Units: 2, 3, 4, 5
- LAW 772 Intellectual Property Units: 2 or 3
- LAW 773 Internet Law Units: 2, 3, 4
- LAW 780 Intellectual Property and Technology Law Clinic II Units: 2, 3, 4, 5
- LAW 783 General Counsel Practicum Units: 1, 2
- LAW 841 Copyright, Trademark and Related Rights Units: 3
- LAW 859 Communications Law: Internet, Television and Other Media Units: 2, 3, 4

Optional Courses (LLM Students)

Select sufficient courses to reach required total credits.

- LAW 648 Topics in Entertainment Law Units: 1, 2, 3, 4
- LAW 719 Corporate Finance Units: 2, 3, 4
- LAW 753 Antitrust Law I Units: 3 or 4
- LAW 765 Topics in Intellectual Property Law Units: 1, 2, 3, 4
- LAW 770 Technology Transactions Units: 2, 3
- LAW 772 Intellectual Property Units: 2 or 3
- LAW 773 Internet Law Units: 2, 3, 4
- LAW 801 Venture Capital and Emerging Companies Units: 2, 3
- LAW 812 Patent Litigation Units: 3
- LAW 815 Deals Units: 3, 4
- LAW 827 Counseling the Startup Company Units: 2, 3, 4
- LAW 838 Patent Drafting and Prosecution Units: 3
- LAW 841 Copyright, Trademark and Related Rights Units: 3
- LAW 859 Communications Law: Internet, Television and Other Media Units: 2, 3, 4

Graduate Certificate

For Business

Business Law Certificate (Residential)

JD students must complete at least 24 units of business-related classes to receive this certificate. Interested JD students must submit their applications for this certificate program after completing the first year of law school. JD students complete the certificate requirements during their second and third years of law school, and courses may count both toward the JD degree and the certificate. LLM students must complete at least 12 units of business-related classes to receive this certificate. LLM students complete the certificate requirements during the year they are taking their LLM course work, and courses may count both toward the LLM degree and the certificate.

All students are required to take both mandatory business law courses (such as business organizations) and a selection of elective business law courses (such as mergers and acquisitions, advanced contracts and bankruptcy).

Compliance Certificate

The online Compliance Certificate program requires Business Organizations (4 units), Human Resource Compliance (2 units), Health Care Compliance (2 units), Regulatory Compliance (2 units), and Contract Drafting and Strategy (2 units) to earn the certificate.

The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

USC Gould School of Law Compliance Certificate students and students who select the Compliance Certificate as part of our online LLM or MSL programs will take each of their courses in the online modality.

Mandatory Courses

Students must successfully complete the courses below to receive a Certificate in Compliance.

- LAW 559 Human Resource Compliance Units: 2
- LAW 579 Global Regulatory Compliance Units: 2
- LAW 598 Regulatory Compliance Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 710 Contract Drafting and Strategy Units: 2, 3

Entertainment Law and Industry Certificate

USC Gould School of Law Online LLM, MSL and online Entertainment Law and Industry Certificate students will enroll in the online Entertainment Law and Industry Certificate program and will take each of their courses in the online modality.

The Entertainment Law and Industry Certificate program requires Business Organizations (4 units), Intellectual Property: Copyright (2 units), Entertainment Law and Industry (2 units), Intellectual Property: Trademark (2 units) and Contract Drafting and Strategy (2 units) to earn the certificate.

The program is structured especially for working professionals who wish to take one or two courses per term in an online format. Students are expected to enroll each semester until the program is completed.

Mandatory Courses

Students must successfully complete the courses below to receive the Certificate.

- LAW 522 Entertainment Law and Industry Units: 2
- LAW 527 Intellectual Property: Copyright Units: 2
- LAW 551 Intellectual Property: Trademark Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 710 Contract Drafting and Strategy Units: 2, 3

Transnational Law and Business Certificate

All resident JD, LLM and MCL students will be eligible for this certificate.

To earn a Transnational Law and Business Certificate, students must complete at least 12 units of the mandatory and elective courses outlined in the curriculum.

Mandatory Courses

All students must complete the following mandatory courses to earn this certificate.

- LAW 579 Global Regulatory Compliance Units: 2
- LAW 603 Business Organizations Units: 3, 4, 5
- LAW 764 International Business Transactions Units: 3 or 4

Elective Courses

Students may select from among the following elective courses to complete the unit requirements for this certificate. Students should be advised that the following courses have a prerequisite requirement: FBE 523, FBE 527, FBE 529, FBE 532, and FBE 560.

- LAW 626 International Investment Law and Arbitration Units: 2
- LAW 637 International Trade Policy Units: 1, 2, 3, 4
- LAW 658 Mergers and Acquisitions Units: 1, 2, 3, 4
- LAW 662 Public International Law Units: 3, 4
- LAW 697 Foreign Relations and National Security Law Units: 2, 3, 4
- LAW 709 Contract Drafting and Negotiation Units: 2, 3, 4
- LAW 714 U.S. Foreign Policy and International Law Units: 1, 2, 3, 4
- LAW 775 Immigration Law Units: 2, 3, 4, 5
- LAW 787 International Sales of Goods Units: 2, 3, 4
- LAW 817 International Arbitration Units: 3
- LAW 829 Cross-Cultural Dispute Resolution Units: 2
- LAW 863 International Negotiations and Mediation Units: 2, 3, 4
- FBE 523 Venture Capital and Private Equity Units: 3
- FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms Units: 3
- FBE 529 Financial Analysis and Valuation Units: 3
- FBE 532 Corporate Financial Strategy Units: 3
- FBE 560 Mergers and Acquisitions Units: 3
- GSBA 548 Corporate Finance Units: 2, 3
- MOR 542 Strategic Issues for Global Business Units: 3
- PPD 526 Comparative International Development Units: 2
- PPD 688 Business and Public Policy Units: 4

Dual Degree

Juris Doctor/Doctor of Pharmacy (JD/PharmD)

Admission Requirements

Admission to the dual PharmD/JD program is competitive, and involves meeting admission requirements and gaining acceptance to both the School of Pharmacy and the law school. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students that have a baccalaureate degree may apply to the dual PharmD/JD degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both schools. Students who elect this approach must identify themselves on their PharmD applications as potential dual PharmD/JD degree students. Students who are admitted to both schools will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA.

Students pursuing the dual PharmD/JD degree must notify the law school in a timely fashion that they will be enrolling in the dual PharmD/JD degree program and will not matriculate at the law school until the following year. Students who are accepted only by one school may choose to attend that school but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the law school during their first year of enrollment in the PharmD program prior to the law school's published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the law school using this approach would be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. See the admissions section of the School of Pharmacy and the law school for specific requirements.

Degree Requirements

The professions of pharmacy and law are distinctly different, yet pharmacists are often involved in legal issues and lawyers frequently deal with pharmacy, drug, health care, product development and toxin-related matters. This dual degree program provides qualified students with an efficient mechanism for obtaining the expertise and professional credentials that will enable them to develop professional practices that bring together expertise in both areas.

Overall Requirements

A student is required to complete all work for both degrees within six years of the date of matriculation at the School of Pharmacy (PharmD) and five years of matriculation at the law school (JD).

The entire dual degree program will take six years to complete. Dual degree students will be allowed to use 12 units of approved JD course work (elective or required) to meet 12 units of PharmD electives and 12 units of approved PharmD course work (elective or required) to meet 12 units of JD electives. A faculty qualifying exam committee will determine the exact program for each student, including the appropriateness of courses in one program used to meet elective requirements for the other program. A total of 208 units is required for the dual degree.

PharmD Requirements

Dual degree students must successfully complete 144 units of PharmD and acceptable JD units to receive the PharmD degree. The 144 units must include 132 units of required and elective pharmacy course work plus 12 units of JD course work deemed acceptable to meet PharmD elective requirements. Dual degree students should graduate with their PharmD degrees at the completion of the first semester of the sixth academic year of the dual degree program. Students will be eligible to sit for the Pharmacy Board Exams after completion of the PharmD degree requirements. However, dual degree students will not actually be awarded their PharmD degrees until they complete requirements for both degrees.

Juris Doctor Requirements

Dual degree students must successfully complete 88 units of JD and acceptable PharmD course work during the second to sixth years of the dual degree program to receive the JD degree. The 88 units must be composed of 76 units of JD course work, including satisfaction of the upper-division writing requirement and any other substantive requirements, plus 12 units of PharmD course work deemed acceptable to meet JD elective requirements. No JD credit will be awarded for PharmD course work completed prior to matriculation in the law school. Students cannot receive the JD degree under requirements for the dual degree program without prior or simultaneous completion of the PharmD degree.

Both professions require passing a state board or bar exam to practice the respective professions. Neither of these degrees requires a thesis or comprehensive final exam.

Recommended Program

PharmD/JD dual degree students will begin with the first year of the PharmD curriculum (36 units). During the second year, students will take the first year law core (33 units), plus 3–5 PharmD units. Due to the rigor of the law school core, pharmacy courses during the first year of law school are limited to non-science courses. The third through fifth years of the program focus on PharmD courses with sufficient law courses to maintain students' educational momentum in law. Students should complete their PharmD requirements during the fall of their sixth year of the program and their law course work also during the sixth year. Students must complete both degree requirements by the end of the sixth year of the program.

Juris Doctor/Doctor of Philosophy in Political Science and International Relations (JD/PhD)

The Department of Political Science and the Gould School of Law offer a dual degree program leading to the JD and PhD degrees. Applicants must apply to the Department of Political Science, the School of International Relations and the law school, and meet requirements for admission to all. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE).

In the first year, students take their course work in the law school exclusively. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in the law school honors programs. The second and third years include 40 units of courses in political science and 40 units of law. Students must take two methodology courses, POSC 500 and POSC 600, and three core courses to be selected from POSC 510, POSC 512, POSC 520, POSC 530 and POSC 540.

To obtain a PhD in Political Science and International Relations, students must pass the screening process. After the completion of additional course work, students must take a PhD qualifying examination in three fields. Students will be examined in two of their three fields of concentration. The third ("write-off") field will be completed by taking at least three courses and passing them with a grade of B or better. The final requirement, following successful completion of the qualifying examination, is a doctoral dissertation.

Juris Doctor/Master of Arts in Economics (JD/MA)

Students are required to complete 92 units of law and economics course work, 4 units of which must constitute a thesis acceptable to the faculties of the law school and the Department of Economics. Before enrolling in economics courses, students must have completed an undergraduate course in probability and statistical inference (e.g., BUAD 310). Students with undergraduate degrees in such disciplines as business, economics, mathematics and psychology will usually have taken such a course as part of their undergraduate program.

First Year:

Required law school courses.

Second and Third Years:

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4 or
- ECON 602 Macroeconomic Theory I Units: 4

Additional Requirements

Two Additional Graduate Level Courses in Economics (8 units): ECON 680 Industrial Organization and ECON 681 Economics of Regulated Industries are recommended, but the student is free to choose any graduate level courses other than ECON 590 or ECON 790 in consultation with the program adviser. ECON 401 Mathematical Methods in Economics may be substituted for one of these courses, and ECON 419 Advanced Econometrics may be substituted for the other. (These three courses are applicable toward graduate credit.)

Four Units of Thesis: The thesis must be acceptable to both the faculty of the law school and the faculty of the Department of Economics.

Thirty-nine Units of Law Courses: including one course in a subject matter related to economics (including but not necessarily limited to Taxation, International Business Transactions, Antitrust Law I, Regulated Industries, Labor Law, Administrative Law and Regulatory Policy, Corporate Taxation or Land Use). In addition to the LSAT, students interested in this dual degree program are required to take the aptitude and advanced economic portions of the Graduate Record Examinations (GRE).

Juris Doctor/Master of Arts, International Relations (JD/MA)

The USC Gould School of Law and the USC School of International Relations jointly offer a three-year program leading to the JD and MA degrees. (Students may extend the dual degree program to four years.) Applicants must apply to both the law school and the School of International Relations and meet requirements for admission to both. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE). Law students may apply to the School of International Relations during their first year at the law school.

In the first year, students take their course work in the law school exclusively. The second and third years include 24 units of courses in international relations and 40 units in law. Students pursuing the dual degree must complete LAW 662 or LAW 764 and one additional international law course.

Students pursuing the dual degree must complete 24 units within the School of International Relations at the 500 level or above. These students are required to successfully complete IR 500 International Relations Theory, either IR 513 Social Science and Historical

Research Methods: Introduction to Research Design or IR 517 International Policy Analysis, and two domain courses selected from among IR 502 Conflict and Cooperation, IR 509 Culture, Gender, and Global Society, IR 521 Introduction to Foreign Policy Analysis, and IR 541 Politics of the World Economy. Like all other master's students, students in the dual degree program must complete a substantive paper or alternative project. The requirements, standards and evaluation procedure for the substantive paper are identical to those listed for all MA students except that one member of the examining committee must come from the law school.

Juris Doctor/Master of Arts, Philosophy (JD/MA)

Students must complete 24 units in the USC School of Philosophy and 69 units in the Gould School of Law.

First Year: Required law school curriculum.

Second and Third Years: The School of Philosophy prefers that students take at least one philosophy course each semester. During the four semesters, students must take at least 16 units at the 500 level, including PHIL 450 Intermediate Symbolic Logic and PHIL 500 Introduction to Contemporary Philosophical Literature; one 400- or 500-level course in ethics or social/political philosophy or aesthetics or philosophy of law; one 400- or 500-level course in metaphysics or epistemology or philosophy of language or philosophy of science or philosophy of mind; one 400- or 500-level course in the history of ancient or early modern philosophy; passage of the second year review, which shall include a research paper based on a completed seminar paper and completion of a publishable research paper. Students must also complete 36 additional law units.

Juris Doctor/Master of Arts, Political Science (JD/MA)

The Department of Political Science and the Gould School of Law jointly offer a dual degree program leading to the JD and MA degrees. Applicants must apply to both the Department of Political Science and the law school and meet the requirements for admission to both. In addition to the LSAT, students interested in this program are required to take the Graduate Record Examinations (GRE).

In the first year, students take their course work in the law school exclusively. The second and third years include 24 units in political science and 40 units in law.

Like all other students in the political science MA program, students pursuing the dual degree must pass a master's screening examination in their field of choice. If they wish to write a master's thesis, they may do so in lieu of two courses.

Juris Doctor/Master of Communication Management (JD/MCG)

Students must complete 20 units (five courses) of communication courses at the School of Communication: one core class from the student's preferred track; one method course; CMGT 597a, CMGT 597b; and the remaining two courses may be from either core or elective offerings.

First Year: Required law school courses.

Second and Third Years: 20 units of communications courses and 38 units of law courses, of which 8 units must be approved as appropriate for acceptance by the Annenberg School for Communication and Journalism toward its degree. All students take CMGT 597a, CMGT 597b in the third year.

Application to pursue the dual degree should be made before completion of 15 units of work on law or 8 units toward the MA Admission by the law school to its JD degree will be evaluated as a substitute for GRE scores.

Juris Doctor/Master of Public Policy (JD/MPP)

The USC Price School of Public Policy and the USC Gould School of Law offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

The dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making process and craft legislation to aid in achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Students must apply to, and be accepted by, both schools. They may be accepted to the dual degree at the time of their acceptance to the law school or at the beginning of their second year of law school. Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, including 78 units in the Gould School of Law and 36 units in the USC Price School of Public Policy. The MPP program has a statistics prerequisite. See Public Policy (MPP). Requirements for this dual degree are listed in the USC Price School of Public Policy section.

Juris Doctor/Master of Real Estate Development (JD/MRED)

The Juris Doctor/Master of Real Estate Development dual degree program provides the opportunity for in-depth study of legal issues and real estate development. The increasingly regulatory environment developers work within demands that professionals in the real estate industry have a strong understanding of the legal system. Lawyers who plan to specialize in real estate law will benefit from a thorough understanding of the development process, including financial, planning, marketing and design issues.

Application must be made to both the Gould School of Law and the USC Price School of Public Policy. This program normally requires three years (including one summer) of full-time study in residence to complete.

Students must have use of an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills; a calculator and/or spreadsheet class is offered online via the Internet.

Requirements for completion of the dual degree program are 112 units, including 78 units in law and 34 units in planning. For a complete listing, see the requirements listed in the USC Price School of Public Policy.

Juris Doctor/Master of Science in Gerontology (JD/MS)

The JD/MS dual degree combines the knowledge of the older population with understanding of the legal system. The program prepares graduates for a number of roles in both public and private sector organizations. Students are required to complete 110 units of course work, 74 from the law school and 36 from the Davis School of Gerontology. The first year is devoted to required law courses, and the second, third and fourth years combine gerontology and law courses.

Gerontology Requirements

The Master of Science in Gerontology will require 36 units of course and fieldwork that cover the core content of the MS program.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology elective Units: 4

Notes:

The Davis School of Gerontology will waive 16 units of electives, which are required in the regular MS program, as well as GERO 589 Case Studies in Leadership and Change Management because

students enrolled in this program have a primary professional focus in law.

Law School Requirements

The law school requires 74 units of credit.

First Year Requirements

- LAW 502 Procedure I Units: 4
- LAW 503 Contracts Units: 2, 3, 4
- LAW 504 Criminal Law Units: 3
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 507 Property Units: 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 509 Torts I Units: 4
- LAW 512 Law, Language and Values Units: 2, 3, 4
- LAW 515 Legal Research, Writing and Advocacy I Units: 2, 3
- LAW 516 Legal Research, Writing and Advocacy II Units: 2

Elective Course Work

The second and third year of law study are primarily elective with one requirement. Students must satisfy the upper division writing requirement, either by completing a major, faculty-supervised writing project such as a dissertation, or by taking a course with a substantial writing component.
The law school will waive 14 units of electives which are required in the regular JD program.

Juris Doctor/Master of Social Work (JD/MSW)

The Juris Doctor and Master of Social Work (JD/MSW) dual degree program is a four-year program. Students are required to complete 121 units of course work, including 76 units in the Gould School of Law and 45 units in the USC Suzanne Dworak-Peck School of Social Work.

To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs. Students must apply to both programs prior to matriculation. The program of study is as follows:

First and Second Years: Complete both the first year JD program of study and MSW course work in foundation, field and core courses specific to the AMHW, SCI or CYF departments.

Third Year: Complete the second year JD program.

Fourth Year: Complete the the remaining required core department and field courses and one semester of field instruction and the final semester of the JD program in the spring.

The law school gives credit for the third semester in the Suzanne Dworak-Peck School of Social Work, while the latter recognizes law courses as substitutions for a one-semester practice course, special topics courses, a third semester of social policy and one semester of field instruction (for which a clinical law semester is substituted).

Doctoral Degree

Law (JD)

The Juris Doctor is the basic law degree. To obtain the degree, a student must satisfactorily complete 88 units, be in full-time attendance for six semesters and complete all required courses. Several options are available through which students may, with appropriate permission, take courses outside the law school. Except with special permission, however, each student (including a dual degree student) must successfully complete at least 35 units beyond the first year curriculum, in law courses, taken at this law school, and graded in the normal manner. Each student must also complete a minimum of 65 of the required 88 units by attendance in regularly scheduled class sessions at the law school. A law student is expected to devote the major portion of his or her time to law studies; any outside employment must therefore be restricted. First-year students are not permitted to hold jobs, and second- and third-year students may not hold outside employment requiring more than 20 hours of work per week.

First-year students are required to carry the full load of courses prescribed for that year, and second- and third year students are required to carry between 13 and 17 units each semester, unless special permission to carry a reduced or enlarged schedule is granted by the dean of students. All students must complete six full-time semesters.

Requirements for degrees, as well as the courses offered, may be changed by the faculty at any time. The dean of students may waive some requirements for individual students.

The First Year

During the first year, the student takes a required curriculum of basic courses that examines fundamental legal institutions and addresses legal problems relevant to today's society and the modern practice of law.

In the fall semester, Law, Language, and Values introduces students to foundational concepts in legal reasoning, including theories of interpretation, the rule of law and normative reasoning.

Torts I explores the individual's obligation to refrain from harming others and studies the bases for compensating persons who suffer injuries — either by holding responsible whomever is at fault for the harm, or by invoking other principles of liability including the efficiency of resource allocation and spreading of losses. Procedure introduces students to the issues of what constitutes fair, adequate and efficient procedures in resolving legal disputes. Study focuses on the procedures outlined in Federal Rules of Civil Procedure.

Contracts studies the law regulating consensual arrangements entered into for commercial purposes. It concerns such questions as what promises do and should the state enforce and what remedies are available when enforceable promises are breached.

In the spring semester, students take Criminal Law, which studies issues relating to the decision, by legislature or court, to designate behavior as a "crime." Significant attention is given to the moral, psychological and philosophical issues involved in ascribing criminal responsibility.

Constitutional Law focuses on fundamental structure provisions and relationships under the U.S. Constitution with an emphasis on separation of powers and federalism.

Property analyzes the development of rules dealing with land, water and other natural resources, frequently from historical and economic perspectives.

In addition to these required spring courses, first-year students will be able to choose an elective course. Elective topics may include (among other topics) a Business Basics course, a course on constitutional rights, and a course in Legal Profession with an orientation toward public interest.

All students take a year-long course, Legal Research, Writing and Advocacy. The course is coordinated with other first-year courses, and provides students an opportunity to draft pleadings and to prepare legal memoranda and briefs. Toward the end of the second semester, each student participates in a moot court argument based on work previously prepared for the course.

Students study basic sources of the law — case reports, constitutions, statutes and interdisciplinary materials. There is no uniform method of teaching, but Socratic dialogue and class discussion are primarily employed to help the students analyze issues, reasons and arguments. Moreover, law school faculty have traditionally employed interdisciplinary approaches in analyzing legal problems. First-year classes meet in sections of 60 to 100 students, about half the class size of many law schools.

The Second and Third Years

Requirements

The upper two years of law study are primarily elective, with only four requirements. First, students must satisfy the upper division writing requirement, either by completing a major faculty-supervised writing project or by taking a course with a substantial writing component.

Second, students must enroll in course work that offers substantial instruction in professional skills generally regarded as necessary for the effective and responsible participation in the legal profession. Such course work includes simulation courses (including Trial Advocacy and Pretrial Advocacy), live-client clinical offerings

and courses involving the drafting of legal documents (including Contract Drafting and Negotiation).

Third, students who did not take the Constitutional Rights class as a first-year elective must take it during the second or third year of law school.

Finally, students who did not take the Legal Profession class as a first-year elective must take it during the second or third year of law school.

Course Offerings

The basic courses that most students elect to take — for example: Business Organizations, Evidence, Taxation, and Gifts, Wills and Trusts — are offered every year and usually twice a year. Other courses listed are offered once a year, or in some cases, once every several years. Each year the law school attempts to provide upper-division students with a wide variety of optional specialized courses. Often these reflect the research interests of the faculty. Some examples in recent years have been Biotechnology and the Law, Global Warming, Counterterrorism and Homeland Security, Wrongful Convictions, Reproductive Rights, Special Education and Disability Law, and a seminar on Corporate Fraud. Because there are specialty courses in nearly every major area of the law, upper-division students are able to concentrate in a particular area, or, if they prefer, pursue a broad, basic legal education.

Clinical Offerings

The upper-division curriculum includes a variety of opportunities for clinical legal education. "Clinical" courses are of two kinds. First, clinical refers to courses in which the learning of legal principles occurs through actual work on cases in particular subject matter areas. For example, the law of prisoners' rights and post-conviction remedies is taught in the Post-Conviction Justice Project, a course in which students represent inmates in the California Institution for Women. This representation is under the direct supervision of full-time law school faculty members. About 20 students participate each semester, traveling to the prison to meet with their clients on a regular basis, attending seminars at the law school, preparing briefs and papers, drafting habeas petitions, and negotiating and dealing with prosecutors and prison and court personnel. In addition, students make court appearances on behalf of clients in state and federal courts, as well as courts of appeals.

The second type of clinical course concentrates on specific lawyering skills taught in a classroom setting through the use of hypothetical case materials, with actors playing the roles of clients. The best illustration of this form of clinical teaching is the three-course sequence of Pretrial, Trial and Appellate Advocacy, which covers the stages in the litigation process suggested by the course titles. In these courses, students actually perform, in a simulated courtroom or law office environment, the multiple tasks required of lawyers. Most work is done in small groups; students are videotaped and intensively reviewed by the instructors. A student can take part or all of this sequence. The three courses together require the student to do at least the following: client interviewing and counseling, legal research, fact-finding, drafting of legal documents, negotiation with opposing counsel, arguing pretrial motions to a judge, preparing witnesses to testify, selecting a jury, conducting direct and cross-examination, proposing and opposing exhibits and testimonial evidence, arguing to a jury, and drafting and arguing an appellate brief.

The Post-Conviction Justice Project and the advocacy courses are not the only clinical courses in the curriculum, but they are useful examples of the variety of clinical teaching. A course in a specific area of law, like the Post-Conviction Justice Project, necessarily requires students to acquire basic courtroom, negotiation and client interviewing skills. The skills-oriented advocacy courses require students to be familiar with substantive areas like evidence, procedure and the law in the area of the hypothetical client's problems. These two kinds of clinical courses supplement each other, just as substantive knowledge and expert skills do in the practice of law. Considered as a whole, USC's clinical courses provide the foundation of knowledge and skill necessary to begin the practice of law.

Judicial Externships and Clinical Internships

The clinical opportunities listed previously are focused primarily within the law school. In addition, there are two categories of clinical options for students to pursue outside the law school in the actual environments of courts and law offices.

The first of these, the judicial externship program, enables students to receive credit for full- or part-time work as an extern to a judge of the state or federal court. Students are selected by the judges themselves. USC students have served as externs in the California Supreme Court, U.S. Court of Appeals, U.S. District Court, U.S. Bankruptcy Court, California Court of Appeal and Superior Court. During the externship, each student is supervised by the assistant dean and the placement supervisor.

The second program, the clinical internship option, allows USC Gould students to work part-time in government agencies, legal services programs or other nonprofit organizations under the supervision of practicing attorneys and faculty members. Students earn academic credit while providing representation to actual clients, learning important government processes or participating in large-scale impact litigation. Since the program includes more than 50 pre-approved agencies, students may choose from a wide range of clinical internships.

Neither program is considered a regularly scheduled class session for purposes of graduation requirements.

Individual Research Projects

A wide variety of courses and institutes offers opportunities for upper-division students to engage in individual research under faculty supervision and often in conjunction with course offerings, as well as to participate in large research projects. Projects presently underway include the uses of ocean and sea resources, the development and regulation of geothermal energy, sentencing practices in felony cases, the effects of real estate taxation, the delivery of legal service to low- and middle-income persons, the civil commitment of elderly persons, the relationships between corporate law and actual corporate practices, and theoretical studies in law and economics. Such research projects are financed by grants from the Brookings Institution, the U.S. Commission on Civil Rights, the National Science Foundation, the Ford Foundation, the Lincoln Institute of Land Policy, the National Institute of Mental Health, and the Energy Research and Development Administration.

Independent research completed for academic credit is not considered a regularly scheduled class session for purposes of graduation requirements.

Courses Outside the Law School

With the concurrence of the dean of students, a student may receive up to 12 units of J.D. credit for courses taken outside the law school. These courses must be on the graduate level and may be taken only at USC. Taking graduate level courses outside the law school is an alternative to the dual degree program; a student may not pursue both approaches. With the approval of the dean of students, a student may receive a limited number of JD credits for undergraduate language courses taken at USC. For purposes of meeting the 35-graded-units rule, all non-law courses are counted as CR/D/F units.

A student may, with permission of the dean of students, enroll in and transfer the credit from a law course taken at another school that is a member of the Association of American Law Schools, if the course is equivalent to one included in the USC Gould curriculum that will not be offered here during the semester the student takes the course. Credit will be granted only for courses graded "C" or better. A maximum of 5 such units may be counted toward the JD.

Courses taken outside of the law school are not considered regularly scheduled class sessions for purposes of graduation requirements.

Course Selection in the Upper Division

With such a variety of courses available, how do second- and third-year students go about selecting the program that will be best suited to their individual interests and ambitions?

There are no precise rules or proven methods for selecting

second- and third-year courses. To a large extent, these choices reflect each student's personal assessment at the end of the first year — strengths and weaknesses, developing intellectual interests and first tentative career plans. For this reason, the combination of courses most desirable for one person will not necessarily be best for anyone else. Students are urged to be wary of the notion that there is a specific, recommended curriculum to follow. But reluctance to impose a model course of study does not mean that no guidance is available, for there are at least four ways of thinking about these choices that, in combination, will help each student choose the best array of courses.

One recommended approach to course selection is to choose courses taught by professors the student admires, without regard to subject matter. For each student there are teachers who are particularly able to create intellectual excitement and whose approach to analysis and teaching strikes a responsive note. Students will benefit as much from exposure to a specific professor's analytic skills and approach to legal issues as from specific course content.

A second approach is to choose courses that look exciting, without worrying about whether such courses are directly related to the student's current career plans or to some idea of traditional curriculum. If it appears that a course will be intellectually interesting, will expose students to a new area of the law, or provide needed variety, there is already more than enough reason to enroll. Courses taken because of enthusiasm for either the instructor or the subject matter often lead to the richest academic experience of law school.

The third way to make decisions about taking courses is to classify them according to clusters that emphasize similar issues or themes and then select from each area. For example, a student interested in ideas about family relationships will find them discussed in different contexts in Gifts, Wills, and Trusts; Family Law; and the Children's Legal Issues Practicum. Trial Advocacy and Pretrial Advocacy are courses that teach practical litigation skills, relating various performance tasks to the underlying skills of legal writing, advocacy, legal counseling, negotiation, and factual analysis. A further example includes courses involving close work with statutes, such as Labor Law, Securities Regulation and Taxation, any of which will provide opportunities to develop important and transferable skills.

Finally, students might think about selection as a way of building a wide substantive expertise in an area of particular interest. For example, the following courses are crucial to one anticipating a substantial wills and estate planning practice: Family Law; Community Property; Taxation; Estate Planning; Real Estate Transactions; and Gifts, Wills and Trusts. This kind of course planning requires some thought and investigation, since a casual examination might omit such courses as Community Property (which may affect one's legal ability to transfer property by will), and Real Estate Transactions (since various forms of property ownership may dictate a specific will or create planning considerations).

These approaches to course selection describe only some of the ways in which students might make reasoned choices about their academic programs. Formal and informal academic counseling are available from the associate dean, the assistant deans and other faculty. In addition, students are encouraged to follow the written recommendations available in the online *Student Handbook* available via the Student Portal on the USC Gould School of Law Website.

Keck School of Medicine of USC

Founded in 1885, the Keck School of Medicine of USC is part of Keck Medicine of USC, a major center of medical research, education and patient care with more than 1,500 full-time faculty members and a voluntary faculty of more than 4,000 physicians. Faculty includes national leaders in each of its 25 clinical and basic science departments. Located on the university's 30.8-acre Health Sciences Campus three miles northeast of downtown Los Angeles, the Keck School is adjacent to the Los Angeles County+USC Medical Center, one of the largest teaching hospitals in the United States.

The Keck School's faculty, students and residents serve more than one million patients each year through the Los Angeles County+USC Medical Center, the USC Norris Cancer Hospital, the Keck Hospital of USC, Children's Hospital Los Angeles, USC Verdugo Hills and a network of USC-affiliated hospitals throughout Southern California. More than 500 faculty physicians care for patients with complex medical needs as well as provide primary care.

The Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research of USC, which opened in the fall of 2010, joins the Harlyne J. Norris Cancer Research Tower and USC Zilkha Neurogenetic Institute in providing state-of-the-art facilities for important scientific discovery. With more than $248 million in total federal research support, the Keck School ranks among the top U.S. medical schools in federal funding.

The Keck School of Medicine of USC is at the forefront of medical education and was among the first medical schools to adopt Introduction to Clinical Medicine courses for first-year students, providing direct experience in patient care from the start.

Administration

Rohit Varma, MD, MPH, *Dean; Grace and Emery Beardsley Professor and Chair in Ophthalmology; Director, USC Roski Eye Institute*
Ted J. Budge, MS, *Senior Associate Dean, Chief Operating Officer*
Thomas A. Buchanan, MD, *Vice Dean, Research*
Henri R. Ford, MD, MHA, *Vice Dean, Medical Education*
Judy Garner, PhD, *Vice Dean, Faculty Affairs*
D. Brent Polk, MD, *Vice Dean, Clinical Affairs (CHLA)*
Melany Duval, BA, *Senior Associate Dean and Associate Vice President for Health Sciences Development*
Donna D. Elliott, MD, EdD, *Senior Associate Dean, Student and Educational Affairs*
Lili Delcampo, JD, *Associate General Counsel for Health Sciences*
Raquel D. Arias, MD, *Associate Dean, Admissions*
Karen M. Restifo, MD, JD, Associate Dean, *Student Affairs*
Glenn Ault, MD, *Associate Dean for Clinical Administration (LAC+USC Medical Center)*
Ronald Ben-Ari, MD, *Associate Dean, Continuing Medical Education, and Assistant Dean, Curriculum*
Ite A. Laird, PhD, *Associate Dean, Graduate Affairs (PhD Programs)*
Inderbir Gill, MD, *Associate Dean, Clinical Innovation*
Stephanie Hall, MD, *Associate Dean, Clinical Affairs (Keck Medical Center)*
Laura Mosqueda, *Associate Dean, Primary Care*
Elahe Nezami, PhD, *Associate Dean, Graduate Affairs (Undergraduate, Master's and Professional Degree Programs)*
Lawrence M. Opas, MD, *Associate Dean, Graduate Medical Education*
Michele T. Pato, MD, *Associate Dean, Academic Scholarship*
Ron Ben-Ari, MD, *Associate Dean, Curriculum*
Uttam Sinha, MD, *Associate Dean, Surgical Simulation*
Maura Sullivan, EdD, *Associate Dean, Stimulation Education for Health Sciences*
Sean Nordt, MD, *Assistant Dean, Pre-health Undergraduate Studies*
Paul M. Thompson, PhD, *Associate Dean, Bioinformatics Research*
Althea M. Alexander, *Assistant Dean, Student Diversity*
David Baron, DO, MS, Ed, *Assistant Dean, Global Relations*
Gerhard Coetzee, PhD, *Assistant Dean, Research Integrity*
Cha-Chi Fung, PhD, *Assistant Dean of Educational Affairs*
Joyce Richey, PhD, *Chief Diversity Officer*
Frank R. Sinatra, MD, *Assistant Dean, Faculty Development*
Darcy Spicer, MD, *Assistant Dean, Clinical Research Studies*
Sajjad Yacoob, MD, *Assistant Dean, Student Affairs*
Stephanie Zia, MD, *Assistant Dean, Career Advising*
Ruth Wood, PhD, *Associate Dean, Appointments and Promotions*

Admissions

Doctor of Medicine

Keith Administration Building 100B
1975 Zonal Avenue
Los Angeles, CA 90089-9021
(323) 442-2552
FAX: (323) 442-2433
Associate Dean, Admissions: Raquel D. Arias, MD

The Keck School of Medicine of USC Committee on Admissions is responsible for selecting members of the entering class. The committee comprises both faculty and students. The committee reviews candidates whose academic achievement, commitment to service and personal qualities distinguish them from the many thousands of applicants who apply.

The applicant's undergraduate major may be in any subject area from an accredited college or university. Although sound preparation in the basic sciences is essential, a background in the humanities, and depth and breadth of personal experience are also important.

General Admissions Information

The Keck School of Medicine of USC participates in the centralized American Medical College Application Service (AMCAS) and also requires the submission of the Keck School of Medicine supplemental application. Approximately 7,500 applications are received per year and 750 applicants receive interview invitations. Interviews begin in late August and end in early March. Students receive acceptance letters beginning in October.

Requirements

All applicants to the Keck School of Medicine of USC MD degree program must have completed a baccalaureate degree, or its equivalent, from an accredited college or university prior to matriculation. The school has no specific course requirements. Strong applicants will have distinguished themselves in their chosen field of study and have demonstrated competency in the sciences at the time of their application. The Medical School Admission Requirement (MSAR) guide may be referenced for recommended course work. The Medical College Admissions Test (MCAT) is required, and scores must be from within the previous three years of the date of matriculation.

International applicants must hold a degree considered equivalent to a U.S. bachelor's degree as evaluated by the USC Office of Graduate and International Admissions.

Individuals who have discontinued studies in medical school for academic reasons are not eligible to apply to the Keck School of Medicine of USC.

Medical College Admission Test (MCAT)

The MCAT is required of all applicants. Applicants to the entering class are required to take the MCAT within the previous three years of the date of matriculation and no later than August in the year that the application becomes available. Scores from administrations of the examination taken outside of this time period will not be accepted.

Applications

The Keck School of Medicine of USC participates in the American Medical College Application Service (AMCAS). AMCAS reproduces and distributes an application and standardized academic record to participating medical schools designated by the student. Applications are submitted electronically at students/applying/amcas.

Applications are available after June 1 for the class entering in August of the following year. Applications to USC must be returned to AMCAS by November 1, but earlier application is encouraged.

The Committee on Admissions reviews all information submitted on the AMCAS application as well as the school's supplemental application. The nonrefundable supplemental application fee is $100.

Personal Interviews

Personal interviews are a required aspect of the application process. Interviews are conducted at the Keck School of Medicine on the Health Sciences Campus of the University of Southern California.

Notice of Acceptance

Notices of acceptance will be sent to successful candidates beginning in October until the class is filled. Since Keck uses a rolling admissions process, it is highly recommended to submit a completed application early in the cycle. If not chosen for an interview, candidates are usually notified by March of the application year.

Candidates must reply to an offer of admission and agree to the Essential Characteristics and Abilities Required for the Completion of the MD Degree within 10 business days of receiving the offer of admission. A letter of withdrawal, via email or post mail, is required if students wish to relinquish their place in the class; release is granted automatically when the letter is received.

MD/PhD Program

The Keck School of Medicine has developed an MD/PhD program designed for individuals who aspire to a career in academic medicine or a leadership role within the biomedical industry. Students are expected to acquire the modern skills that are required for physician competence. Additionally, the MD/PhD program provides an opportunity for the development of research expertise and academic excellence while fulfilling the requirements for a PhD degree.

A joint program between the Keck School of Medicine and the California Institute of Technology (Caltech) was established in fall 1997 for the granting of the MD/PhD degree. PhD studies may be carried out at Caltech or through collaboration between two laboratories at both institutions. The MD will be awarded from the Keck School of Medicine and the PhD will be awarded from Caltech.

The MD/PhD executive committee is responsible for selecting students for the MD/PhD program. Members of the committee review the qualifications of each applicant, including MCAT scores, academic performance, letters of recommendation and research experience. The committee interviews candidates and then selects students for admission to the program. All applicants to the joint program interview at Keck School of Medicine and the California Institute of Technology.

General Information

The MD/PhD program enrolls a maximum of four students annually. Students have the option of doing the PhD at USC or Caltech. Each student accepted to the program must also be accepted to the Keck School of Medicine. All positions are fully funded.

Requirements

Admission requirements for the MD/PhD program are those of one of the graduate programs at Caltech, the Keck School of Medicine and USC. Students select the program of their choice during the first two years of the medical curriculum; descriptions of these programs are available from each department or program and Caltech.

Graduate Record Examinations (GRE)

To assist the MD/PhD Committee in its evaluation of candidates, applicants to the MD/PhD program are encouraged to provide recent GRE scores. The committee does not, however, require GRE scores in order to consider an application.

Applications

Applicants to the Keck School of Medicine are advised to request information about the MD/PhD program at the time of application. In addition to completing the medical school application, applicants should indicate their interest in the MD/PhD program.

Students who are currently pursuing the medical curriculum at the Keck School of Medicine may apply to the MD/PhD program by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 200), Los Angeles, CA 90089-9023; (323) 442-2965, FAX: (323) 442-2318.

Personal Interviews

All applicants are screened by members of the MD/PhD Executive Committee; candidates who meet the basic criteria of the program are then invited to be interviewed by members of the committee and faculty at USC and Caltech.

Notice of Acceptance

Students selected for acceptance to the MD/PhD program are notified between November and May of each year. Students begin their program in the fall semester and register for courses in the medical curriculum at that time.

Further information about the MD/PhD program at the Keck School of Medicine may be obtained by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 200), Los Angeles, CA 90089-9023; (323) 442-2965, FAX: (323) 442-2318; email: med.mdphdpgm@med.usc.edu.

Graduate Degree Programs

Admission standards for these curricula are established jointly by the Keck School of Medicine, its participating programs and the Graduate School.

Applicants to graduate degree programs offered at the Keck School of Medicine must meet the general criteria for acceptance to the Graduate School. Each participating program may have additional requirements for application. The programmatic requirements for the Keck School of Medicine's graduate programs are detailed in the Graduate Degree Programs section.

Further information about graduate degree programs at the Keck School of Medicine may be obtained by contacting: Office of the Associate Dean for Graduate Studies, Keck School of Medicine, 1975 Zonal Avenue (KAM 409), Los Angeles, CA 90089-9023; (323) 442-1607, FAX: (323) 442-1199.

Tuition and Fees

The tuition and fees listed below are estimated for fall semester, 2017. All fees are subject to change without notice by action of the University of Southern California Board of Trustees. The university reserves the right to assess new fees or charges. Tuition is not refundable; late registration fees are mandatory and cannot be waived.

Tuition for each semester of the medical school curriculum is due and payable at the beginning of the semester. Registration is not permitted after the third week of instruction. Late payment of tuition is subject to a mandatory late fee. Average budgets for medical students will vary according to their year in the curriculum. Sample budgets for Year I, Year II and the Junior/Senior Continuum may be requested from the Office of Financial Aid. Tuition, mandatory fees and parking are the same for all years.

Tuition for courses of the graduate curriculum is based upon the number of units assigned to each course. The Graduate Degree Programs section provides a department-by-department list of graduate course titles; the number following each title indicates the number of units for which tuition is charged. Late payment of tuition is subject to a mandatory late fee.

Required Fees (Estimated)

Academic Year Tuition (two semesters)	$ 30,714.
Graduate Tuition (per unit)	1,800
Student Health Service Fee (annual)	667
Student Programming Fee (graduate)	80
Student Services Fee	28
Norman Topping Scholarship Fee	16
Health Insurance	
Annual Dental Rate	
Malpractice Insurance	25 (per academic year)
Disability Insurance	41 (per academic year)

Optional Fees

Parking fee, per semester (see Tuition and Fees).

Grading and Evaluation

The Keck School of Medicine employs a system of evaluation and grading designed to encourage student self-reliance, to stimulate the student's independent quest for knowledge and to promote excellence in academic achievement.

For courses of the medical curriculum, the Keck School of Medicine does not award numerical or letter grades. The evaluation process leading to a pass or fail grade is based on performance of the student in relation to announced course criteria. Throughout medical school, students will be evaluated on their fund of knowledge, problem-solving ability, professional behavior, relevant personality traits and clinical and interpersonal skills. Additional information on grading and evaluation is contained in the handbook provided to every enrolled medical student.

Faculty instructors are responsible for establishing evaluation criteria appropriate to the objectives of each course, discipline and clerkship, and for specifying the manner in which evaluative information is to be gathered. Instructor comments on student performance form an integral part of a student's total evaluation. For each evaluation, descriptive comments based on the student's overall performance in relation to course criteria are submitted for permanent file to the office of the senior associate dean for student affairs and educational affairs, together with performance reports.

The student's permanent file is used to prepare a letter from the associate dean of student affairs of the Keck School of Medicine, which accompanies student applications for internships and residencies. These records are maintained by the Office of Student Affairs; students may review their records during regular office hours by scheduling an appointment. During the lifetime of the physician, the permanent student record may be consulted as evidence of completion of the required curriculum and as certification for licensure.

Grading and evaluation policies for graduate degree programs and for joint MD/PhD degrees are established in conjunction with the Graduate School. In general, courses taken in partial fulfillment of graduate degree requirements receive letter grades that are recorded by the university.

Degrees and Requirements

The Keck School of Medicine and its departments offer types of curricula leading to award of: the Doctor of Medicine; joint MD/PhD; joint MD/MBA; joint MD/MPH; MD/MS, Global Medicine; a Master of Academic Medicine, MAM; Global Medicine, MS; PharmD/MS, Global Medicine; Global Health, BS; Health Promotion and Disease Prevention Studies, BS; graduate degrees in conjunction with the Graduate School in Applied Biostatistics/Epidemiology, MS; Biochemistry and Molecular Biology, MS; Biostatistics, MS, PhD; Cancer Biology and Genomics, PhD; Cell and Neurobiology, MS; Clinical, Biomedical and Translational Investigations, MS; Development, Stem Cells, and Regenerative Medicine, PhD; Epidemiology, PhD; Experimental and Molecular Pathology, MS; Medical Biology, PhD; Molecular Epidemiology, MS, PhD; Molecular Microbiology and Immunology, MS; Molecular Structure and Signaling, PhD; Nurse Anesthesia, MS; Physiology and Biophysics, MS; Psychology and Public Health, PhD/MPH; Stem Cell Biology and Regenerative Medicine, MS; Integrative Biology of Disease, PhD.

The Department of Family Medicine has one academic division: the Division of Physician Assistant Studies, which offers the Master of Physician Assistant Practice.

The Department of Preventive Medicine has two academic divisions: the Health Behavior Research Division, which offers a BS, Global Health; BS, Health Promotion and Disease Prevention Studies; BS, Global Health/Master of Public Health; BS, Health Promotion and Disease Prevention Studies/Master of Public Health; Master of Public Health; PharmD/Master of Public Health; PhD, Physical Therapy/Master of Public Health; PhD, Preventive Medicine (Health Behavior Research); and the Biostatistics Division, which offers MS programs in Biostatistics, Molecular Epidemiology, and Applied and Biostatistics/Epidemiology. The division also offers PhD programs in Biostatistics, Epidemiology, and Molecular Epidemiology.

In addition, departments of the school have certificate programs in certain medical specialties.

The Medical Education Committee (MEC) is responsible for overall planning of the medical school curriculum. Separate curriculum committees plan and supervise the instructional programs for each year of medical school. Each of the committees includes student representatives and faculty members from the departments involved in each year's teaching program.

The curriculum of medical education at USC continues to emphasize preparation of the student to give optimal patient care. Students are progressively involved in patient care beginning with their first semester. The curriculum is patient-oriented, and students are expected to assume increasing responsibility for patient care as they acquire sufficient knowledge and skills. During the clinical experiences of the Junior/Senior Continuum students eventually attain a level equivalent to that of an intern.

At the same time, the school recognizes that the explosion of knowledge and techniques brought about by the current "biotechnology revolution" is rapidly altering the practice of medicine. During the four years of medical school, students cannot be taught all that will be needed for the practice of medicine — either now or in the years ahead. To a far greater degree than in the past, the present curriculum encourages students to acquire skills and habits of self-education and self-instruction that will prepare them for lifelong learning.

The faculty of the school recognize that while most students will eventually practice medicine, some will choose an academic research career. The plan of medical education fosters the development of individuals whose careers may be directed along this path. Faculty are available to counsel and encourage research participation by students during their medical school training.

The curricula of the Keck School of Medicine and its departments acknowledge the crucial place of basic medical science in the advance of modern clinical practice. Both basic and clinical science are taught throughout the four years of the undergraduate medical curriculum. Basic science is taught both as pure basic science and in correlation with clinical science. In addition, a number of the school's departments cooperate with the USC Graduate School to offer degree courses leading to the award of the Master of Science and Doctor of Philosophy. Most of these graduate courses may also be taken as part of the school's joint MD/PhD program.

Minor

Health Care Studies Minor

The USC Dornsife College of Letters, Arts and Sciences and the Keck School of Medicine offer an interdisciplinary minor in health care studies. This minor is targeted to those undergraduates who wish to pursue a postgraduate career in health care or health

care related fields. The minor brings together a background in fundamental science necessary to understand the biological basis of medicine with course work that explores health care both in classroom and clinical settings. The minor requires a minimum of 28 units, at least 16 of which must be at the upper-division level. If the core required courses listed below are already included in a student's major, then other lower division courses may be selected from the electives list.

Students should consult their advisers in selecting courses. Depending on the major, prerequisites may increase total units required to complete this minor.

Required Courses (12 Units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 103Lgx General Chemistry for the Environment and Life Units: 4 or
- CHEM 105aLg General Chemistry Units: 4

- MDA 110 Contemporary Issues and Cases in Health Care Units: 2
- MEDS 220 Preparation for the Clinical Experience Units: 2

Electives

Students must choose a minimum of 16 upper division units from the following lists.

Introduction to Human Health I

- ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology Units: 4
- BISC 150Lgx The Nature of Human Health and Disease Units: 4
- PSYC 100Lg Introduction to Psychology Units: 4
- PSYC 360 Abnormal Psychology Units: 4 *

Introduction to Human Health II

- BISC 312x Molecular Biochemistry Units: 4 *
- BISC 320L Molecular Biology Units: 4 *
- BISC 421 Neurobiology Units: 4 *
- BISC 450L Principles of Immunology Units: 4 *
- MEDS 260 Challenges in the Forefront of Biomedical Ethics Units: 2
- MEDS 280 The History of Medicine: a Doctor's Perspective Units: 2
- MEDS 300g Statistical Methods for Biomedical Research Units: 4
- PSYC 336L Developmental Psychology Units: 4 *

The Biological Bases for Disease Processes

- BISC 300L Introduction to Microbiology Units: 4 *
- BISC 307L General Physiology Units: 4 *
- BISC 330L Biochemistry Units: 4 *

- HBIO 301L Human Anatomy Units: 4 or
- MEDS 320 Human Cadaveric Anatomy Units: 4 *
- MEDS 330 Bionics: Solutions to Enable the Disabled Units: 2 *
- MEDS 335 Human Development: From Stem to Sternum Units: 2 *
- MEDS 340 The Brain in Health and Disease Units: 4 *
- MEDS 350 Neurochemistry of Addiction: Drugs, Brain, and Behavior Units: 2 *
- MEDS 360 From Bench to Bedside: New Frontiers in Biomedical Research Units: 2 *
- MEDS 370 Organ Failure: Non-Communicable Chronic Disease Units: 2 *
- MEDS 380 Stem Cells: Fact and Fiction Units: 2 *

Clinical and Biomedical Experience

- BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders Units: 4 *
- MEDS 420 Clinical Pediatrics Units: 2 *
- MEDS 425 Medical Examiner-Coroner: Investigating Death Units: 2 *
- MEDS 440 Introduction to Surgical Principles Units: 2 *
- MEDS 445 Cancer: Introduction to Oncology in the Modern Era Units: 2 *
- MEDS 450 OB/GYN: The Medicine and Surgery of Reproduction Units: 2 *
- MEDS 460 Emergency Health Care Units: 2 *
- MEDS 465 Wilderness and Survival Medicine Units: 4 *
- MEDS 490x Directed Research in Biomedical Science Units: 2, 3, 4, 5, 6, 7, 8 *
- SOCI 475 Medical Sociology Units: 4

Note:

**Prerequisite required*

Master's Degree

Academic Medicine (MACM)

Keith Administration Building 211
1975 Zonal Avenue
Los Angeles, CA 90033
(323) 442-2372
FAX: (323) 442-2051
Email: nyquist@usc.edu
Program Director: Julie G. Nyquist, PhD

Faculty

Professors: Donna Elliott, MD, EdD *(Pediatrics)*; Jerry Gates, PhD *(Family Medicine)*; Win May, MD, PhD *(Medical Education)*; Julie G. Nyquist, PhD *(Medical Education)*; Beverly Wood, MD, PhD *(Medical Education)*
Associate Professors: Kathleen Besinque, PharmD, MSEd *(Pharmacy)*; Cha-Chi Fung, PhD *(Medical Education)*
Assistant Professors: Todd Chang, MD, MACM, FAAP *(Clinical Pediatrics)*; Dixie Fisher, PhD *(Medical Education)*; Anne Vo, PhD *(Medical Education)*; Samuel Yanofsky, MD, MSEd *(Anesthesiology)*

The Master of Academic Medicine is offered by the Keck School of Medicine in collaboration with the Schools of Dentistry and Pharmacy. The goal is to develop leaders who will create and enhance academic and training programs for health care professions globally. Academic medicine is defined in broad terms as relating to those who lead training worldwide in medicine or in other health care related fields. Enacting this vision is possible due to the flexible delivery model selected. The program employs a hybrid model, combining on-campus face-to-face sessions, blended with online course work. During the 32-unit program, the majority of sessions will be delivered using interactive online delivery methods. All students will also be on campus for one-week intensive sessions in the spring of each year, which focus on community building and the development and evaluation of skills.

The program addresses the unique population of medical and health professions faculty who are focused on leading the academic enterprise for health professionals at the undergraduate, graduate and continuing education levels. Our graduates will be positioned to guide future generations of health professionals around the world toward better meeting the health needs of our global society. For those with a clear focus on the academic enterprise, a complementary degree in academic medicine offers the specialized skills needed to lead worldwide development of enhanced training for health professionals, increases professional capacity and provides new opportunity for promotion. The audiences for this degree will typically have primary professional degrees in health fields (e.g., MD, DDS, DPT, RN, MSN, PA, DVM, DO, PharmD, DC, DOM). The Master of Academic Medicine will provide the needed complementary training for clinician educators.

Admission

Applicants for admission to the Master of Academic Medicine program are generally expected to have an advanced degree in a health profession. Proof of graduation is required. For applicants

who do not have a degree in a health profession, a bachelor's degree or its equivalent from an accredited institution is required, a grade point average of 3.0 (A = 4.0) is usually expected as well as satisfactory scores on the Graduate Record Examinations (GRE) General Test and three letters of recommendation. For specific information on admission and application procedures, contact the Office of Medical Education, (323) 442-2372.

Students are admitted for the academic year beginning in the fall, although those admitted prior to March 15 may enroll in summer courses. Although there is no formal application deadline, complete applications received before March 1 will be given priority. Application inquiries should be made to: Master of Academic Medicine Program, University of Southern California, Office of Medical Education, 1975 Zonal Avenue, KAM 211, Los Angeles, CA 90033, telephone (323) 442-2372.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 32 units of graduate-level course work is required.

Degree Requirements

Academic Courses (26 Units)

- ACMD 501 Introduction to Academic Medicine Worldwide Units: 3
- ACMD 502 Becoming a Leader in Academic Medicine Worldwide Units: 3
- ACMD 503 Leading Change in Academic Medical Centers Units: 3
- ACMD 511 Competencies in Academic Medicine and Health I Units: 3
- ACMD 512 Competencies in Academic Medicine and Health II Units: 3
- ACMD 513 Professionalism in Academic Medicine and Health Units: 3
- ACMD 514 Accreditation and Program Evaluation in Academic Medicine Units: 3
- ACMD 591 Designing Research on Innovations in Academic Medicine Units: 2
- ACMD 592 Implementing Research on Innovation in Academic Medicine Units: 2
- ACMD 621 Capstone Portfolio for the Master of Academic Medicine Units: 1

Electives (6 units)

Six units of electives may be selected from the recommended courses below, or these may be replaced with approved courses at the 500 level or within USC that equal 6 units.

- ACMD 593 Foundations of Academic Writing Units: 1
- ACMD 598 Fieldwork: Designing Innovations for the Health Professions Units: 1, 2, 3
- ACMD 604 Supporting the Educational Enterprise in Academic Medicine Units: 3
- ACMD 605 Faculty Development for Health Sciences Faculty Educators Units: 2
- ACMD 615 Maintenance of Competence in the Health Professions Units: 2
- INTB 603 Systematic Approach to Scientific Writing Units: 2
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- PM 513 Experimental Designs Units: 3

Clinical, Biomedical and Translational Investigations (MS)

Keith Administration Building 200
(323) 442-2965
Email: msclnbio@usc.edu
Program Co-Directors:
Stanley P. Azen, PhD, Professor, Co-Director of Biostatistics, Preventive Medicine, Co-Director CETCD
Michael L. Paine, BSc, BDS, PhD, Associate Professor, Director, Graduate Program in Craniofacial Biology

The Master of Science in Clinical, Biomedical, and Translational Investigations (CBTI) is a joint effort to train medical students, fellows or other health professionals, including faculty and other scientists conducting clinical related research, in clinical research methods to translate clinical, biomedical and technological discoveries into advances in population-based, clinical or basic science research. The MS Program of Clinical, Biomedical, and Translational Investigations (CBTI) is available to medical students who have completed their second year of medical school, and pre-doctoral students who are interested in expanding their pre-doctoral training to include methodology associated with conducting translational research. Pre-doctoral students will earn a joint degree (PhD in their research area and an MS in CBTI). In addition, the MS CBTI Program is tailored to MDs doing fellowships at USC or Children's Hospital Los Angeles (CHLA), faculty interested in expanding their research careers, or are recipients of Young Investigator Awards, including Southern California Clinical Translational Science Institute's (SC CTSI) Center for Education, Training, and Career Development K and T Awardees. Tracks include: 1) Clinical Translational Research, 2) Community-based Intervention Trials, 3) Design, Conduct and Analysis of Clinical Studies, 4) Epidemiology and Disease Etiology, 5) Health Outcomes Research, 6) Environmental Epidemiology, 7) Molecular Biology, 8) Cell Biology, 9) Vision Science and 10) Alternative Options Track.

The MS program in Clinical and Biomedical Investigations is designed to train students, fellows and faculty for future independent research careers in an academic, government or private sector setting. The objective of the MS program is to produce a clinical researcher with either an in-depth knowledge in laboratory methodologies or statistical and analytic skills in population-based, clinical studies or outcomes research. The program gives students a solid background in the methodological aspects of translational research, and in statistical thinking as applied to molecular epidemiology, as well as a solid grounding in biostatistical, epidemiological methods, and community based intervention strategies.

Admission Requirements

Applicants must apply to the Graduate School and meet the minimum requirements for admission to the Graduate School. The Departments of Preventive Medicine, Cell and Neurobiology, Family Medicine, and the Center for Education, Training and Career Development (CETCD) jointly administer the program through the MS Program Office.

The program will consider applicants who satisfy all requirements for admission to the Graduate School. For the MS program in Clinical and Biomedical Investigations, MCAT scores may be substituted for the GREs. Applicants not meeting Graduate School requirements for regular standing may, with approval of the Graduate School, be conditionally admitted. Regular standing is contingent upon maintaining a GPA of 3.0 in the first 12 units of graduate studies. All graduate students must maintain a GPA of 3.0 throughout their graduate studies.

General Requirements

Graduation requires the completion of a minimum of 29 units, of which a minimum of 15 units are didactic course credits taken in the first year (including summer sessions), with the remaining units being directed to: a) PM 590 Directed Research (1–12 units) and PM 594a Master's Thesis, PM 594b Master's Thesis (4 units) taken in the second year. The equivalent of one year of full-time effort must be devoted to research leading to a master's thesis. The thesis provides a structure for the development of a plan to address a research problem and a suitable approach to the analysis and presentation of the results.

Because the background and interests of applicants varies widely, one of the co-directors will consult with each student prior to the first year in order to design an individualized schedule of recommended

courses, or this may be negotiated with a student's faculty sponsor. At the end of the first year, the trainee must submit a final program plan to the co-directors. This will summarize the courses taken, the proposed thesis title, and the names and credentials of the MS thesis committee. One of the members of the MS thesis committee will be the trainee's research adviser and will serve as the chair of the committee. At least one member of the thesis committee must be from outside the student's department. For faculty, at least two members of the thesis committee must be from outside the student's department.

For those trainees or SC CTSI's CETCD K and T awardees who do not wish to pursue an MS degree, the school offers a certificate in clinical, biomedical, and translational investigations (CBTI). The certificate program requires completion of 12 credits, and a minimum of six months of practical research experience working on a research project (PM 590) approved by either an Oversight Committee or the CETCD's K and T Award Committee Review Process.

Students are expected to attend the three day workshop on NIH proposal development if offered by Thomas Ogden, MD, PhD, and a workshop on the principles of scientific manuscript preparation.

Clinical Translational Research (13-16 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4

- PM 523 Design of Clinical Studies Units: 3 or
- PM 612a Clinical Translational Research (CTR) Units: 4 and
- PM 612b Clinical Translational Research (CTR) Units: 4 and
- PM 612c Clinical Translational Research (CTR) Units: 4

Electives (Pick one course)

- BIOC 543 Human Molecular Genetics Units: 4
- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 602 Science, Research and Ethics Units: 2
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- RSCI 530 Translational Medicine: An Overview Units: 2

Community-Based Intervention Trials (16 Units)

- PM 512 Principles of Epidemiology Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4

Electives (Pick one course)

- PM 526 Communications in Public Health Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4

Design, Conduct and Analysis of Clinical Studies (18 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4

Epidemiology and Disease Etiology (14-15 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 517a Research Methods in Epidemiology Units: 3

Electives (Pick one course)

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4

- PM 529 Environmental Health: An Epidemiological Approach Units: 4 or
- PM 533 Genetic and Molecular Epidemiology Units: 3

Health Outcomes Research (16 Units)

- PM 511aL Data Analysis Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 540a-Seminar in Pharmaceutical Economics and Policy Units: 2
- PMEP 540b-Seminar in Pharmaceutical Economics and Policy Units: 2

Environmental Epidemiology (17-18 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 529 Environmental Health: An Epidemiological Approach Units: 4

Electives (Pick one course)

- PM 511aL Data Analysis Units: 4
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 599 Special Topics Units: 2, 3, 4

Molecular Biology (16 Units)

- INTD 531 Cell Biology Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4

Electives (Pick one course)

- BIOC 543 Human Molecular Genetics Units: 4
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 555 Biochemical and Molecular Bases of Disease Units: 4
- MICB 551 Procaryotic Molecular Genetics Units: 4

Cell Biology (15 Units)

- INTD 531 Cell Biology Units: 4
- INTD 571 Biochemistry Units: 4
- PATH 553 Methods in Cellular and Clinical Pathology Units: 3

Electives (Pick one course)

- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 555 Biochemical and Molecular Bases of Disease Units: 4

Vision Science (13-18 Units)

- INTD 501 Recent Advances in Vision Science Units: 1
- INTD 531 Cell Biology Units: 4
- INTD 571 Biochemistry Units: 4
- INTD 573 Systems Physiology and Disease II Units: 4
- PSCI 667 Intracellular Drug Delivery and Targeting Units: 2, 2 years

Alternative Options Track (Minimum 16 Units)

Courses are determined by mentor and student, based on research interests, with approval from the oversight committee.

Seminars/Workshops

Participation is required in a Recent Advances Journal Club to learn how to read papers critically and develop the speaking skills necessary to explain a research paper. Faculty members in the program rotate as course directors in order to emphasize new topics. Students are expected to attend the three-day workshop on NIH Proposal Development if offered by Thomas Ogden, PhD, and a workshop on the principles of scientific manuscript preparation.

Global Medicine (MS)

Keith Administration Building 317
1975 Zonal Avenue
Los Angeles, CA 90089-9024
Tel: (323) 442-3141
FAX: (323) 442-1766
keck.usc.edu/msgm

Program Director: Elahe Nezami, PhD

The Master of Science in Global Medicine (MSGM) is offered by the Department of Educational Affairs of the Keck School of Medicine. The program aims to train medical, dental and pharmacy students; current physicians and allied health professionals; and those planning to pursue degrees in the allied health professions to analyze and address critical issues in global medicine. The program provides a solid foundation in basic science while also exposing students to a broad scope of pertinent issues in global medicine. The program offers an advanced standing option for physicians, dentists, current medical/dental students and applicants with a PharmD degree from accredited institutions. Students admitted to the advanced standing option may use previous equivalent course work for 8 units of credit toward MEDS 503 L Core Principles System I and MEDS 504 L Core Principles System II course requirements. The advanced standing option allows students to bypass the foundation course work and focus on globally oriented course work.

By providing the knowledge and training necessary to address current and future global medical challenges, the MS in Global Medicine program responds to the Institute of Medicine's recommendation that the education of health professionals include course work that promotes literacy in global medicine. In addition to gaining a strong medical science foundation, students are immersed in course work that examines methods used to create innovative programming, solutions and responses to global health challenges, thereby furnishing them with the problem-solving skills and analytical frameworks essential to their future career paths. Through partnerships with the Marshall School of Business and the Viterbi School of Engineering, the MS in Global Medicine also includes a Management Track for students who intend to pursue international health management, and an Entrepreneurship Track for students interested in applying business acumen to the challenges of global health in innovative ways. The MS in Global Medicine also offers the Interprofessional Health Track for students seeking an understanding of the interplay of various clinical specialties in providing comprehensive and integrated care to patients and the resultant impacts on healthcare administration. Upon completion of the MS in Global Medicine, students will be equipped to serve as leaders within the allied health field, including, but not limited to: medicine, pharmacy, dentistry and nursing. In addition, graduates will be prepared to collaborate with, or seek employment from, a variety of international aid, nonprofit, and global health organizations such as: the United Nations, the International Red Cross, United Nations Joint Programme on HIV/AIDS, United Nations Children's Fund, World Health Organization, World Bank and the Centers for Disease Control and Prevention.

Admission

Applicants for admission to the program must have a bachelor's degree or its equivalent from an accredited institution and have earned a GPA of 3.0 (A = 4.0) in undergraduate work. Prerequisite undergraduate course work for Clinical Track applicants must include one year of general biology, one year of general chemistry, one year of organic chemistry and one semester of calculus. Applicants to the Management, Entrepreneurship, and Interprofessional Tracks should consult with advisers for prerequisite exceptions.

All applicants are required to have taken the Graduate Record Examinations (GRE) General Test, the Dental Admission Test (DAT) or the Medical College Admission Test (MCAT). A minimum score of 300 on the GRE, 18 on the DAT or 28 on the MCAT is required. Applicants beneath these standardized test score requirements are asked to consult with program staff for advisement. International Medical Graduates (IMGs) from accredited institutions can submit their USMLE results in lieu of GRE, DAT or MCAT scores. Applicants must also supply three letters of recommendation from evaluators qualified to assess their potential for graduate work. If applying for the advanced standing option, U.S. applicants must have successfully completed their first year of an MD (Doctor of Medicine) or DDS (Doctor of Dental Surgery) program or earned a PharmD degree from a U.S.- accredited institute; international applicants must have earned a bachelor's degree in medicine and surgery or a degree equivalent of DDS (Doctor of Dental Surgery) or a PharmD degree from an accredited institute. Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, standardized test scores and three letters of recommendation. Applications are considered for enrollment in both fall and spring semesters. For further information contact: Master of Science in Global Medicine Program, 1333 San Pablo Street, MCA 144, Los Angeles, CA 90033, Tel: (323) 442-3141, email: msgm@med.usc.edu.

Advisement

The program recommends that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified. A minimum of 32 units of graduate level course work is required for graduation from the clinical, management and entrepreneurship tracks. A minimum of 24 units of graduate-level course work is required for graduation with the advanced standing option.

Degree Requirements

Global Medicine students in the Clinical, Entrepreneurship and Management Tracks must complete a minimum of 32 total units to earn the degree. (The Clinical Track offers an Advanced Standing Track option for qualified students that requires a minimum of 24 units).

Students are required to take the core and elective courses specified for the track in which they are matriculating and must complete enough courses to complete 32 or more total units overall.

Core Courses

GM Clinical Track Core

Clinical Track students must complete the following 12 units of core course work:

- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 503L Core Principles System I Units: 4
- MEDS 504L Core Principles System II Units: 4

GM Advanced Standing Track Core

The Clinical Track offers an Advanced Standing Track to those deemed eligible for the track, including: physicians, dentists, pharmacists, and current medical and dental students who have previously taken course work that is equivalent to MEDS 503L and MEDS 504L.

Advanced Standing Track students must complete the following 8 units of core course work and must select 16 units of Clinical Track electives.

- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 502 Global Epidemiology of Diseases and Risk Factors Units: 4

GM Entrepreneurship Track Core

Entrepreneurship Track students must select from BAEP 550 or BAEP 551 to complete 13 total units when combined with the other core courses below:

- BAEP 550 Entrepreneurship and Venture Management Units: 1.5
- BAEP 551 Introduction to New Ventures Units: 3
- BAEP 552 Cases in Feasibility Analysis Units: 3

- BAEP 553 Cases in New Venture Management Units: 1.5, 3
- MEDS 500 Basic Concepts in Global Health Units: 4

GM Interprofessional Health Track Core

Interprofessional Health Track students must select from MEDS 500 or MEDS 501 to complete 14 units when combined with the other core courses below:

- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 501 Critical Issues in Global Health Units: 4
- MEDS 532 Non-communicable Diseases Units: 2
- MEDS 580 Interprofessional Team Dynamics in Healthcare Units: 4
- MEDS 581 Case Studies in Interprofessional Healthcare Units: 4

GM Management Track Core

Management Track students must complete the following 14 units of core course work:

- DSO 582 Service Management: Economics and Operations Units: 3
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 502 Global Epidemiology of Diseases and Risk Factors Units: 4

Elective Courses

GM Clinical Track Electives

Clinical Track students must complete a minimum of 20 units of elective courses from among the following MEDS electives:

- MEDS 501 Critical Issues in Global Health Units: 4
- MEDS 502 Global Epidemiology of Diseases and Risk Factors Units: 4
- MEDS 510 Global Health Modules, Malaria Units: 2
- MEDS 511 Global Health Modules, Tuberculosis Units: 2
- MEDS 512 Global Health Modules, Maternal and Child Health I Units: 2
- MEDS 513 Global Health Modules, Maternal and Child Health II Units: 2
- MEDS 514 Global Health Modules, Tropical Disease Units: 2
- MEDS 515 Global Health Modules, HIV/AIDS Units: 2
- MEDS 516 Cultural Competence in Health and Medicine Units: 2
- MEDS 517 Health and Human Rights Units: 2
- MEDS 518 Children in Emergency Situations: Global Policies and Programs Units: 2
- MEDS 519 Global Oral Health Units: 2
- MEDS 520 Medical Spanish for the Health Professions Units: 2
- MEDS 521 Emerging and Re-emerging Infectious Diseases Units: 2
- MEDS 522 Human Hepatitis Viruses Units: 2
- MEDS 523 Global Toxicity and Carcinogenesis Units: 2
- MEDS 524 Grantwriting for Non-Government Organizations Units: 2
- MEDS 525 Global Mental Health Units: 2
- MEDS 526 Alternative and Eastern Medicine: A Biomedical Approach Units: 2
- MEDS 527 Zoonotic Infectious Diseases Units: 2
- MEDS 528 Global Health Modules, Sexually Transmitted Infections Units: 2
- MEDS 529 Refugee Health Care Units: 2
- MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology Units: 4
- MEDS 531 The Politics of Global Health Units: 2
- MEDS 532 Non-communicable Diseases Units: 2
- MEDS 533 Emerging Cell-based Therapeutics Units: 2
- MEDS 534 Global Biotechnology Entrepreneurship Units: 2
- MEDS 535 Culture, Lifestyle, and Health Units: 2
- MEDS 550 Clinical Medicine and Health Care Reform in Taiwan Units: 2
- MEDS 551 Clinical Medicine and Socioeconomic Factors in Uganda Units: 2
- MEDS 552 Clinical Medicine and Health Care Reform in Jordan Units: 2
- MEDS 553 Clinical Medicine and Health Care Challenges in India Units: 2
- MEDS 554 Clinical Medicine and Healthcare Delivery in Panama Units: 2
- MEDS 555 Clinical Medicine and Healthcare Access in Honduras Units: 2
- MEDS 556 Global Health Field Study, New York Units: 2
- MEDS 557 Clinical Medicine and Healthcare Dynamics in Denmark Units: 2
- MEDS 558 Clinical Medicine and Translational Research in Argentina Units: 2
- MEDS 559 Clinical Medicine and Healthcare Determinants in China Units: 2
- MEDS 560 Innovating in Healthcare in Malaysia Units: 2
- MEDS 561 Global Healthcare Development and Practices in Nepal Units: 2
- MEDS 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- MEDS 562 Healthcare in Thailand Units: 2
- MEDS 563 Global Healthcare Development and Social Justice in Italy Units: 2
- MEDS 564 Health Behavior and Healthcare in Germany Units: 2
- MEDS 566 Healthcare in Fiji Units: 2
- MEDS 599 Special Topics Units: 2, 3, 4
- MEDS 580 Interprofessional Team Dynamics in Healthcare Units: 4
- MEDS 581 Case Studies in Interprofessional Healthcare Units: 4
- MEDS 567 Global Nutrition Units: 2
- MEDS 568 Global Issues: Aging Units: 2
- MEDS 569 Interdisciplinary Medical Literature Evaluation Units: 2
- MEDS 570 Introduction to Narrative Medicine Units: 2

GM Entrepreneurship Track Electives

Entrepreneurship Track students must complete a minimum of 15 units of MEDS electives and 3 units (1 course) from the following:

- BAEP 559 Investing in New Ventures Units: 3
- BAEP 563 Corporate Entrepreneurship Units: 3
- BAEP 591 Social Entrepreneurship Units: 2, 3
- DSO 586 Global Healthcare Operations Management Units: 3
- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3

GM Interprofessional Health Track Electives

Interprofessional Health Track students must complete a minimum of 18 MEDS electives.

GM Management Track Electives

Management Track students must complete a minimum of 12 units of MEDS electives and 6 units (2 courses) from the following:

- ISE 507 Six-Sigma Methods and Applications Units: 3
- ISE 508 Health Care Operations Improvement Units: 3
- MKT 565 Global Marketing Units: 3
- MOR 542 Strategic Issues for Global Business Units: 3
- MOR 569 Negotiation and Deal-Making Units: 3

Notes:

On a case-by-case basis and with pre-approval, GM students may take classes outside their particular group.

University Certificate

Academic Medicine Certificate

University Certificate Programs
Academic Medicine Certificate

Students who do not wish to pursue a Master of Academic Medicine degree at this point may earn a university certificate in Academic Medicine. The certificate requires 12 units of course work. Each learner may only seek a single certificate. There are two options available, the Teaching/Learning Track and the Leadership Track. The teaching learning track provides graduates with the essential principles of teaching and learning needed to integrate leaning principles, teaching techniques and assessment methods within the health professions to effectively teach health professions' learners at all levels: undergraduate, graduate and continuing education. The leadership track is designed to prepare those in academic medicine for leadership positions, for example assistant/associate dean, program director (including assistant or associate), designated institutional officer and associate or vice chair for education. After completion of the certificate, if a learner decides to go on to pursue a Master of Academic Medicine (MACM) degree all 12 units of the certificate can be applied to the MACM degree.

All students begin with the core course: ACMD 501 (Introduction to Academic Medicine Worldwide, 3 units). Students then take two required courses (6 units) related to their selected track. Each student completes the 12-unit certificate with 3 units of elective course work from the courses available within the Master of Academic Medicine program. All courses should be selected with the approval of the learner's adviser.

Academic Medicine Certificate (all learners)

All certificate students are required to take the core course.

- ACMD 501 Introduction to Academic Medicine Worldwide Units: 3

Teaching/Learning Track

Students in the Teaching/Learning track must select two of the three courses below (6 units).

- ACMD 511 Competencies in Academic Medicine and Health I Units: 3
- ACMD 512 Competencies in Academic Medicine and Health II Units: 3
- ACMD 513 Professionalism in Academic Medicine and Health Units: 3

Leadership Track

Students in the Leadership track must take the two courses listed below to provide core skills in leadership (6 units).

- ACMD 502 Becoming a Leader in Academic Medicine Worldwide Units: 3
- ACMD 503 Leading Change in Academic Medical Centers Units: 3

Elective

All certificate students are required to take 3 units of elective course work from the courses available within the Master of Academic Medicine program. All courses should be selected with the approval of the learner's adviser.

Clinical, Biomedical and Translational Investigations Certificate

Students who do not wish to pursue an MS degree may earn a university certificate in clinical, biomedical, and translational investigations. The certificate program requires 12 didactic credits and a minimum of six months (PM 590 Directed Research 3 units) of practical experience working on a research project approved by the faculty mentor and co-directors.

Recommended Core Courses for Each Research Track

Global Medicine Graduate Certificate

The certificate program in global medicine is for students who do not wish to pursue an MS degree in global medicine, but hope to pursue or expand careers in global health care. Students will study current topics in global health and health care, and will have a strong grounding in cultural competence, specific diseases, and creating and implementing health interventions in developing countries.
Students take 16 units of graduate course work that may not be used or have been used for any other degree or certificate program. These units include two core classes and eight units of electives, as follows:

Core Courses

- MEDS 500 Basic Concepts in Global Health Units: 4
- MEDS 502 Global Epidemiology of Diseases and Risk Factors Units: 4

Elective Courses:

Students will take 8 units of electives, chosen in consultation with their adviser, from among all MEDS courses numbered 510 or above. For example, there are groups of courses relevant to women's and family health; infectious diseases; health care in developing countries; working with diverse populations in the United States, etc.

Health, Technology and Engineering Graduate Certificate

Academic Director: Terry Sanger, MD, PhD, *Provost Associate Professor of Biomedical Engineering, Neurology, Biokinesiology, and Physical Therapy*
Administrative Director: George Tolomiczenko, PhD, *Assistant Professor, Neurology*

This program offers current second-year USC PhD engineering students and first-year MD students an opportunity to learn about and gain experience in medical device and process innovation. Through project-based and interdisciplinary collaboration, students will augment their current programs with a set of courses and lab experiences linking medical and engineering research groups. By applying design-informed approaches toward problem identification and solution prototyping, students will be involved in all the steps of medical device innovation from conception to commercialization. The program aims to create interdisciplinary, boundaryspanning, inventive entrepreneurs seeking early practical experience with device and method innovation in health care. Program participants will form bonds with a group of like-minded medical students and engineers who will be their mentors, colleagues and contacts as they advance in their careers.

The courses unique to the program include a seminar sequence (Topics in Health, Technology and Engineering), which must be taken during the first two years of involvement with the HTE@USC program, a case studies sequence taken during the second year and a research course to earn project-related credits:

Courses

- BME 566a Topics in Health, Technology and Engineering Units: 2
- BME 566b Topics in Health, Technology and Engineering Units: 2
- BME 566c Topics in Health, Technology and Engineering Units: 2
- BME 566d Topics in Health, Technology and Engineering Units: 2
- BME 567a Case Studies in Health, Technology and Engineering Units: 1
- BME 567b Case Studies in Health, Technology and Engineering Units: 1
- 790-Research (in the student's major department) Units 2-8

Additional Requirements

Other required courses that are part of the MD curriculum (PhD students enroll in INTD course versions of the same courses open only to HTE students on CR/NC basis):

- INTD 621a Introduction to Clinical Medicine (ICM) for THE Units: 3
- INTD 621b Introduction to Clinical Medicine (ICM) for THE Units: 3

- INTD 622L Pre-clinical System Block for Health, Technology and Engineering Units: 3, 4, 5, 6, 7, 8, 9

Note:
Candidates interested in applying should contact HTE@usc.edu via email.

Dual Degree

Doctor of Medicine/Master of Business Administration (MD/MBA)

In response to the ongoing reorganization of health care delivery systems, and the growing awareness of the impact of business decisions on health care, the Keck School of Medicine and the USC Marshall School of Business jointly offer an innovative program for individuals seeking knowledge in both medicine and business administration. The program is designed to prepare its graduates to assume leadership in the design and management of health care systems.

The MD/MBA program spans five years. Interested students apply during their second or third year of medical school, and begin required MBA courses following successful completion of the first two or first three years of medical school. The remaining time is devoted to the clinical clerkships of the Keck School of Medicine and completion of graduate business elective courses. At the conclusion of the program, students will have completed 48 units in the Marshall School of Business, including required and elective courses, and four years of courses in the Keck School of Medicine. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units.

First and Second Years: Required medicine courses.

Third or Fourth Year: Required MBA courses and graduate business electives.

Remaining Years: Keck School of Medicine core, selective and elective clerkships and graduate business electives.

Admission Requirements

Students who have a baccalaureate degree from an accredited college or university and have successfully completed at least two years in the Keck School of Medicine will be considered for admission to the Marshall School of Business. Requirements for admission to the regular MBA Program (with the exception of the GMAT) must be fulfilled by the medical student for admission to the Marshall School.

The MD and the MBA degrees are awarded simultaneously upon completion of their requirements by the Keck School of Medicine and the Marshall School of Business.

Doctor of Medicine/Master of Public Health (MD/MPH)

The joint MD/MPH program at the Keck School of Medicine is designed for individuals who envision a medical career that combines public health and medical disciplines. Many individuals entering careers as medical doctors or public health practitioners wish to acquire not only medical practice competencies, but also an understanding of the history, organization, goals and philosophy of public health. The joint MD/MPH program offers a broadbased orientation to public health while the student completes medical school requirements. The Master of Public Health degree provides increased knowledge of and sensitivity to the political, historical, economic and social environments of health promotion and health services delivery.

The MD/MPH program can be completed in four or five years. In the four-year curriculum, students begin the core MPH courses in the summer prior to beginning the first year of the medical school curriculum. Additional MPH course work is taken in the summer between the first and second years of medical school and during the summer before the beginning of the fourth year of medical school. In the five-year curriculum, students begin the core MPH courses following the successful completion of the first two years of medical school. The last two years of the program are devoted to clinical clerkships of the School of Medicine and to the completion of the elective courses and practicum (field experience) of the MPH program. At the conclusion of the joint degree program, students will have completed 42–46 units in the Master of Public Health program and four years of courses in the Keck School of Medicine.

Applicants must choose the four-year MD/MPH option in the AMCAS primary application. A separate statement of purpose will be required as part of the Keck Secondary Application. For the five-year MD/MPH, students who are enrolled in the Keck School of Medicine must apply to the Master of Public Health program no later than January of their third year. All requirements for admission to the regular MPH program must also be fulfilled by dual degree applicants.

All students in the MD/MPH program must meet course requirements, grade point average requirements and program proficiency requirements of both programs. Students must have a grade point average of 3.0 in the MPH curriculum to meet graduation requirements.

The MD and the MPH degrees are awarded simultaneously upon completion of the Keck School of Medicine and the Master of Public Health program requirements. For more information, contact the MPH Program Office at (323) 442-7257.

Doctor of Medicine/Master of Science, Global Medicine

The dual degree in Doctor of Medicine and Master of Science in Global Medicine will provide medical students with formal education in the field of global health. Students will benefit from a curriculum that supplements and strengthens their medical knowledge with additional expertise in cultural competence, the specific diseases that affect various populations worldwide, and the unique issues respective to practicing medicine in a developing country or in vulnerable, underserved populations domestically.

Requirements

Current enrollment in the Keck School of Medicine MD program and successful completion of at least the first two years of the MD curriculum are required prior to submitting an application to the MS in Global Medicine program for admission to the dual degree program. Students must gain admission to and fulfill the degree requirements for both programs, which include four years of course work for the Doctor of Medicine and 24 units of the MS in Global Medicine (Clinical track only).

For the dual degree with Global Medicine Clinical Track, 24 GM elective units should be successfully completed. The MD and the MS in Global Medicine degrees are awarded simultaneously upon successful completion of both degree requirements.

Program Adaptation

For the dual degree with Global Medicine Clinical Track, there are no Global Medicine core unit requirements. Students enrolled in MD/MSGM dual degree will be eligible to apply 2 GM study-abroad elective units and 2 other GM elective units (except MEDS 503, MEDS 504, MEDS 520, MEDS 524 and MEDS 530a, MEDS 530b, MEDS 530c) toward their MD program elective requirements. GM Management Track electives cannot be applied toward either degree requirements.

Master of Science, Global Medicine/Doctor of Pharmacy (PharmD/MS)

The dual degree in Pharmacy and Global Medicine is designed for students who are interested in providing pharmaceutical care to underserved populations around the world. Students enrolled in this dual degree program will benefit from an advanced understanding of the role of, and issues surrounding, modern medicine in developing countries.

Requirements

Students must gain admission to and fulfill the degree requirements for both programs, which include 138 units for the Doctor of Pharmacy and 24 units for the MS in Global Medicine. Six units of MEDS elective units can be used toward the PharmD elective requirement, and PHRD 503 and PHRD 504 substitute for MEDS 503 and MEDS 504.

Program Adaptation

Because MEDS 503 and MEDS 504, core requirements for the MS in Global Medicine program, cover the same material as PHRD 503 and PHRD 504, the PharmD/Global Medicine dual degree program substitutes PHRD 503 and PHRD 504 for MEDS 503 and MEDS 504 as core requirements for the dual degree.

Medicine (MD/PhD)

Departments and programs of the University of Southern California and the California Institute of Technology participate in the joint MD/PhD degree program administrated by the USC Graduate School, the Keck School of Medicine and the California Institute of Technology. This program integrates the medical school curriculum with graduate curricula in the basic sciences, to provide a unified course of study leading to both the MD and PhD degrees.

This program is especially designed to prepare highly qualified students for careers in academic medicine and medical research. Formal course work and dissertation research provide the student with in-depth scientific preparation and research experience which enhances the application of basic science information to the diagnosis, treatment and prevention of disease. Conversely, the PhD education becomes more meaningful because of its disease-oriented emphasis.

The curriculum for MD/PhD students differs from that of PhD graduate students in the basic sciences in that the former take medical school courses as well as selected graduate level basic science courses and specific courses designed for MD/PhD students. The integrated training of the MD/PhD program enables students to compress their total academic effort by applying some course work toward the requirements of both degrees. On average, completion of the combined program requires a total of eight years.

The following graduate programs from the Keck School of Medicine participate in the MD/PhD program:

- Cancer Biology and Genomics
- Development, Stem Cells and Regenerative Medicine
- Medical Biology
- Molecular Structure and Signaling
- Biological Sciences/Neurosciences, Molecular and Computational Biology
- Engineering
- Preventive Medicine (Biostatistics, Epidemiology, IPR/Health Behavior, Molecular Epidemiology)

Selected graduate programs from the USC Viterbi School of Engineering and the USC Dornsife College of Letters, Arts and Sciences also participate in the combined degree program.

Time limits for qualifying examinations and other procedures are determined by considering MD/PhD students as medical students for the periods when they are following the medical curriculum and as full-time graduate students during their years of graduate research prior to advancement to the Junior/Senior Continuum.

MD/PhD candidates have the option of pursuing a laboratory experience before beginning the Year I medical curriculum through a laboratory rotation at either USC or the California Institute of Technology. This laboratory experience is strongly encouraged although not required.

During the first two years of their program, MD/PhD students follow the medical school curriculum and gain added exposure to research faculty through a special survey course. Students are guided by the MD/PhD executive committee, which outlines the integration of the graduate program with the medical school curriculum and serves as the students' liaison until they have selected a graduate program and graduate research adviser. The graduate programs vary widely in the extent to which they allow credit toward the PhD for courses taken during the first two years of medical school. MD/PhD students are encouraged to select a graduate program by early spring of the second year of medical school. Students are required to apply for admission to the PhD program of their choice by the recommended deadline on the graduate application.

Prior to entering PhD studies, the Keck School of Medicine allows MD/PhD candidates the option of beginning their clinical training by taking one six-week required clerkship in either Family Medicine or Pediatrics. This can provide an early introduction to clinical medicine and a context for integration with the basic sciences of the thesis years.

Beginning with the third year of the MD/PhD program, students enter their selected program as full-time graduate students. Although the content of graduate courses required of MD/PhD students is generally identical to that required of PhD students in the same graduate program, MD/PhD students are permitted greater latitude in the scheduling of their graduate courses. Four years are commonly necessary to fulfill requirements for the PhD, including course work, qualifying examinations, independent dissertation research, and writing of the dissertation.

After completion of the graduate program, the student is advanced to the Junior/Senior Continuum and completes the final two years of clinical training required by the medical school curriculum. No portion of clinical training is deleted from the joint program. Prior to entering the clinical component of the joint degree, students will be expected to participate in a clinical shadowing experience, which could be done throughout the PhD studies or as part of an intensive program prior to entering the clinic. Students will also be required to participate in the Medical Scholars Program clinical tutoring skills program held in the spring of each year and re-take the Year II Objective Structured Clinical Examination at the end of May with the second year medical students.

Keck School of Medicine-Caltech MD/PhD Program

A joint program between the Keck School of Medicine and the California Institute of Technology (Caltech) was established for the granting of the MD/PhD degree. Students do their preclinical and clinical work at the Keck School of Medicine and their PhD work with any member of the Caltech faculty, including the biology, chemistry, engineering, applied sciences divisions and interdisciplinary programs divisions.

Admission to this joint program is made through the usual Keck/USC MD/PhD process. All applicants are interviewed at Keck School of Medicine and Caltech. Matriculated students in this program have the option of doing their PhD at USC or Caltech. The MD degree will be awarded from the Keck School of Medicine and the PhD from Caltech.

Further information about the MD/PhD program at the Keck School of Medicine may be obtained by contacting: MD/PhD Program, Keck School of Medicine, 1975 Zonal Avenue (KAM 200), Los Angeles, CA 90089-9023; (323) 442-2965, FAX: (323) 442-2318; email mdphdpgm@med.usc.edu.

Doctoral Degree

Medicine (MD)

The Keck School of Medicine awards the Doctor of Medicine to enrolled students who have satisfactorily completed the four-year curriculum of the school. This curriculum integrates instruction in all departments of the school: Department of Anesthesiology, Department of Biochemistry and Molecular Biology, Department of Cell and Neurobiology, Department of Dermatology, Department of Emergency Medicine, Department of Family Medicine, Department of Medical Education, Department of Medicine, Department of Molecular Microbiology and Immunology, Department of Neurological Surgery, Department of Neurology, Department of Obstetrics and Gynecology, Department of Ophthalmology, Department of Orthopaedics, Department of Otolaryngology — Head and Neck Surgery, Department of Pathology, Department of Pediatrics, Department of Physiology and Biophysics, Department of Preventive Medicine, Department of Psychiatry and the Behavioral Sciences, Department of Radiation Oncology, Department of Radiology, Department of Stem Cell Biology and Regenerative Medicine, Department of Surgery and Department of Urology.

The sections that follow provide a synopsis of the emphases and organization of this four-year curriculum.

Years I–II (two academic years)

The curriculum is designed to enhance the students' understanding

of the basic sciences and their relevance to clinical medicine. The methodology used will improve students' problem-solving and independent study skills. Curriculum themes are delivered in a case-centered format with the integration of small-group learning sessions, directed independent study and newer instructional technologies emphasized.

Year I–II begins in the first semester with Foundations of Medical Sciences followed by organ system review ending with Integrated Case Study section. There is an eight-week summer break between the first and second years. Students also take Clinical Translational Research (CTR), Evidence Based Medicine (EBM), Introduction to Clinical Medicine (ICM) and Professionalism and the Practice of Medicine (PPM).

Each week of the academic year is composed of approximately 20 hours of lecture and small group sessions with an additional 20 hours of independent directed study, CTR, EBM, ICM and PPM. Examinations in all systems throughout the first two years are graded Pass/Fail.

Foundations of Medical Sciences (FMS)

This 19-week introductory system provides the student with the fundamental knowledge necessary for the integrated study of the basic and clinical sciences in the human organ systems. Foundations of Medical Sciences is divided into three sections: FMS I, II and III. The overreaching goal for these sections is the use of knowledge of medical science to describe basic concepts relating to the structure and function of the human body in normal and diseased states, and thus, provide a foundation for comprehending the disease-specific content required to achieve the case-based objectives in subsequent organ systems.

Gross Anatomy

Cadaver dissection remains a unique teaching tool by which the three dimensional organization of the human body is studied. Gross Anatomy will begin in the Core Principles of health and disease system with the dissection of the body wall and major body cavities followed by head and neck dissection in the neurosciences system, limbs, dissection during the musculoskeletal system and pelvic cavity dissection in reproduction system. Continued study of gross anatomy by use of prosected anatomical specimens as well as computer programs, selected review lectures, and so on, continues throughout the integrated organ systems.

Introduction to Clinical Medicine (ICM)

ICM expresses the strongly patient-centered orientation of the medical school curriculum. The student is introduced to patients and is involved in patient care activities from day one. Students are introduced to the principles of patient care and management and examine what it means to be a physician and how one becomes a physician.

The major content areas of the course include communication in the setting of illness, the unified concept of health and disease (the biopsychosocial model), basic clinical skills and the correlation of basic science with clinical medicine.

ICM emphasizes the systematic acquisition of the clinical skills of interviewing, history taking, physical examination, elementary clinical problem solving and medical record keeping. Throughout the Year I–II continuum, the ICM clinical skills curriculum is integrated with basic science instruction. Students can therefore learn and apply basic science knowledge in the clinical setting. By encouraging a thorough understanding of the direct applications of basic science research to modern clinical medicine, instructors motivate the student to learn, use and retain more of the content and concepts presented in the basic science portions of the curriculum.

A group of five or six students spends from four to eight hours each week with an instructor from the clinical faculty who remains with the group for one to two years. As the group deals with basic medical themes (death, pain and helplessness) and issues (patient responsibility, learning to live with ambiguity and uncertainty), instructors help students to cope with their own feelings. This format opens the door for student-faculty interaction and improvement of student-faculty communication.

Instructors encourage students to take advantage of the learning experiences provided by their roles as helping and therapeutic persons. Students develop their ability to communicate with patients in the setting of illness and are guided by patient concerns to enhance their own growing knowledge, skills, abilities and responsibilities. Students are expected to acquire skills and habits of self-education and self-instruction that will prepare them for lifelong learning.

The unified concept of health and disease presented in this course enables students to comprehend the human organism in all its complexity. Using their clinical experiences as a teaching model, students are taught to consider the patient as an integrated whole and to view the patient's illness or disease as more than simply a disruption of physiologic processes or a collection of physical findings.

Additional learning experiences occur through workshops and focus experiences. ICM workshops provide standardized instruction in history taking and physical examination, as well as integrated instruction in areas that cross disciplines. These include physician well-being, substance abuse, domestic violence, and ethics. Through focus experiences, students are encouraged to explore a variety of practice environments as well as community-based health and social services. For example, students may visit outpatient clinical settings, a geriatrics long term care facility, a hospice care facility or homeless services organizations.

Professionalism and the Practice of Medicine (PPM)

The purpose of the PPM course is to create a community and social context to provide, identify and facilitate learning from professional role models for students throughout the first two years of the medical school curriculum, as well as to help students gain skills and competence in the areas of communication, the social and community context of health care, ethical judgment, self-awareness and reflection, self-care and personal growth, professionalism, cultural competence, and lifelong learning. The curriculum is dynamic and interactive, allowing for much small-group discussion and participation. Students are encouraged to work collaboratively and enhance small-group skills, in order to improve their participation in Introduction to Clinical Medicine (ICM), Gross Anatomy, MDL laboratories and large-group sessions, as well as to prepare them for the team work of their clinical years.

The PPM course sessions meet on Monday afternoons, typically for two hours per session. The students meet in groups with two faculty members, who serve as their mentors throughout the first year of their pre-clinical education; at least one mentor is a clinician. The clinical faculty comes from multiple disciplines within Keck and the local community. While the course features large lectures, there is a great emphasis on small-group learning acquired from community leaders, faculty-mentored small-group discussions, student presentations and student-led sessions.

The students participate in a core curriculum in Year I, which includes general topics such as cultural competence, ethics, health care policy and finance, professionalism, and empathy. In Year II, the students are allowed to select from nine different areas of interest (selectives), and meet in groups with faculty having expertise in the given area. Examples of selectives presented include advanced ethics, medicine and the mind, spirituality and medicine, medical arts and humanities, global health, complementary and alternative medicine, medicine's intersection with technology, physicians operating outside their comfort zones, and the future of health care.

The PPM course provides students with an opportunity to build a professional identity, develop relationships with faculty mentors, and increase team-building and community-building skills. Students receive an introduction to the concepts of professionalism and ethics, with a better understanding of their real-world implications. The PPM course encourages leadership while engaging in the process of learning, characterized by presentations within both small and large groups, as well as professional development through exposure to multiple professional, ethical, and cross-cultural scenarios, cases, and providers. Evaluation is provided through student submission of portfolios containing written self-reflections, responses to faculty and peer feedback, and evaluations completed over the course of a

two-year longitudinal curriculum. Finally, PPM hones sensitivity and skills relevant to medical professionalism to better prepare students for their transition into the clinical years of the medical school curriculum.

Clinical Translational Research

This course, a series of on-line lectures accompanied by small group discussion sessions, is intended to introduce students to the methods of clinical and translation research (CTR) and prepare them for carrying out research as medical students. Students are required to complete a Required Scholarly Project (RSP) and this course will provide students with the basic skills and competencies needed to plan, conduct, and complete their RSP. Regardless of a student's future career path, the practice of medicine will be driven by the findings of CTR. Rapid advances in basic sciences, driven to new technologies such as genomics, have brought exciting new possibilities for identifying people at risk for disease, for identifying disease in its earliest stages, and in targeting therapies on an individual basis. On the verge of a new era of "personalized medicine", healthcare provision is driven by what is known about the characteristics of each individual and of the diseases that they may have.

CTR represents the research approach for moving from basic discovery in the laboratory to application in individual patients and in making populations healthier. Medical researchers have long carried out patientoriented or clinical research. The term CTR is more recent, coming into use over the last decade in recognition of the research continuum from basic discovery in the laboratory to application in patients and on to populations. One problem in bringing discoveries into practice has been a gap between the work of laboratory researchers and clinical investigators; CTR bridges that gap.

Evidence Based Medicine (EBM)

Evidence-based medicine (EBM) is the clear, conscientious, and prudent use of current best evidence in making patient care decisions. Evidence-based guidelines are considered to be the basis for decision-making in clinical practice, guiding screening, diagnosis and treatment. In a new era of health care reform, EBM will likely be given even greater weight and outcomes are tracked carefully in order to evaluate the effectiveness of guideline-driven care.

Evidence-based practice is primarily based on five well defined steps: 1) Asking Focused Questions: translation of uncertainty to an answerable question; 2) Finding the Evidence: systematic retrieval of best evidence available; 3) Critical Appraisal: testing evidence for validity, clinical relevance, and applicability; 4) Making a Decision: application of results in practice; and, 5) Evaluating Performance: auditing evidence-based decisions.

EBM foundational material is taught during Foundations of Medical Sciences I as part of the biostatistics and epidemiology curriculum. Along with the clinical and translational research series during the first year of medical school, this information lays the foundation for the EBM curriculum during the remaining years of instruction.

Organ System Review

A sequence of study presenting integrated basic and clinical science instruction involving human organ systems — skin, hematology and clinical immunology, neurosciences, musculoskeletal, cardiovascular, renal, respiratory, endocrine/metabolism, reproduction, gastrointestinal/liver — follows Foundations of Medical Sciences.

Integrated Case Study

This section completes the second year of the Year I–II continuum and emphasizes patient-centered problems that integrate the basic and clinical science presented in the preceding organ systems. Students will explore the multi-organ effects of disease processes and reinforce diagnostic reasoning skills. In addition, concepts of pathophysiology, evaluation and management that can be applied to any organ system will be included. This section will also reinforce the appropriate use of medical information resources, effective self-directed learning skills, and interpersonal and group communication skills.

Separate review sessions of the important basic science and clinical concepts covered during the previous two years also occur during this seven-week section. These sessions will assist students in preparing to take Step I of the United States Medical Licensing Examination (USMLE).

By early spring of the second year of the Year I–II continuum, students are expected to select their academic clinical advisers and to begin arranging the schedule of clerkships to be taken during Year III–IV. By the end of the fall semester, Year II, each student receives information that describes the curriculum requirements of Year III–IV. Students choose the area of medical practice that they are most likely to pursue and an adviser is assigned from that discipline. The adviser counsels the student on clerkships and opportunities in graduate medical education.

Required Scholarly Project

The Required Scholarly Project (RSP) is designed to provide medical students with the opportunity to become engaged in hypothesis-driven research to promote analytical thinking skills and ultimately, physician leaders. The aim of the RSP is to expose students to the process of scientific inquiry, teaching them how to formulate an answerable question and the requisite methodology in seeking appropriate answers. Each student undertakes a faculty mentored research project in a discipline of his or her choice. Viable disciplines encompass a wide spectrum to include: biomedical research, from discovery to application, and health care, i.e., basic science, clinical, educational, behavioral science, health services, community and epidemiological activities. The RSP is interwoven with the curriculum, which includes didactic instruction on topics such as study design and biostatistics. The RSP is a longitudinal experience throughout all four years of medical school, with successful completion being required for graduation. Students with projects deemed meritorious by the RSP steering committee will receive "Distinction in Research" recognition at graduation.

Year III–IV (two academic years)

The final two years of medical school are designed as a continuum of two calendar years, beginning in July at the end of Year II. During the spring of their second year, students schedule clerkship rotations to be taken during the two years. Each student's program is designed with the assistance of faculty advisers and includes 50 weeks of required clerkships, 16 weeks of selective clerkships and 16 weeks of elective clerkships.

All degree candidates are required to take Step I of the United States Medical Licensing Examination (USMLE) prior to entering Year III or within six months of completion of Year II (whichever comes first). Students must pass Step I, II CK and CS of the USMLE as a graduation requirement.

During Year III–IV, each student may schedule up to 14 weeks of discretionary time for personal convenience, remedial work, funded research work and other non-curricular activities, such as investigating postgraduate training programs. Although every effort is made to provide flexibility in the scheduling of each student's program, some inherent limitations are imposed by the maximum enrollment permitted for each clerkship. Students are a vital part of the university's medical team, which provides health care for patients throughout the year. Vacations are therefore subject to some scheduling adjustments.

Required Clerkships

- Family Medicine 6 weeks
- General Surgery 6 weeks
- Surgical Subspecialty 4 weeks
- Internal Medicine 6 weeks
- Internal Medicine Sub-internship 4 weeks
- Neurology 4 weeks
- Obstetrics and Gynecology 6 weeks
- Pediatrics 6 weeks
- Psychiatry 6 weeks
- Intersession 2 weeks (two, one-week sessions)

Intersession I and II

The Intersession curriculum is two, one-week sessions established for Year III students that will enable learners to pause, reflect and consolidate the many and varied clinical experiences that they encounter in their third year of medical school; to promote advanced clinical skills, professional development, health policy formulation and ethical decision-making, and patient safety; and to further prepare for the residency application process.

This individualized curriculum will allow students to revisit and focus basic-science topics through the prism of newly learned clinical material and to foster capacity for the analysis and formulation of health care policy in light of the political, economic, legal and social, and ethical dimensions of health care.

Students will be instructed in a systems-based approach to patient safety by stimulating the imagination, curiosity and skills of close observation and careful interpretation through engagement with the arts and humanities. Developing and building advanced clinical skills by acquiring, appraising and applying evidence in the context of individual patient decision-making, (i.e., Evidence Based Medicine) are two important goals of the Intersession curriculum.

Providing comprehensive, coordinated and consistent career advising along with fostering the continuing professional development of the learners in the frame of clinical practice are key components. Finally, the curriculum will provide ongoing instruction in the provision of culturally competent care and prepare learners for their required community project.

Selective Clerkships

Students are required to schedule 16 weeks of selective clerkships, chosen from a list of four-week clerkships approved by the Clinical Curriculum Committee. Selective clerkships are carried out at USC-affiliated hospitals and encompass virtually all specialty areas. Information is available at medweb.usc.edu.

Elective Clerkship

The elective period consists of 16 weeks, during which electives may be taken on campus, at USC-affiliated hospitals or at more distant medical schools or medical centers. Approved on-campus electives that are offered regularly are listed in the elective catalogue.

Proposals for other on-campus and off-campus electives are reviewed individually by a faculty adviser. All petitions must be submitted at least six weeks before the beginning of the rotation. Off-campus electives require documentation from the off-campus preceptor, endorsement of the student's medical school adviser, and prior approval and review by the Clinical Curriculum Committee. Credit is not given for electives until an evaluation has been received from the preceptor. Students with an academic deficiency may not schedule off-campus electives.

Business of Medicine (BOM)

This course, designed for Year III medical students, will introduce students to the fundamentals of the business of medicine, including the nuts and bolts of medical business, practice management and law, physician leadership, health care finance, and health care quality and costs. The BOM course will be case-based and interactive, and facilitated by leaders in the fields of health care business and management.

Program in Medical Humanities, Arts and Ethics

This four-year curriculum begins with collaborative discourse about ethical problems to help students learn to identify, analyze and resolve clinical ethical problems. This exercise is followed by interim skill building/maintenance and by instructor-facilitated discussion of videotaped ethics cases.

In Year II, the program focuses on ethical discernment and action in simulated settings and the study of the human dimensions of medicine. Standardized patients interact with students to help teach the telling of bad news, and students also learn from the humanities about patients as persons. The program concludes with a forum theatre in which students must decide what action to take based on their own convictions.

Year III is devoted to ethics education by clinical role models and encompasses instruction in the core clerkship by ethical standard-bearers. Students also participate in home hospice care and pain management cases.

During Intersession, the program includes a series of sessions that focus on contemporary health care and the physician-in-society. The goal of the sessions is to provide students with the experience of integrating the principles, methods and bedside issues included in Years I–III of the program. Students practice applying the micro-level (individual/clinical) decisions to the ethical dilemmas and policy issues that face physicians at the mezzo-level (health care organizations), and to the macro-level (profession as a whole, state and nation). Topics include issues of professionalism; allocation of resources; the economics, organization and societal oversight of health care; and the care of dying patients.

Fifth-year Research Option and Dean's Scholars

USC offers students the opportunity to take a full year of research experience with either a Keck School of Medicine faculty mentor or an approved faculty mentor at another institution. This program is open to any student in good academic standing who has completed his or her first year of medical school. Students interested in the option should identify a faculty preceptor and present a description of the proposed research program and funds available in support of the program to the director of the fifth-year research option. Application for this program is made through the Office for Student Affairs (KAM 100B) and will be supervised through the Office of the Senior Associate Dean for Student Affairs and Educational Affairs (KAM 100D). A stipend, comparable to that received by a graduate student at the postgraduate level, is available for selected dean's research scholars pursuing this option.

PhD Programs in Biomedical and Biological Sciences (PIBBS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-1609
FAX: (323) 442-1199
Email: pibbs@usc.edu
pibbs.usc.edu
Program Director: Ite Laird-Offringa, PhD

The USC PhD Programs in Biomedical and Biological Sciences (PIBBS) is a gateway program into graduate studies at the USC Health Sciences Campus, leading to a PhD degree in a broad range of biological and biomedical disciplines.

PIBBS students experience a common first-year curriculum that will build a solid foundation in biomedical and biological sciences. Students are required to complete 25 units of core classes during the fall, spring and summer semesters of the PIBBS year, including courses in cell biology, molecular biology, human genetics and genomics, biostatistics, bioethics and scientific writing. Students will also complete three research rotations during the first year.

At the end of the spring semester of the first year, students will select a faculty adviser and a specific PhD program from among the four participating programs listed. In the second year, students will take classes that will differ depending on the PhD program they join; second year classes may include, but are not limited to, topics such as biochemistry, epidemiology, stem cell biology, molecular genetics, cancer, human genomics, immunology and physiology. In addition, each student will complete qualifying examinations for the chosen PhD program and will develop and complete an original research project that will serve as the basis for a doctoral dissertation.

PhD Graduate Programs

Cancer Biology and Genomics
Development, Stem Cells, and Regenerative Medicine

Medical Biology
Medical Biophysics
Molecular Structure and Signaling

PIBBS Admission Requirements

Application Deadline (priority review): December 1

Applicants to PIBBS should have a baccalaureate degree in natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science.

Applicants should have a strong record of academic achievement and satisfactory performance on the general and advanced portions of the GRE. Other requirements for admission include: a detailed statement of purpose as well as three letters of recommendation, one of which should be from a wet laboratory or computational research mentor. Previous research experience is expected. Students are admitted for the academic year in the fall semester. Applicants who are accepted with minor deficiencies are expected to correct these during the first year following enrollment. Although there is no formal application deadline, complete applications received by December 1 will be given priority.

Financial Support

Admitted students are supported by research assistantships or fellowships during their graduate career. Tuition, health insurance and health fees are also covered.

Lab Rotations

During the first year, students register for INTD 790 Research (4 units in the fall semester and 3 units in the spring semester) and rotate through the labs of three faculty members of the program (potential research advisers). By the first summer of graduate study, but no later than after 12 months in the program, each student is expected to have selected a faculty mentor/research adviser.

PIBBS Required Core Curriculum and Research

See PIBBS Required Core Curriculum and Research

Admission Requirements for PhD Programs

Admission to the Keck School of Medicine PhD program is open to all incoming PIBBS students provided all PIBBS admission requirements are met and all first year course and lab rotation requirements have been satisfactorily completed. Students from other sources, such as MD/PhD students and clinician scientists, may also be eligible on a case-by-case basis.

In general, new graduate students apply for admission to USC through the PhD programs in Biomedical and Biological Sciences (PIBBS), and become enrolled in one of four PhD programs at the Keck School of Medicine after the successful completion of the PIBBS year. During the PIBBS year, students must complete the core curriculum of 25 units, maintain a 3.0 grade point average with no grade lower than a C on all courses and must complete three laboratory rotations in order to continue into a PhD program.

Application information is available by contacting the PIBBS Program at pibbs@usc.edu.

Unit/Course Requirements

A minimum of 60 units of graduate course credits is required for the PhD, including course work, seminars, research and dissertation units. No more than 8 units of 794 may be applied toward the PhD degree. Students must complete the first year PIBBS core curriculum as well as course requirements for their specific PhD program. Thirty units of course work, including the PIBBS core curriculum, must be completed before they are considered for the qualifying examination. Additional course work relevant to the research interests of the student may be required by the student's qualifying exam committee or by the student's faculty adviser.

Guidance Committee

After 30 units of course work, which includes the PIBBS core curriculum and course requirements for one of the four PhD programs, the student, in consultation with his/her faculty adviser, will nominate five faculty members to serve on the guidance committee for the qualifying examination. A minimum of three of the faculty must be from the student's PhD program, and one must be a faculty member from outside the PhD program. The chair of the guidance committee must be a member of the student's PhD program and the faculty adviser is not allowed to be on the committee (but may be a silent presence during the exam). These nominations are submitted to the chair of the program for formal appointment.

Qualifying Examination

Students in the PhD program must pass both the written screening and the oral portions of the qualifying examination administered by their guidance committee during the second year of graduate study.

The written screening exam involves writing a research grant proposal. The deadline for completion of the written screening is January 5 of the second year. Students who receive a failing score will be allowed one resubmission, with a deadline of April 5 of the same year. The written portion must be passed before the oral portion can be taken.

The oral examination must be completed no later than September 1 of the beginning of the third year and only after successful completion of the written screening exam. The oral examination consists of two parts. The first part consists of a presentation of the proposed thesis research. The second part consists of an open forum in which the guidance committee asks general questions on any topic related to the student's research.

Final evaluation of the examination is determined by a consensus of the guidance committee. If a student fails, it is at the discretion of the committee to allow the student to repeat the oral examination within 60 days. A second failure will be grounds for dismissal from the program.

Advancement to Candidacy

Recommendation for advancement to candidacy for the PhD degree is made on the basis of the successful completion of the qualifying examination, course requirements and the student's maintenance of at least a 3.0 GPA. A student who has not been recommended for advancement to candidacy at the end of the first semester of the third year will be dismissed from the program.

Annual Research Appraisal (ARA)

After advancing to candidacy, each graduate student presents a progress report to his or her dissertation research committee. Prior to the meeting, the student prepares a short written document describing significant experiments, problems and projected studies. This document is distributed to the committee and is included in the student's file. The ARA meeting is intended to be a working session between the student and his or her committee; experimental results and problems are discussed with this context. In addition the student presents a research plan for the next year of work. A satisfactory ARA is required of every student for each year of residence after the completion of the qualifying exam. A final ARA is required the semester before the student is permitted to defend the dissertation.

Dissertation Committee

After advancement to candidacy, the student must form a dissertation committee, in consultation with their faculty adviser. A minimum of three committee members must be selected, one of which is the faculty adviser, and at least one of which must be a tenured or tenure-track faculty member of the student's PhD program. One committee member may be non-tenure track. The chair of the dissertation committee must be a member of the student's PhD program and may not be the faculty adviser. The dissertation committee is responsible for counseling the student during preparation of the dissertation and conducting the final oral examination during the dissertation defense. Students are expected to meet with the dissertation committee once per year to discuss progress.

Dissertation committee members are expected to read and comment on a dissertation within two weeks from its submission. The student and faculty will coordinate a timeline for the student to present the thesis to the dissertation committee. This timeline must

allow all dissertation committee members enough time to fulfill their responsibilities within the four-week deadline.

Dissertation and Oral Defense

The student's research is reported in a dissertation written under the guidance of the dissertation committee. The dissertation must demonstrate the student's capacity for independent research, scholarly achievement and technical mastery of a special field. Students should have at least one first author publication accepted in a peerreviewed journal before the defense.

When the final draft of the dissertation is ready, the student will take the final oral defense. Students must submit their dissertation to the dissertation committee at least one month before the student expects to make final revisions; committee members are expected to respond within two weeks.

The dissertation defense is a formal public presentation of the student's research before the program faculty and students. Dissertation defenses must be publicized at least two weeks prior to the oral defense.

All doctoral candidates must be registered in 794 Doctoral Dissertation each semester (excluding summer sessions) from the time of their advancement to candidacy until their dissertation is approved and submitted to the Graduate School.

Doctoral Degree

Cancer Biology and Genomics (PhD)

The PhD program in Cancer Biology and Genomics (CBG) focuses on training investigators in strategies to understand the mechanisms of cancer development and progression which includes cell biological and genomic approaches. The ultimate objective is to translate basic findings into diagnostics, treatments and ultimate cures. The program applies a multidisciplinary approach toward these goals, with the full realization that cancers in different organs represent different diseases. However all cancers relate to uncontrolled cell proliferation with many cancers having a strong genetic predisposition. Consequently, major features of this program include the breadth of medically related interests and training and faculty characterized by wide and varied skills in many cancer-related research areas. To facilitate the application of multidisciplinary approaches to make cancer a disease of the past, close and regular contact between participating faculty of different disciplines and students is a major theme of this PhD program.

Cancer Biology and Genomics students are required to take CBG 580 and CBG 504 and must complete a total of 4 units from the following: INTD 549, INTD 685, MPTX 500, PM 512, PM 517a, PM 517b, PM 533*, PM 534*, PM 570*, PM 579, PM 599 or other courses approved by the academic adviser. In the second year, students are required to register for CBG 580 in the fall and spring semesters. In the third and subsequent years, students should register for INTD 600 every fall and spring semester. In addition, students are required to complete at least 4 units of CBG 794a Doctoral Dissertation, CBG 794b Doctoral Dissertation.

PhD students must supplement course work by registering for CBG 790 Research during the fall, spring, and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Cancer Biology and Genomic, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

**Course requires prerequisite.*

Development, Stem Cells, and Regenerative Medicine (PhD)

The goal of the PhD program in Development, Stem Cells, and Regenerative Medicine is to train the next generation of investigators in the history and practice of developmental and stem cell biology. The ultimate aim is to understand how the genomes of animals are translated into complex morphological forms, and to apply this basic knowledge to the emerging field of regenerative medicine. Close and regular contact between participating faculty of different disciplines and students is expected to facilitate the application of multidisciplinary approaches toward regenerative medicine.

Development, Stem Cells, and Regenerative Medicine students are required to complete DSR 542 and at least 2 units from the following: DSR 610, DSR 620, INTD 504 or other courses approved by the faculty adviser. In the second and subsequent years, students are required to register in DSR 574 every fall and spring semester. In addition, students are required to complete at least 4 units of DSR 794a Doctoral Dissertation, DSR 794b Doctoral Dissertation.

PhD students must supplement course work by registering for DSR 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Development, Stem Cells, and Regenerative Medicine, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Medical Biology (PhD)

The objective of the PhD program in Medical Biology (MEDB) is to educate investigators to develop strategies to translate and implement knowledge from cellular, molecular and genetic advances into studies of normal human organ system function as well as mechanisms of human organ system dysfunction in disease and how to reverse this dysfunction by medical treatment. Animal disease models as well as clinical trials in patients are frequently used to advance this field.

The program applies multidisciplinary approaches to understanding the human organism as a whole. Breadth of medically related interests and training are major features of this track and wide and varied skills in many research areas characterize the faculty. To facilitate application of multidisciplinary approaches, close and regular contact between participating faculty and students is a major theme of this PhD program.

The MEDB program caters to MD/PhD students, clinician scientists and PIBBS students interested in but not limited to the following fields: immunology (including cancer immunology), virology (including cancer virology), microbiology, physiology and pathology (for example: diabetes, obesity, autoimmunity, infectious diseases, gastro-intestinal and liver diseases, heart and lung diseases, hypertension, central nervous system diseases, etc.)

Medical Biology students are required to complete 8 units from the following courses: INTD 504, INTD 522, INTD 549, INTD 550, INTD 551, INTD 572, INTD 573 or other courses approved by the faculty adviser. In the second and subsequent years, students are required to register in INTD 574 every fall and spring semester. In addition, students are required to complete at least 4 units of MEDB 794a Doctoral Dissertation, MEDB 794b Doctoral Dissertation.

PhD students must supplement course work by registering for MEDB 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Medical Biology, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Medical Biophysics (PhD)

The goal of the PhD program in Medical Biophysics (MBPH) is to train the next generation of structural biologists and biophysicists to a) be very familiar with the basic chemical and physical principles important in every living organism, b) be proficient with the theoretical and practical aspects of the of important experimental and theoretical biophysical methods, c) to be able to apply these

methods to answer fundamental biomedical questions, d) to become responsible investigators eager to translate their findings. The program includes all aspects of biophysics, with an emphasis on structural biology and on application of biophysical methods and theories to answer important biomedical questions.
The MBPH program is an inter-campus program that includes faculty from all over USC who not only have active biophysical research programs and serve as mentors, but also contribute to courses offered by the program. In addition, a monthly biophysics seminar series with presentations from USC and outside faculty will expose the students to current biophysical research. As the result, the MBPH program will teach a comprehensive overview about all aspects of biophysics including hands-on training in many biophysical methods. Consequently, students will obtain practical and theoretical knowledge as well as the necessary overview to be able to complete a successful thesis.

Medical Biophysics students are required to complete BIOC 522, CHEM 521 and one of the following courses: CHEM 488, CHEM 544, CHEM 565, CHEM 625, PHBI 650, PHBI 651, PSCI 557, PSCI 664, PSCI 665 or other courses approved by the faculty adviser. In the second and subsequent years, students are required to register in INTD 600 every fall and spring semester. In addition, students are required to complete at least 4 units of MBPH 794a Doctoral Dissertation, MBPH 794b Doctoral Dissertation.

PhD students must supplement course work by registering for MBPH 790 Research during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Medical Biophysics, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Department of Anesthesiology

Nurse Anesthesia Program

Doctor of Nurse Anesthesia Practice (DNAP)

Note: The MS in nurse anesthesia option is no longer accepting students. The MS option will end in August 2018.

Nurse Anesthesia Program
1540 Alcazar Street
Center for Health Professions #205
Los Angeles, CA 90089-9012
(323) 442-2037
FAX: (323) 442-1701
Email: uscnap@usc.edu
Website: keck.usc.edu/anesthesiology/training-education/nurse-anesthesia-program/

Program Director: Michele E. Gold, PhD
Associate Program Directors: Teresa Norris, EdD; Kären Embrey, EdD
Administrative Faculty: Jeffrey Darna, DNP; Judith Franco, EdD; Charles Griffis, PhD; Erica McCall, MS

Faculty

Chair and Professor: Holly Muir
Professors of Clinical Anesthesiology: Jack Berger; Mary Joseph; Michele Gold; Gligor Gucev; Steven Haddy; Philip Lumb; Carol Peden; Steven Richeimer; Duraiyah Thangathurai; Vladmir Zelman
Associate Professors of Clinical Anesthesiology: Dimiter Arnaudov; Eugenia Ayrian; Armed Darwish; Tara Humphrey; Sherif Kandil; Jeffrey Lee; Rana Movahedi; Rajesh Patel; Peter Roffey; Ashraf Sedra; Earl Strum; Fayez Takla; Joshua Tobin
Assistant Professors of Clinical Anesthesiology: Russel Alexander; Susan Alvarez; Rudolfo Amaya; Tawfik Ayoub; Jason Bang; Maxim Benbassat; Janak Chandrasoma; Isaac Chu; Connie Chung; Kari Cole; Kären Embrey; Talin Evazyan; Judith Franco; Sarah Giron; Emily Goldenberg; Assem Hemmed; Rougbeh Jahansouz; Wayne Kaufman; Michael Kerns; Rafat Khan; Michael Kim; John Lee; Rodney McKeever; Mojan Moallempour; Arash Motomed; Joshua Ng; Chuck Nguyn; Teresa Norris; Ellen Park; Linda Rever; Shawn Roofian; Angele Ryan; Hanna Schittek; Mandeep Singh; Samy Soliman; Shihab Sugeir; Candace Tay; Amy Thomas; Michael Tom; Puja Trivedi; Chelsia Varner
Instructors of Clinical Anesthesiology: Roberta Ashley; Deborah Avnet; Elizabeth Bamgbose; Brindusa Bauer; Colin Bell; Paula Belson; James Carey; Jennilyn Casalme; Adrian Castro; Melissa Dowling; Geoff Edwards; Kevin Faustino; Kristina Ferreira; Jacquelyn Fillingham; Jessica Frazier; Charlotte Garcia; Katharine Getz; Dolores Gibbs; David Godden; Jennifer Hogan; Dina Hunt; Monique Jabbour; Ronald Jarvina; Kelsey Johnson; Kim Jones-Tang; Andrea Kaek; Rory Keenan; Alla Kryukova; Vadim Kuraev; Dorothy Lim; Benjamin Lindsey; Jennifer Loshonkohl; Victoria McKinzie; Cameron Meyer; Cathy Ngo; Aileen Nguyen; Arthur Norcliffe; Michelle Olivares; Margaret Oliveto; Robert Olsen; Patricia Omoto; Nilu Patel; Nancy Perez; Erin Peters; Gabriel Punsalan; Seth Quiambao; Dhanya Renjith; Sara Rondinone; Joseph Sammut; Susan Shenkosky; Michelle Smith; Tahira Smith; Helen Stepan; Crystal Trinooson; Amanda Tucker; Regalado Valerio; Rhona Wang; Annie Wiley; Kelly Zhou

The nurse anesthesia program prepares qualified nurses in the professional doctorate of nurse anesthesia and qualifies the graduate to sit for the certification examination given by the National Board of Certification and Recertification of Nurse Anesthetists. The graduate attains a high level of clinical competence with an extensive body of didactic knowledge relevant to the specialty and advanced practice nursing. The mission of the USC Program of Nurse Anesthesia is scholarly education and professional development of future nurse anesthetists with the academic strength and leadership skills to advance our profession.

Students enrolling in the Doctor of Nurse Anesthesia Practice (DNAP) course of study must complete the nurse anesthesia core curriculum and specialty practicum. The program consists of 72 units and is completed in 36 months of continuous enrollment (nine semesters; the first semester courses (7 units) are provided in a hybrid online platform). The USC Program of Nurse Anesthesia has received accreditation through 2019 by the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs and continues its commitment to excellence in the education of its graduate students.

The program is based in the Department of Anesthesiology, and classroom instruction is provided by nurse anesthesia program faculty and faculty from the Department of Anesthesiology, the Department of Physiology and Biophysics, and the Department of Cell and Neurobiology within the Keck School of Medicine, as well as clinical faculty from the program clinical sites. Clinical training occurs at Los Angeles County + USC Medical Center, Keck Hospital of USC, Harbor-UCLA Medical Center, UCLA-Santa Monica Medical Center, Arrowhead Regional Medical Center, Long Beach Veterans' Administration Medical Center and West Los Angeles Veterans' Administration Medical Center for the primary rotations. Advanced rotations occur at those sites, as well as Cedars-Sinai Medical Center, Children's Hospital of Los Angeles, UCLA Medical Center and Northridge/Hallmark Pain Management and Surgery Center.

Pain Medicine Program

USC Pain Center
1520 San Pablo St, Building HCC 2, Suite #3450
Los Angeles, CA 90033
(213) 740-9158
FAX: (213) 821-2972
Email: painmed@usc.edu
Student Adviser: Claudia Lopez at Lope212@usc.edu

Faculty

Information for individual faculty: *painmed.usc.edu/faculty*
Steven Richeimer, MD, *Professor of Anesthesiology and Psychiatry, Chief, Division of Pain Medicine, Keck School of Medicine Program Director, Pain Medicine Fellowship, Diplomat in Psychiatry (ABP&N) Diplomat in Anesthesiology (ABA) Diplomat in Pain Medicine (ABA and ABPM)*
Glenn Clark, DDS, MS, *Professor and Section Chair for Diagnostic Sciences, Ostrow School of Dentistry, Director, Orofacial Pain/ Oral Medicine Center, Diplomat in Orofacial Pain, Fellow in Oral Medicine, Program Director, Conventional Orofacial Pain Residency Program, Program Director, Hybrid-Online MS degree in Orofacial Pain and Oral Medicine*
Professor: John Berger *(Professor of Clinical Anesthesiology)*
Associate Professors: Melissa Durham, *(Clinical Pharmacy & Pharmaceutical Econonomics and Policy)*; Susan Enguidanos *(Gerontology);* Shahin Sadik *(Anesthesiology);* Faye Miriam Weinstein *(Anesthesiology & Psychiatry and the Behavioral Sciences)*
Assistant Professors: Reyes Enciso, John Lee *(Anesthesiology)*; Mariela Padilla *(Periodontics, Diagnostic Sciences & Dental Hygiene)*; Kathryn Havens *(Biokinesiology and Physical Therapy)*; Shahin Sadik; Jonathan Chen Sum *(Physical Therapy)*; Ashley Uyeshiro *(Occupational Therapy)*; Yogi S. Matharu *(Physical Therapy)*; Sunita Puri *(GIM - PAT.Care)*; Armaity V Austin *(Family Medicine)*; William F. Spalding *(Anesthesiology)*
Adjunct Professors: Reed Levine *(Neurology)*; John D. Harwell *(Law)*
The administrative offices of the Pain Medicine programs are located on the University Park Campus. Faculty of the department are located predominantly at the Health Sciences Campus.

Master's Degree

Nurse Anesthesia (MS)

General requirements for admission include a minimum 3.0 undergraduate grade point average, a minimum score on the verbal and quantitative sections of the Graduate Record Examination of 300 (or a score of 1000 on the GRE prior to September 2011), completion of the university and Program supplemental application, current licensure as a Registered Nurse, a bachelor's degree in nursing or a related field from an accredited university or college, submission of an essay describing the applicant's career goals, professional resume and three letters of reference.

Competitive applicants will be interviewed and must demonstrate an acceptable understanding of the role and responsibilities of certified registered nurse anesthetists. Shadowing experience of CRNAs must be demonstrated. Selections are made on the basis of the formal interview and consideration of a variety of factors that include academic record, type and amount of clinical experience and professionalism.

Academic and Scientific Prerequisites

The admission requirements also include appropriate undergraduate course work in biology, anatomy, physiology, chemistry, biochemistry, physics and statistics (or nursing research). A minimum of one year of experience in critical care nursing as a registered nurse is required. Licensure as an RN in California and current BCLS, ACLS and PALS certifications are required prior to enrollment. Conversational Spanish is strongly recommended.

Computer Skill Requirements

During the program, students must have a personal computer or notebook with Internet. The primary mode of program communication is email. Computer accounts are provided by the university to all students and can be activated online.

Advisement

Prospective students should contact the program's admission office, (323) 442-2037 or uscnap@usc.edu for evaluation of previous course work and clinical background.

Admission

Admission procedures follow the information in the USC Graduate School section of this catalogue. Admission standards for the USC nurse anesthesia program are established jointly by the Keck School of Medicine, the USC Graduate School and the Department of Anesthesiology. Interested students should apply online at *usc.edu/admission/graduate/apply*. Additional admissions requirements and the supplemental application must be obtained from the nurse anesthesia program and can be requested through email at uscnap@usc.edu or accessed at *keck.usc.edu/nurse-anesthesia*.

Degree Requirements

Academic Courses

- ANST 500 Human Anatomy Units: 3
- ANST 501 Advanced Pharmacology of Anesthesia Practice I Units: 4
- ANST 502 Principles of Nurse Anesthesia Practice Units: 4
- ANST 503 Advanced Pharmacology of Anesthesia Practice II Units: 4
- ANST 504 Advanced Pathophysiology Related to Anesthesia Practice Units: 4
- ANST 506 Advanced Principles of Nurse Anesthesia Practice Units: 4
- ANST 508 Research: Investigative Inquiry Units: 3
- ANST 510 Leadership and Professional Aspects of Nurse Anesthesia Units: 3
- ANST 512 Research Integration: Capstone Experience Units: 2
- ANST 607 Advanced Health Assessment Units: 2
- INTD 572 Systems Physiology and Disease I Units: 4

Residency Courses

- ANST 505 Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 507 Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 509 Advanced Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 511 Advanced Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 513 Advanced Clinical Residency in Nurse Anesthesia III Units: 2

Total units: 47

Optional Course

- ANST 514 Specialty Fellowship Units: 2

Note:

All students will take the Self-Evaluation Examination (SEE) administered by the National Board of Certification and Recertification of Nurse Anesthetists twice while in the program. Student scores must be above the national mean for advancement into the research capstone experience.

Pain Medicine (MPM)

The Master of Pain Medicine is an online program with a total 27 courses (33 academic units), specifically designed for the practicing professional who wants to improve skills and gain expertise to deliver the best care for patients with complex pain conditions. The curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and management of pain conditions. The goal of this postdoctoral three-year master program is to give practicing health care providers advanced clinical, didactic, and evidence-based education in the field of Pain Medicine. The first year provides a foundation that years two and three build upon, giving the non-physicians the necessary background for the following two years. Nevertheless, physicians will also found the first year to be important to be a meaningful educational experience.

The students participate in weekly live online sessions with faculty and other program students, ensuring a collaborative and social learning experience. There are 2-3 courses per trimester, with 2-4 streaming video lectures for viewing each week. After

each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions).

Required Courses

- PAIN 701 Pharmacotherapeutics for Pain Units: 2
- PAIN 702 Pain Classification and Diagnosis - Part 1 Units: 2
- PAIN 703 Psychological Aspects of the Pain Experience: Individual and Units: 2
- PAIN 704 Pain and Society: Epidemiology and Cultural issues Units: 1
- PAIN 705 Pain Assessment: History and Physical Examination Units: 2
- PAIN 706 Musculoskeletal Anatomy and Pathology Units: 2
- PAIN 707 Pain Neuroscience Units: 2
- PAIN 708 Opioids Units: 1
- PAIN 709 Pain Classification and Diagnosis - Part 2 Units: 2
- PAIN 710 Advanced Pain Physiology and Neuroscience Units: 1
- PAIN 711 Research Methodology Units: 2
- PAIN 712a Pain Medicine Capstone Units: 0.5
- PAIN 712b Pain Medicine Capstone Units: 0.5
- PAIN 712c Pain Medicine Capstone Units: 0.5
- PAIN 712d Pain Medicine Capstone Units: 0.5
- PAIN 713a Case Studies Units: 0.5
- PAIN 713b Case Studies Units: 0.5
- PAIN 713c Case Studies Units: 0.5
- PAIN 713d Case Studies Units: 0.5
- PAIN 714 Public Policy and Legal issues Units: 1
- PAIN 715 History of Pain: Theory and Treatment Units: 1
- PAIN 717 Psychological Aspects of Chronic Pain Units: 2
- PAIN 716 Neuropathic Pain Units: 1
- PAIN 718 Complementary Approaches Units: 2
- PAIN 719 Building a Practice: Institutional or Private Units: 1
- PAIN 720 Physical and Occupational Therapies Units: 1
- PAIN 721 Advanced Therapeutics Units: 2
- PAIN 722 Palliative Care in End of Life Units: 1
- PAIN 723 Orofacial Pain and Headache Units: 2

Graduate Certificate

Pain Medicine Certificate

The online Certificate in Pain Medicine is a program with a total seven courses (12 academic units), specifically designed for the practicing professional who wants to improve skills and gain expertise to deliver the best care for patients with complex pain conditions. The curriculum is designed with a series of didactic courses in which students will gain knowledge about the diagnosis, pathobiology and management of pain conditions. The goal of this one-year certificate program is to give practicing health care providers didactic, and evidence-based education in the field of Pain Medicine.

The students participate in weekly live online sessions with faculty and other program students, ensuring a collaborative and social learning experience. There are two-three courses per trimester, with two-four streaming video lectures for viewing each week. After each video lecture students complete an associated online quiz (comprising multiple choice, short answer or fill-in questions).

Course List

- PAIN 701 Pharmacotherapeutics for Pain Units: 2
- PAIN 702 Pain Classification and Diagnosis - Part 1 Units: 2
- PAIN 703 Psychological Aspects of the Pain Experience: Individual and Units: 2
- PAIN 704 Pain and Society: Epidemiology and Cultural issues Units: 1
- PAIN 705 Pain Assessment: History and Physical Examination Units: 2
- PAIN 706 Musculoskeletal Anatomy and Pathology Units: 2
- PAIN 707 Pain Neuroscience Units: 2

Doctoral Degree

Doctor of Nurse Anesthesia Practice

The USC Doctor of Nurse Anesthesia Practice offers a concentrated academic and comprehensive clinical curriculum. Students will gain experience in the various required clinical specialty areas including general, cardiothoracic, neurosurgical, genitourinary, gynecologic, head and neck, plastic, orthopedic, trauma, obstetrics, pediatric and ambulatory outpatient procedures as well as experience in regional anesthesia, pain management, trauma and emergency airway response. The program consists of 72 units and is completed in 36 months of continuous enrollment (nine semesters).

This professional doctoral program includes the essentials for doctoral education from the American Association of Colleges of Nursing and the Council on Accreditation of Nurse Anesthesia Programs. Core science courses in anatomy, physiology, pathophysiology, pharmacology and principles of nurse anesthesia complement the clinical residency. The student will discuss and synthesize current policies of the complex health care environment, review principles of population health, explore technologic health advances, and become an advocate of evidence-based research in clinical practice. (Note: during the first summer semester students will be on campus for a two-day orientation followed by online hybrid courses). Beginning fall semester, students will be in residence and course work will be a combination of on-campus and hybrid format(s). High fidelity simulation is incorporated into the curriculum to enhance student learning and clinical assimilation through skills workshops and communication, leadership and critical thinking.

Academic and Scientific Prerequisites

Program prerequisites include appropriate undergraduate course work in biology, anatomy, physiology, inorganic chemistry, organic chemistry, biochemistry, introductory physics, statistics or nursing research, health assessment and English composition. A minimum of one year of critical care or emergency department experience in a high acuity setting and shadow experience of CRNAs or anesthesiologists. Licensure as a registered nurse in California and current BLS, ACLS and PALS certifications are required prior to enrollment. Course work in anatomy, physiology and biochemistry older than 10 years may require the completion of refresher courses. Conversational Spanish is strongly recommended.

Computer Skill Requirements

During the program, students must have a personal computer or notebook with Internet access. The primary mode of program communication is email. Computer accounts are provided by the university to all students and can be activated online.

Advisement

Prospective students should contact the program's admission office, (323) 442-2037 or uscnap@usc.edu for evaluation of previous course work and clinical background.

Admission

General requirements for admission include graduation from a regionally accredited school of nursing, a baccalaureate degree (minimum requirement), in nursing or a related field from a regionally accredited university or college, a minimum of one year critical care experience (surgical, medical, neurosurgical, trauma, pediatric or neonatal acceptable; post anesthesia care unit and/or emergency department will be determined on an individual basis), a cumulative GPA of 3.0, or higher, on a scale of 4.0, Graduate Record Examinations score with a minimum of 300 on verbal and quantitative combined and a superior score on the analytic section, completion of university *and* program supplemental applications, current licensure as a registered nurse, submission of an essay describing the applicant's career goals, professional resume and three letters of reference.

Competitive applicants will be interviewed and must articulate their reasons for seeking this educational opportunity

and demonstrate an acceptable understanding of the role and responsibilities of certified registered nurse anesthetists. Selections are made on the basis of the formal interview and consideration of a variety of factors that include academic record, type and amount of clinical experience and professionalism.

Admission procedures follow the information in the USC Graduate School section of this catalogue. Admission standards for the USC nurse anesthesia program are established jointly by the Keck School of Medicine, the USC Graduate School and the Department of Anesthesiology. Interested students should apply online at *gradadm.usc.edu.* Additional admissions requirements and the supplemental application can be obtained from the nurse anesthesia program Website at keck.usc.edu/nurse-anesthesia-program/ or can be requested through email at uscdnap@usc.edu.

Degree Requirements

The program consists of a minimum of 72 units (including academic and clinical courses and the doctoral capstone project) and is completed in 36 months of continuous enrollment (nine semesters).

Academic Courses

- ANST 501 Advanced Pharmacology of Anesthesia Practice I Units: 4
- ANST 502 Principles of Nurse Anesthesia Practice Units: 4
- ANST 503 Advanced Pharmacology of Anesthesia Practice II Units: 4
- ANST 504 Advanced Pathophysiology Related to Anesthesia Practice Units: 4
- ANST 506 Advanced Principles of Nurse Anesthesia Practice Units: 4
- ANST 508 Research: Investigative Inquiry Units: 3
- ANST 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- ANST 591 Special Projects Units: 1, 2, 3, 4
- ANST 600 Gateway Tools Units: 2
- ANST 601 Professional Integration to the Clinical Environment Units: 2
- ANST 602 Analytical Methods for Evidence-Based Practice Units: 3
- ANST 603 Anatomy and Advanced Health Assessment Units: 4
- ANST 604 Healthcare Policy for Advocacy in Health Care Units: 3
- ANST 605 Clinical Prevention and Population Health Units: 3
- ANST 611 Leadership and Collaborative Practice Units: 3
- ANST 613 Clinician-Technology Interface Units: 3
- ANST 620a Clinical Synthesis I Units: 1
- ANST 620b Clinical Synthesis I Units: 1
- ANST 621a Clinical Synthesis II Units: 1
- ANST 621b Clinical Synthesis II Units: 1
- ANST 691 Doctoral Capstone Proposal Units: 2
- ANST 694a Doctoral Capstone Project Units: 1
- ANST 694b Doctoral Capstone Project Units: 1
- ANST 694c Doctoral Capstone Project Units: 1
- ANST 694d Doctoral Capstone Project Units: 1
- INTD 572 Systems Physiology and Disease I Units: 4

Clinical Residency Courses

- ANST 614 Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 615 Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 616 Advanced Clinical Residency in Nurse Anesthesia I Units: 2
- ANST 617 Advanced Clinical Residency in Nurse Anesthesia II Units: 2
- ANST 618 Advanced Clinical Residency in Nurse Anesthesia III Units: 2
- ANST 619 Advanced Clinical Residency in Nurse Anesthesia IV Units: 2

Note

All students will take the Self-Evaluation Examination (SEE) administered by the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA) at the end of the fifth and eighth clinical semesters. Students will be eligible to sit for the National Certification Examination (NCE) administered by the NBCRNA following graduation.

Department of Biochemistry and Molecular Medicine

1975 Zonal Avenue, KAM 400
Los Angeles, CA 90089-9151
(323) 442-1145
FAX: (323) 442-2494
Email: janet.stoeckert@usc.edu
keck.usc.edu/biochemistry-and-molecular-medicine/

Faculty

Departmental Chair: Peggy J. Farnham

Faculty with Primary Appointments in BMM

Peggy J. Farnham, *Professor and The William M. Keck Chair in Biochemistry and Molecular Biology*
Amy S. Lee, *Professor and The Judy and Larry Freeman Chair in Basic Science Research*
Michael S. Kahn, *Professor and Provost Professor of Medicine and Pharmacy*
Joseph G. Hacia, *Associate Professor and Vice Chair for Medical Education*
Judd Rice, *Associate Professor and Director of the BMM Master of Science Program*
Professors: Peter V. Danenberg; Vijay Kalra; Ralph Langen; Guo-Min Li; Frank S. Markland, Jr.; Robert Maxson; Pragna Patel; Michael Stallcup; Zoltan Tokes
Associate Professors: Woojin An; Raymond Mosteller; Sita Reddy; Tobias Ulmer
Assistant Professor: Ansgar Siemer
Research Professor: Liya Gu
Research Associate Professor: Shuping Zhong
Research Assistant Professors: Jobin Varkey; Daniel Weisenberger

Faculty with Secondary Appointments in BMM

Hooman Allayee *(Professor of Preventive Medicine)*; Ruchi Bajpai *(Assistant Professor of Dentistry);* Zea Borok *(Professor of Medicine)*; Paula Cannon *(Professor of Molecular Microbiology and Immunology)*; David Cobrinik *(Associate Professor of Opthamology)*; Lucio Comai *(Professor of Molecular Microbiology and Immunology)*; Yves De Clerck *(Professor of Pediatrics)*; Robert Farley *(Professor of Physiology and Biophysics)*; Baruch Frenkel *(Professor of Orthopaedics)*; Mark Frey *(Assistant Professor of Pediatrics)*; Young-Kwon Hong *(Associate Professor of Surgery)*; Chih-Lin Hsieh *(Professor of Urology)*; Ita Laird-Offringa *(Associate Professor of Surgery)*; Michael Lieber *(Professor of Pathology)*; Ching-Ling Lien *(Assistant Professor of Pediatrics)*; Carol Lin *(Associate Professor of Clinical Medical Education)*; Wange Lu *(Associate Professor of Stem Cell and Regenerative Medicine)*; Crystal Marconett *(Research Assistant Professor of Surgery)*; Amy Merrill *(Assistant Professor of Dentistry)*; Marcel Nimni *(Professor of Pediatrics)*; Brent Polk *(Professor of Pediatrics)*; Henry Sucov *(Professor of Stem Cell and Regenerative Medicine)*; Stephen Swenson *(Research Assistant Professor of Neurological Surgery)*; Arieh Warshel *(Professor of Chemistry/Nobel Prize)*; Jian Xu *(Assistant Professor of Dentistry)*

The USC Department of Biochemistry and Molecular Medicine prides itself on maintaining a broad-based approach to various aspects of biochemical and molecular biological research. Altogether, the department numbers 48 primary and joint-appointment faculty members, with major research programs in the molecular basis of control and regulation of gene expression, cancer biology and epigenomics, molecular mechanisms of signal processing and transduction, developmental and stem cell biology, detailed analyses

of macromolecular structure and function, the biochemistry and molecular biology of the brain, and genetic medicine including gene therapy.

Members of the department are also members of the USC Norris Comprehensive Cancer Center, the USC Institute for Genetic Medicine (IGM), the USC Zilkha Neurogenetic Institute (ZNI), the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC, and the Children's Hospital Los Angeles (CHLA).

The offices and laboratories of the primary faculty members are located on the Health Sciences Campus.

Graduate Programs

Biochemistry and Molecular Medicine Masters of Science: Most applicants to the Masters of Science graduate program in Biochemistry and Molecular Medicine have a bachelor's degree with an undergraduate major in one of the natural sciences. Undergraduate course work should have included biochemistry, physics, mathematics, and courses in the biological sciences. A minimum GPA of 3.0 in the natural sciences (including mathematics) is normally required. Applicants must pass satisfactorily the general portions of the Graduate Record Examinations. In addition, the department requires at least three letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work and independent research. See keck.usc.edu/biochemistry-and-molecular-medicine-program/ for more details about the program. Students can apply to the MS program in Biochemistry and Molecular Medicine at gradadm.usc.edu/apply/.

PhD Programs: Faculty members of the Department of Biochemistry and Molecular Biology participate in the USC Programs in Biomedical and Biological Sciences (PIBBS). Students interested in pursuing a PhD degree in the fields related to biochemistry, molecular and cellular biology, and genetics should apply to PIBBS. Applications for the PhD Programs in Biomedical and Biological Sciences should be submitted online through the PIBBS Website (usc.edu/pibbs).

Fellowships

Students admitted to PIBBS PhD programs are awarded fellowships that pay for tuition and provide a stipend. No fellowships are available for master's degree students.

Master's Degree

Biochemistry and Molecular Medicine (MS)

The Department of Biochemistry and Molecular Medicine offers a program for the Master of Science degree. The primary objectives of this program are to provide the necessary theoretical preparation for biochemical careers and to expose students to biochemistry and molecular medicine related research activities culminating with the Master of Science degree. Goals of the program are to train students in preparation for (1) further doctoral study, (2) advanced biochemical research positions in industry and academia and (3) teaching positions at the community college level.

In general, admission requirements are the same as for the Doctor of Philosophy degree. The prerequisite for applicants to the graduate program in biochemistry is a bachelor's degree with an undergraduate major in one of the natural sciences. A minimum GPA of 3.0 in the natural sciences (including mathematics) is normally required. Applicants must satisfactorily pass the general and advanced (chemistry, or biology or molecular biology) portions of the Graduate Record Examinations. In addition, the department requires at least three letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work and independent research. Demonstrated proficiency in the English language is required. Special circumstances may provide consideration for conditional admission.

The master's degree in biochemistry and molecular medicine requires 34 units of elective graduate study to be determined by the student's advisory committee. Fourteen or more course units must be taken in biochemistry and molecular biology; eight units may be pursued outside the department. Students interested in the commercial aspects of biotechnology may take courses focusing on business entrepreneurship, finance, management and marketing in the USC Marshall School of Business. Master's students have the option of completing a research thesis allowing state-of-the-art laboratory-based investigation or a non-research-based theoretical thesis. Upon approval, a maximum of 10 units of directed research in biochemistry will be applied to the degree. Up to six units of graduate course work taken outside of USC may be applied toward the MS degree. Flexibility exists to plan each student's program to suit individual needs, ambitions and background.

Department of Cell and Neurobiology

Department of Cell and Neurobiology
Bishop Hall 401
1333 San Pablo Street
Los Angeles, CA 90089-9151
(323) 442-2771
FAX: (323) 442-2411
Email: laramire@usc.edu

Faculty

Professor and Chair: Ruth I. Wood
Professors: J. Chen; M. E. Fini; A. McDonough; T.H. McNeill*; J.E. Schechter*; E.R. Seiffert; M. Snow; H. Sucov*; R. I. Wood*; S.Y. Ying
Associate Professors: K.J. Carlson; K. Eagleson; J.A. Garner*; R. Gopalakrishna*; B.A. Patel; D. Sieburth; H. Tao; M. Winfield*
Assistant Professors: A. Bonnin; K. Chang; M. Habib; A.K. Huttenlocker; K.L. Lewton; F. Mariani
Emeritus Professors: G. Albrecht*; Dwight Warren III
**Recipient of university-wide or school teaching award.*

The Department of Cell and Neurobiology provides training in the basic medical sciences to health professional students, and prepares graduate students as future teachers and researchers in the human anatomical sciences and functional morphology.

Cell and Neurobiology Graduate Program

The graduate-level course of study includes in-depth training in core anatomical disciplines: gross anatomy, histology and neuroanatomy, including cadaveric dissection and microscopic study of tissues. In addition, students receive an intensive introduction to fundamentals of bone and dental biology, human anatomical variation, and clinical anatomical correlations. Interested students can receive training in laboratory teaching for gross anatomy, or research training in functional, evolutionary and virtual morphology. Professional and intellectual development is fostered through a hands-on curriculum designed to prepare the student for a lifetime of learning, exploring the limits of research, teaching and creative activities.

Goals of the program are to train students in preparation for:

1. Teaching positions in the core anatomical sciences (gross anatomy, histology, neuroanatomy). Instructors in the anatomical sciences contribute to teaching at medical and dental schools, in allied health programs (nursing, physical and occupational therapy, physician assistants, dental hygiene), and in pre-health undergraduate majors at colleges and universities. In recent years, the number of faculty trained to teach in these subject areas has steadily decreased. As a result, finding qualified individuals capable to teach in the anatomical sciences has become increasingly problematic. The CNB master's program is advantageously poised to address this problem.
2. Research positions and further doctoral training in functional and evolutionary morphology. While the anatomical sciences are among the oldest (and most fundamental) of the biological and medical sciences, the modern incarnation of morphology

is a relatively young and fast-moving field of endeavor. Modern areas of focus in morphology include: mapping the anatomical biodiversity of the planet; understanding the relationships between form (e.g., skeleton) and function (i.e., locomotion; mastication) in living animals; reconstructing the behavior, performance and life history of extinct organisms; elucidating the origin of major groups of animals (including our own branch of the evolutionary tree); and investigating the fundamental properties of biomaterials (e.g., bone). The movement toward quantitative methods in the anatomical sciences and integration of new disciplines to morphology research has also made this field of endeavor more translational. For example, synthetic material design, robotics, aeronautics, cinema, graphic arts, conservation biology and other fields now make consistent use of the data generated by morphologists.

Admissions

The Department of Cell and Neurobiology selects highly qualified students for admission into its Master of Science program in Cell and Neurobiology. The prerequisite for applicants to the MS program is a bachelor's degree with a science major or equivalent. Applicants should have a superior undergraduate record at an accredited college or university, with a minimum undergraduate grade point average of 3.0. Generally required courses include at least one year of college-level biology, one year of college-level physics and mathematics through calculus. College-level courses in cell biology, developmental biology, organismal biology and physiology are recommended.

Applicants must demonstrate satisfactory performance on the general portion of the Graduate Record Examinations (GRE). A minimum score of 1000 is expected. GRE Subject (advanced) examination is desirable but optional. Alternatively, Medical College Admission Test (MCAT) scores may be provided and will be considered in place of the GRE if they are a minimum of 28.

Demonstrated proficiency in the English language is required. Foreign applicants are expected to provide results from the Test of English as a Foreign Language (TOEFL). Results from Internet-based, computer-based or paper-based tests are acceptable. However, candidates with special circumstances may be considered for admission with continuing registration requirements.

Applicants will need to submit the following for consideration:

1. Three letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work and independent research.
2. Complete undergraduate transcripts.
3. Official copies of GRE scores.
4. TOEFL scores (if applicable).
5. Statement of Purpose (should describe your reasons for seeking a MS degree in the anatomical sciences and describe your career goals).

Special Admission Considerations: Special considerations may be given to students with extensive prior training in human anatomy with cadaver dissection, to students who experienced extenuating circumstances, and to applicants with limited English proficiency that could be corrected by language courses offered by the university's American Language Institute.

Doctor of Philosophy

No longer accepting applications.

Application deadlines:

MS Program - January 1.

Master's Degree

Cell and Neurobiology (MS)

The Master of Science (MS) degree is awarded for demonstrated competence in the anatomical sciences. This is a 12-month program that begins with intensive training in human gross anatomy in the summer term. Students must complete a minimum of 32 units of graduate-level courses (500 or higher) beyond the baccalaureate degree, and maintain a minimum GPA of 3.0.

Students complete 16 units from courses in Human Gross Anatomy (CNB 501a, CNB 501b), Microscopic Anatomy (CNB 511a, CNB 511b) and Neuroanatomy (CNB 521), equivalent to medical school instruction. They receive 7 units of additional specialized training in Human Skeletal Anatomy (CNB 504) and participate in the Cell and Neurobiology Seminar (CNB 550). Students must take 9 additional units from the following list of courses: Advanced Regional Anatomy (CNB 502 / CNB 503), Systems Physiology and Disease I and II (CNB 572 /CNB 573), Directed Research (CNB 590), Special Topics (CNB 599). Relevant courses in other departments and schools can also be selected, but all course work must be approved by the chair of the graduate program.

Department of Family Medicine

Division of Physician Assistant Studies
Primary Care Physician Assistant Program
1000 South Fremont Avenue
Unit 7, Building A11, Room 11-150
Alhambra, CA 91803
(626) 457-4240
FAX: (626) 457-4245
Email: uscpa@usc.edu
usc.edu/pa
Program Director: Kevin Lohenry, PhD, PA-C
Medical Directors: Ignacio DeArtola, MD; Raymond Waliany, MD

Faculty

Professor of Clinical Family Medicine: D. Lie, MEd, MD
Associate Professor of Clinical Family Medicine: C. Feifer, DrPH
Assistant Professors of Clinical Family Medicine: I. DeArtola, MD; C. Forest, MSHS, PA-C; L. Landry-Taylor, MA, PA; K. Lohenry, PhD, PA-C; A. Vallejo, PhD; R. Waliany, MD; Emily WhiteHorse, MA Ed, PA-C
Instructors of Clinical Family Medicine: M. D'Aquila, MACM, PA-C; M. Maldonado, MPH, PA-C; D. Mayo, MPAS, PA; J. Tramel, MS-HPE, PA-C; A. Walsh, MMSc, PA-C; J. Wegler, MMS, PA-C

The faculty listed above are faculty with the Primary Care Physician Assistant Program at USC.

The Primary Care Physician Assistant Program at USC prepares students to practice medicine under the supervision of a physician. Students earn a Master of Physician Assistant Practice (MPAP) degree upon completion of the program.

The MPAP degree program offered by the Division of Physician Assistant Studies is part of the Department of Family Medicine. Preclinical instruction is provided by physician assistant program faculty and faculty from other departments within the Keck School of Medicine, the USC School of Pharmacy, other divisions within the Health Sciences Campus, as well as clinicians from the surrounding communities. Emphasis is placed on primary care medicine and caring for medically underserved populations. Clinical training occurs at various clinical sites throughout the greater Los Angeles region, including the Los Angeles County+USC Medical Center, Arrowhead Regional Medical Center, Long Beach Memorial Family Practice Residency, private offices and managed-care settings, community-based clinics, VA facilities and specialty settings.

Students complete eight, six-week clinical clerkships in emergency medicine, family medicine, internal medicine, orthopedics, pediatrics, general surgery, women's health and a one-week mental health/behavioral medicine clerkship. These clerkships emphasize the development of necessary clinical skills as well as learning how to work as part of a health care team. The Primary Care Physician Assistant Program at USC is committed to recruiting diverse applicants and preparing graduates to practice in medically underserved communities.

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted Accreditation-Continued

status to the Primary Care Physician Assistant Program at USC sponsored by the University of Southern California. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program by the ARC-PA will be September 2018. The review date is contingent upon continued compliance with the Accreditation Standards and ARC-PA policy.

The program is approved by the Physician Assistant Committee (PAC) of the Medical Board of California. Graduates must pass the National Commission on Certification of Physician Assistants (NCCPA) Physician Assistant National Certifying Exam to qualify for licensure throughout the United States.

Pi Alpha Honor Society

The program participates in the Pi Alpha Honor Society, which is the national Physician Assistant honor society organized for the promotion and recognition of both PA students and graduates. Membership signifies the inductees' significant academic achievement and honors them for their leadership, research, community/professional service and other related activities. The society also encourages a high standard of character and conduct among students and graduates. Students are encouraged to apply for this honor during their final semester in the program, but selection is done via an application process and review by current members of the society.

Master's Degree

Physician Assistant Practice (MPAP)

Admission Requirements and Procedures

Application to the Physician Assistant Program requires completion of a bachelor's degree (in any discipline) from a regionally accredited four-year institution and completion of academic prerequisite requirements.

Admission to the program is for the fall semester only. Admission is granted by the physician assistant admissions committee after careful review of all applications. Selections are made on the basis of a formal interview (for competitive applicants) and consideration of a variety of factors which include: academic record, type and amount of clinical experience, multicultural sensitivity, community service experience and professional experience.

Applicants are required to submit an application through the Central Application Service for Physician Assistants (CASPA) as well as a USC Supplemental Application by November 1 of each year. Further details regarding admission procedures including those for international student applicants are provided online at *usc.edu/pa*.

Transfer Students or Advanced Placement

The Physician Assistant Program does not accept transfer students, nor do we allow advanced placement based on prior education or clinical experience. Each applicant who is admitted is required to complete the full Master of Physician Assistant Practice curriculum in residence at USC. No waivers or substitutions are permitted.

Registration

Students receive information regarding registration procedures during an orientation program held the week before classes begin.

Advisement

Information sessions are available for prospective students who would like to receive more information regarding the program. Applicants are encouraged to attend one of the program's information sessions where PA faculty and staff describe the program, the application process and answer general questions. Information sessions are held on the Alhambra Campus, Building A11. Contact the PA Program for further details and RSVP at uscpa@usc.edu or call (626) 457-4240. The information session schedule may be viewed at *usc.edu/pa*.

Degree Prerequisites

A bachelor's degree from a regionally accredited institution and completion of all prerequisite course work are required for admission to the Physician Assistant Program.

Science Prerequisites

A one-year general biology sequence with lab and a one-year general chemistry sequence with lab, each course designed for science majors. All science prerequisites must be completed within 10 years of application to the program.

Three semester units or 4 quarter units of each of the following: human anatomy with lab; human physiology with lab; and microbiology with lab.

Distance learning courses are acceptable provided they are equivalent in all dimensions (including laboratory requirements) to courses taught in "traditional" educational settings (e.g., hybrid courses). All distance learning course credit must be provided by regionally accredited institutions of higher education.

Students are expected to have a strong competency in medical terminology.

All science prerequisites should be completed within 10 years of application to the program. Exceptions to the 10-year science prerequisite time frame may be granted on an individual basis to those individuals who have completed one of the following: 1) at least 8 semester units of graduate credit in a medically related natural science discipline with an overall grade point average of 3.0 or better, completed within seven years of the application deadline, or 2) received an advanced degree in the natural or clinical sciences (e.g., MS, DVM, PharmD, PhD, MD) within 10 years of the application deadline. In either case, all course work completed and degrees conferred must be from institutions of higher education accredited by an accrediting agency recognized by the Secretary of the U.S. Department of Education. Requests for this 10-year exemption should be directed to the chair of Admissions.

Non-science Prerequisites

Three semester units or 4 quarter units of each of the following: general psychology and statistics.

Two semesters of beginning college level Spanish language earned through course work or by placement examination. There are no language substitutions or waivers.

Two semester units or three quarter units of English composition are required for international applicants only. AP course work is acceptable.

Students who intend to apply to the Physician Assistant Program should contact the admission office for evaluation of previous baccalaureate and/or post-baccalaureate course work.

Standardized Tests

Applicants are required to take either the GRE or MCAT examination. The examination must be taken within five years of the application deadline of November 1. Official scores of the general and analytical sections of the GRE must be submitted to USC by using the Institutional Code 4852 (departmental code is not necessary). Applicants with MCAT scores must provide their AAMC verification code to the USC PA Program. GRE or MCAT scores must be submitted by November 1. The PA Program expects that all applicants earn a combined quantitative and verbal GRE score of no less than 1,000 (on the older version of the exam) and 295 (on the newer version of the exam).

Clinical Experience Prerequisite

"Hands-on" patient care experience is preferred. Most successful applicants typically have 2,000 hours or more of paid clinical hours and have worked as one of the following: emergency medical technician, licensed vocational nurse, medical assistant, medical scribe, medical technologist, military medical corpsman, paramedic, psychiatric technician, physical therapy aide, radiological technician, respiratory therapist or registered nurse. Other health care experience is equally acceptable as long as the experience is "hands-on" in nature.

Physician Assistant Shadowing Experience

Shadowing a physician assistant in a clinical setting is expected. This activity provides the applicant with the upclose experience needed to understand the role and responsibilities of the PA and may help the applicant make a better informed decision in choosing a career as a physician assistant.

Community Service Prerequisite

Community service activities/projects are expected of all applicants. Service which benefits medically underserved or disadvantaged populations is preferred.

Curriculum Requirements

The completion of the 33-month professional curriculum is required to earn the Master of Physician Assistant Practice degree. Students do not have choices of courses to take nor are they permitted to drop any course or courses during the semester. Progress is permitted only when the prior semester is successfully completed. Students should view the curriculum outlined here as advisory only and subject to modification.

Summative Evaluation

A summative evaluation is conducted on each student during the sixth and final semester of the program to verify that each student is prepared to enter clinical practice.

Health Requirements and Technical Standards

All accepted candidates are required to meet the PA program's technical standards (physical and psychological competencies of performance) prior to entering the program and throughout training. Upon acceptance, students will be required to submit and maintain evidence of current health status and immunizations. Specific details outlining these technical standards are located at *usc.edu/pa*.

Employment

The Primary Care Physician Assistant Program at USC is a full-time program. Students are strongly discouraged to accept or continue outside employment while enrolled in the program. Students are not permitted to work for the program.

Background Check

All USC Physician Assistant students are required to pass a background check prior to admission to the Master of Physician Assistant Practice (MPAP) Program.

Degree Requirements

All students in the Master of Physician Assistant Practice degree program must meet course and grade point average requirements. All course requirements must be completed with a grade of "B" or better. The degree will not be conferred until the student has successfully completed all degree requirements. Students are subject to the degree requirements in the catalogue current for the semester of their admission into the program.

Physician assistant students are enrolled in a standard curriculum during their 33 months in the program. The following courses must be successfully completed in order to earn the Master of Physician Assistant Practice degree. Only physician assistant students may enroll in these courses. Departmental clearance is required to enroll.

Year I, Fall Semester

- PCPA 503 Behavioral Sciences I Units: 4
- PCPA 523 Clinical Skills I Units: 4
- PCPA 530 Basic Medical Sciences Units: 6
- PCPA 543 Topics in Medicine I Units: 4

Total units: 18

Year I, Spring Semester

- PCPA 506 Behavioral Sciences II Units: 4
- PCPA 526 Clinical Skills II Units: 6
- PCPA 546 Topics in Medicine II Units: 6

Total units: 16

Year II, Fall Semester

- PCPA 509 Behavioral Sciences III Units: 4
- PCPA 529 Clinical Skills III Units: 6
- PCPA 549 Topics in Medicine III Units: 6

Total units: 16

Year II, Spring Semester

- PCPA 561 Clinical Assignment I Units: 3.5
- PCPA 562 Clinical Assignment II Units: 3.5
- PCPA 564a Clinical Assignment IV Units: 3.5
- PCPA 565a Clinical Assignment V Units: 3.5

Total units: 14

Year II, Summer Session

- PCPA 564b Clinical Assignment IV Units: 0
- PCPA 565b Clinical Assignment V Units: 0

Year III, Fall Semester

- PCPA 563 Clinical Assignment III Units: 3.5
- PCPA 566 Clinical Assignment VI Units: 3.5
- PCPA 567 Clinical Assignment VII Units: 3.5
- PCPA 568 Clinical Assignment VIII Units: 3.5

Total units: 14

Year III, Spring Semester

- PCPA 532 Clinical Skills IV Units: 3
- PCPA 583 Advanced Topics in PA Studies: Education Units: 4
- PCPA 586 Advanced Topics in PA Studies: Research Units: 4
- PCPA 589 Advanced Topics in PA Studies: Medical Care Organization Units: 4

Total units: 15

Note:

Requests for further information may be addressed to: Primary Care Physician Assistant Program at USC, 1000 South Fremont Avenue, Unit 7, Building A11, Room 11-150, Alhambra, CA 91803, or via email at uscpa@usc.edu. The program's Website is *usc.edu/pa*.

Department of Molecular Microbiology and Immunology

Hoffman Medical Research Center 401
2011 Zonal Avenue
Los Angeles, CA 90089-9094
(323) 442-1713
FAX: (323) 442-1721
Email: mmidept@usc.edu
keck.usc.edu/molecular-microbiology-and-immunology/

Faculty

Distinguished Professor and Chair: Jae U. Jung, PhD
Fletcher Jones Foundation Chair of Molecular Biology and Immunology and Hastings Foundation Professor of Molecular Microbiology and Immunology: Jae Jung, PhD
Rita and Edward Polusky Chair in Basic Cancer Research: Michael Lieber, PhD, MD
Walter A. Richter Chair in Cancer Research: W. Martin Kast, PhD
Leslie P. Weiner Professor of Neurology and Richard Angus Grant, Sr., Chair in Neurology: Leslie P. Weiner, MD
Chair, Graduate Advisory Committee: Stanley M. Tahara, Associate Professor
Professors: S. Chen; G. Coetzee *(Urology)*; L. Comai; S.J. Gao; D.A. Horwitz *(Medicine)*; M. Lieber *(Pathology, Biochemistry and Molecular Biology)*; W.M. Kast; M. McMillan; J.-H. Ou; P. K. Pattengale *(Pathology)*; L.P. Weiner *(Neurology)*
Associate Professors: Omid Akbari; E. Bogenmann *(Pediatrics)*; P. Cannon; R. Duncan *(Pharmacy)*; P. Feng; H.K.W. Fong

(Ophthalmology); C. Hill *(Radiation Oncology)*; A. Jong *(Pediatrics)*; J.R. Landolph; H. Lee; A. Schönthal; S. Tahara; E. Zandi
Assistant Professors: R.W. DePaolo; X.F. Huang; C. Liang; K. Machida; T. Saito *(GI Liver-Medicine)*; W. Yuan
Associate Professor of Research: S.Y. Park
Assistant Professors of Research: H. Lee; Z. Toth
Emeritus Professors: F. Aladjem; M. Lieb; G. Dennert
Clinical Assistant Professor: Jie Li
Distinguished Professor, Emeritus: Michael M.C. Lai

The Department of Molecular Microbiology and Immunology is located on the Health Sciences Campus in the Elaine Stevely Hoffman Medical Research Center, in the USC Norris Comprehensive Cancer Center and at the USC Institute for Genetic Medicine. Faculty guidance and specialized facilities are available for advanced research in animal virology, eucaryotic cell biology and cellular differentiation, molecular and cellular immunology, genetic diseases, microbial and molecular genetics, regulation of gene expression, and chemical and viral carcinogenesis.

Graduate Programs

Admissions

An applicant to the graduate programs in molecular microbiology and immunology must have a bachelor's degree from an accredited college or university with a major in science — usually biology, chemistry or physics. The applicant must have demonstrated strength in science or mathematics. Undergraduate course work should have included at least one year of biology, chemistry through organic chemistry, mathematics through calculus, physics and physical chemistry. Deficiencies may be made up early in the predoctoral program.

The department encourages applicants to contact its office prior to making formal application. Each applicant must pass satisfactorily the general and advanced (biochemistry, cell and molecular biology or biology, chemistry or physics) portions of the Graduate Record Examinations, and must also arrange for three letters of recommendation to be written. In addition, the applicant must provide a one-page statement of career objectives, including the general area of research interest. This statement is intended to facilitate selection of those students who will most benefit from the department's graduate program. A personal interview is strongly recommended but not required.

Applicants who have attended graduate school at another university may be admitted to advanced standing upon recommendation of the department.

Training Grants and Fellowships

Incoming domestic students may be supported by a departmental training grant or by a research grant to a specific faculty mentor during their first year; subsequently, students are supported by research grants awarded to individual faculty members. International students are supported by research assistantships.

Master's Degree

Molecular Microbiology and Immunology (MS)

The primary objective of the Master of Science program is to prepare students for a career in the broad field of biomedical sciences with focus on, but not limited to, microbiology, virology, immunology and cancer research. This program provides extensive theoretical preparation in combination with hands-on research, where students are trained in research laboratories located on the Health Sciences Campus (HSC), comprising the Keck Medical School, the School of Pharmacy and the USC Norris Comprehensive Cancer Center, or located at Children's Hospital Los Angeles (CHLA).

Goals of the program are to prepare students for employment opportunities in: academic research or teaching at universities, institutes or not-for-profit research centers; research and development in industry (biotech, pharma, petrol, dairies, breweries); health care (hospitals and health care providers, medical technology, diagnostic laboratories); law firms (patents, intellectual property rights, technology transfer, toxic torts); environmental organizations (advisory, management, planning); government (public health, waste management, EPA, FDA, NIH, etc.); publishing (journalism, journal editor).

Admission Requirements Applicants are expected to have a bachelor's degree in science (usually biology, chemistry or physics) from an accredited college or university. Generally required courses include: at least one year of college-level biology, chemistry through organic chemistry, mathematics through calculus, and one year of college-level physics. Students who do not meet all requirements may still apply, and admission will be decided on a case-by-case basis. In general, a minimum undergraduate GPA of 3.0 is expected. Additionally, a student must take the Graduate Record Examinations (GRE), and a minimum score of 1000 is expected. International applicants are expected to provide results from the International English Language Testing System (IELTS) or the Test of English as a Foreign Language (TOEFL; results from Internet-based, computer-based or paper-based tests are acceptable).

Course Requirements A total of 34 units is required. Students may pursue a thesis option, which requires completion of MICB 594a, MICB 594b, MICB 594z (2-2-0) plus 30 units of approved course work, no more than 8 of which can be MICB 590 Directed Research. Students pursuing a non-thesis option must complete 34 units of approved course work. Students must choose one of these options by the end of the first year of study.

Fourteen or more course units must be taken in the Department of Molecular Microbiology and Immunology; 8 units may be pursued outside the department and, upon approval, a maximum of 8 units of directed research in molecular microbiology and immunology may be applied to the degree. No more than 4 units of course work taken outside of USC can be applied toward the MS degree requirements. Students considering such an action should submit a petition to the department and document a rigorous academic standard for the course (reading materials, tests and other performance criteria, lecture content, etc.). The graduate advisory committee will review the petition and inform the student of its decision.

USC Mark and Mary Stevens Neuroimaging and Informatics Institute

2025 Zonal Ave.
Los Angeles, CA 90033
(323) 44-BRAIN
Email: NIIN@ini.usc.edu
niin.usc.edu

NIIN Core Faculty

Professor of Neurology: Danny Wang, PhD
Associate Professors of Neurology: Hong-Wei Dong, PhD; John D. Van Horn, PhD *(NIIN Program Director)*
Assistant Professors of Neurology: Kristi Clark, PhD; Dominique Duncan, PhD; Neda Jahanshad, PhD; Hosung Kim, PhD; Judy Pa, PhD; Yonggang Shi, PhD
Assistant Professors of Research: Meredith Braskie, PhD; Houri Hintiryan, PhD; Kay Jann, PhD; Lirong Yan, PhD

Introduction

The Master of Science (MS) in Neuroimaging and Informatics (NIIN) program provides students with an understanding of the scientific and clinical underpinnings of neuroimaging science

and how to leverage that knowledge to make new and important discoveries in biomedicine. Students who successfully complete the program will be ideally positioned to apply to formalized medical training programs, join PhD research training programs, obtain laboratory or administrative employment in the growing field of brain imaging neuroscience, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

The program comprises 10 courses (eight 3-unit and two 1-unit) to be taken in one academic year. Didactic lectures address the technology of neuroimaging, a detailed examination of brain anatomy and function, and the variety of data-type dependent as well as integrative computational processing approaches. Laboratory modules (1) provide guided, hands-on experience with neuroimaging data collection approaches for examining anatomy, connectivity and functional activity; and (2) examine and develop optimized data processing strategies. Finally, scholarship is enriched by several distinct faculty-guided, discussion-based courses that allow detailed examination of specific aspects of neuroimaging of elemental neurological processes and carefully selected applications in neurological and psychiatric medicine. Graduation requires completion of 26 course units.

Admissions Requirements

Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, standardized test scores, a personal statement describing scientific and career interests, and two letters of recommendation. Applications are generally anticipated for fall enrollment. Applicants to the program must apply to the USC Graduate School and must meet the minimum requirements for admission to the Graduate School. Students are required to have an overall undergraduate GPA of 3.0 or better (or equivalent) and have achieved graduation with a BS or BA degree (or equivalent) prior to matriculation. Students are expected to have taken the general portion of the GRE exam before application and to have met or exceeded university score requirements. Applicants not meeting Graduate School requirements for regular standing may, with the approval of the Graduate School, be conditionally admitted. International students from non-English speaking home countries are expected to demonstrate English language proficiency or take remedial English language courses, according to Graduate School policy. Specific prerequisites for this program include completed course work with a B or better grade (or equivalent) in neuroscience, computer science, mathematics, biology or a related field.

Advisement

The program recommends that students meet with the program director each semester prior to registration for courses.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 in the program is required at all times. Any student whose graduate GPA falls below 3.0 will be given written notification that they have been placed on academic probation. Students who do not raise their GPA to 3.0 in the second semester are academically disqualified.

Master's Degree

Neuroimaging and Informatics (MS)

Degree Requirements

Graduation requires completion of 26 units, according to the required course schedule outlined below. None of the NIIN courses may be waived or substituted for other courses in the USC Catalogue. This program is intended to be completed within one academic year, and, while optional, does not include a requirement for independent laboratory research or a thesis. Students may request approval to undertake laboratory research and continuing course work during a second year research option; students must already be matriculated into the program before making this request, and not all students will be granted this opportunity (selection will be based on academic performance and student research interests, and on availability of laboratory space).

Required Courses of Instruction

Fall

- NIIN 500 Neuroimaging and Systems Neuroscience Units: 3
- NIIN 510 Fundamentals of Human Neuroimaging Units: 3
- NIIN 520 Experimental Design for Neuroimaging Units: 3
- NIIN 530 Neuroimaging Data Acquisition w/ Magnetic Resonance Imaging Units: 3

Spring

- NIIN 540 Neuroimaging Data Processing Methods Units: 3
- NIIN 550 Computational Modeling in Neuroimaging Units: 3
- NIIN 560 Brain Architecture and Neuroanatomic Exploratory Techniques Units: 3
- NIIN 570 Neuroimaging Genetics Units: 3

Fall or Spring

- NIIN 597 Current Topics in Neuroimaging Informatics Units: 1
- NIIN 598 Neuroimaging and Informatics External Speaker Seminar Series Units: 1

Department of Pathology

Hoffman Medical Research Center 204
2011 Zonal Avenue
Los Angeles, CA 90089-9092

MS Student Adviser: Cheng-Ming Chuong, MD, PhD, (323) 442-1296
PhD Student Adviser: Florence M. Hofman, PhD, (323) 442-1153
Program Director, Pathology Residency Training Program: Wesley Y. Naritoku, MD, PhD, (323) 409-4698
MD Student Adviser: Wesley Y. Naritoku, MD, PhD, (323) 409-4698

Faculty

Michael E. Selsted, MD, PhD, *Professor and Chair*
Renette and Marshall Ezralow Family Chair in Cancer Therapeutics: Parkash Gill, MD
Harold E. Lee Chair in Cancer Research: Michael F. Press, MD, PhD
Kenneth T. Norris Jr. Chair in Medicine and Hastings Professor of Medicine: Edward D. Crandall, MD, PhD
Rita and Edward Polusky Chair in Basic Cancer Research: Michael Lieber, PhD, MD
Rupert and Gertrude Stieger Vision Research Chair: Narsing Rao, MD
Gavin S. Herbert Professor of Vision Research: David R. Hinton, MD
Professors: T.C. Chen *(Neurological Surgery)*; C.-M. Chuong; T.D. Coates *(Pediatrics)*; Wendy Cozen *(Preventive Medicine)*; E.D. Crandall *(Medicine)*; L. Dubeau; A.L. Epstein; P.S. Gill *(Medicine, Urology)*; S. Govindarajan; D. Hinton *(Neurological Surgery, Ophthalmology)*; F.M. Hofman *(Ophthalmology, Neurological Surgery)*; R.W. Jelliffe *(Medicine)*; M.N. Koss*; P.R. Levitt *(Pediatrics, Pharmacology & Pharmaceutical Sciences, Psychology)*; M.R. Lieber *(Biochemistry and Molecular Biology, Molecular Microbiology and Immunology)*; T.M. Mack *(Family and Preventive Medicine)*; C.A. Miller *(Neurology)*; A.J. Ouellette; P.K. Pattengale *(Molecular Microbiology and Immunology)*; M.F. Press; F.P. Quismorio, Jr. *(Medicine)*; N.A. Rao *(Ophthalmology)*; S. Rasheed*; M.E. Selsted; D.K. Shibata; I.A. Shulman; M.R. Stallcup *(Biochemistry and Molecular Biology)*; C.R. Taylor*; T.J. Triche *(Pediatrics)*; H. Tsukamoto
Professors (Clinical Scholars): J.A. Biegel; M.R.G. O'Gorman *(Pediatrics)*; D.M. Parham; H. Shimada

Associate Professors: S. Asgharzadeh, *(Pediatrics)*; S. Bellusci *(Surgery)*; A. Erdreich-Epstein *(Pediatrics)*; B.H. Gross *(Psychiatry and Behavioral Sciences, Medicine)*; Y.M. Kim, *(Pediatrics)*; A. Kovacs *(Pediatrics)*; J.R. Landolph *(Molecular Microbiology and Immunology, Molecular Pharmacology and Toxicology)*; H.A. Liebman *(Medicine)*; S.E. Martin; S.B. Turkel *(Psychiatry and Behavioral Sciences, Pediatrics)*
Associate Professor (Clinical Scholar): A.R. Judkins
Assistant Professors: T. Saito *(Medicine, Molecular Microbiology, Biology & Immunology)*; B. Stiles *(Pharmacology and Pharmaceutical Sciences)*; D. Tian
Clinical Professors: C.A. Bell; H.N. Canawati; J.N. Carberry; J. Cicciarelli *(Urology, Surgery)*; K.A. Frankel; F.H. Gilles *(Neurological Surgery, Neurology)*; D.S. Harrington; R.E. Horowitz; G. Kanel; D.V. Kon; O.T. Kuzma *(Medicine)*; D.H. Mills; J. Nelson; P. Nichols; P.N. Rao; C. Rogers; A.A. Roscher; L. Sathyavagiswaran *(Medicine)*; S.V. Sostrin; A. Verity
Adjunct Clinical Professors: R.Y. Osamura; S.-R. Shi
Clinical Associate Professors: C. J. Cobb; T.E. Howard; G. Pezeshkpour; A.S.S. Raza; J.S. Wollman
Adjunct Clinical Associate Professors: M.M. Cosgrove; M. Pietruszka
Clinical Assistant Professors: JD Augustine; A. Baltayan; E. Carpenter, Jr.; J.A. Chan; W. Chick; O. Chinwah; P.D. Colman; E.C. Dinovo; R. Djabourian; R. Gellibolian; K.E. Grimm; M.D. Haimowitz; J. Iqbal; M. Kennedy; M.T. Kiyabu; B. Kwok; B.J. Le Berthon; M.S. Lewis; K. Matsuda; V. Nelson; S.D. Oh; R. Phan; G. Pinsky; S. Prabhu; S.T. Pullarkat; L.A. Scheinin; R.A. Soni; J.P. Tovar; K.J. Young; S.K. Young
Clinical Assistant Professor (Clinical Educator): N.M. Shillingford
Adjunct Clinical Assistant Professors: F. Antelo; M.A. Fajardo; N.M. Green; C. Lwin; Z. Pavlova; O.C. Upko
Professors of Clinical: R.K. Brynes; P. Carpenter; J.F. Emerson; A.L. Hiti; Y. Iwaki *(Urology, Surgery)*; P. Mhawech-Fauceglia *(Obstetrics and Gynecology)*; W.Y. Naritoku; A.E. Sherrod; S. Wu *(Pediatrics)*; G.-Q. Xiao
Adjunct Professor of Clinical: L.A. Baxter-Lowe
Professors of Research: J. Groffen *(Pediatrics)*; E. Heisterkamp *(Pediatrics)*
Associate Professors of Clinical: M. Aron; R.C. Bender (She); S. M. Butler-Wu; D.B. Casebolt; J. Dien Bard; A.N. Fedenko *(Orthopaedic Surgery)*; X. Gai; D. Hawes; S. He *(Ophthalmology)*; G.H. Kim *(Dermatology)*; Y. Ma; A. Mathew; K.A. Nash*; G. Raca; S. Saitta; I. Siddiqi; L.L. Wang *(Surgery)*; P.M. Ward; G.D. Zeger
Assistant Professors of Clinical: M. Burnett *(Neurology)*; A.B. Chambliss; S. Chopra; A.J. Correa; J. Cotter; B.K. DeClerck *(Dermatology)*; W.A. Elatre; X. Fu; J.P. Hudgins; K.M. Hurth; J. Ji; K. Lai; M.J. Oberley; L. O'Brien; A.C. Perumbeti; P. Sanchez *(Pediatrics)*; M.E. Sibug Saber *(Ophthalmology)*; S. Tatischev; M. Vegara-Lluri; M. Warren; S. Zhou
Associate Professors of Research: K. Asahina; R.B. Widelitz
Research Associate Professor: T.V. Tatarinova
Assistant Professors of Research: D.E. Feldman; T. Jiang; R.A. Moats *(Radiology)*; P. Tongaonkar; P. Wu; Jun Xu; D. Zhu
Research Assistant Professors: P. Hu; N.W. Marten; Y. Ouyang
Adjunct Research Associate Professor: S.A. Imam
Resident Clinical Instructors: Z. Ashraf; L. Aye; C. Chang; T. Chong; C. Costales; A. Fong; M. Goebel; R. Golestani; W. Guo; S. Hamidi; T. Jenkins; T. Jong; M. Khoshchereh; T.H. Kim; I. Larsen; J. Makker; A. Mehta; R. O'Connell; N. Plaza; M. Takeda; S. Walia; D. Wang; C. Wei; D. Yau
Resident Clinical Instructors – Fellows: F. Baratelli; M. Boonyasampant; K. Duncan; E. Enbom; B. Kay; X. Li; V. Martin; B. Song; L. Szymanski; N. Tirawi; E. Yung
Emeritus Professors: S.B. Chandor; P.T. Chandrasoma; B.N. Nathwani; J.W. Parker; P. Roy-Burman; N.E. Warner; E.T. Wong
Emeritus Associate Professor: A.D. Cramer
Emeritus Clinical Professors: R.D. Aller; M. Greenblatt; G.G. Hadley; W.H. Kern; D.S. Shillam; R.J. Schroeder
Emeritus Clinical Associate Professor: W.C. Smith
Emeritus Clinical Assistant Professors: R.L. McClure; J.K. Waken
Emeritus Professors of Clinical: K.-M. Chan; D.L. Commins; J.F.P. Dixon; C.B. Inderlied; T.T. Noguchi *(Emergency Medicine, Surgery)*
Emeritus Associate Professor of Clinical: W.P. Lewis
Emeritus Assistant Professor of Clinical: R.B. Hopper
Emeritus Professor of Research: T.L. Lincoln
**Recipient of university-wide or school teaching award.*

The Department of Pathology provides training for both medical and graduate students. Medical students are trained in general, systemic and cellular pathology, providing them with an understanding and visualization of the basic processes underlying symptoms and clinical courses, as well as the ability to evaluate laboratory findings. This department also contributes to the training of residents and fellows at the LAC+USC Healthcare Network, Keck Hospital of USC and the USC Norris Cancer Hospital, Childrens Hospital Los Angeles and Los Angeles County Coroner/Medical Examiner's Office, providing these residents and fellows with an intensive residency program in anatomic and clinical pathology and offering subspecialty fellowship training in surgical pathology, cytopathology, hematopathology, neuropathology and forensic pathology.

The Department of Pathology has a Master of Science program. The two-year MS program provides training in the latest technologies and concepts of biomedical research and provides the graduate with enhanced opportunities for positions in biotechnology companies, teaching colleges and various health department/governmental positions.

With 96 full-time faculty and 52 residents and fellows in training, the USC Department of Pathology is one of the largest pathology departments in the United States. The department has strong and diverse research programs in basic, clinical and translational pathology. Basic research includes programs in stem cell biology and organogenesis, molecular mechanisms of cancer, mechanisms of neurodegeneration and ocular diease, and pathogenesis of liver injury and disease. Clinical research is particularly strong in surgical pathology, cytopathology, hematopathology, immunohistochemistry, molecular pathology, microbiology, neuropathology, ocular pathology and pediatric pathology. Investigators in the department are leading programs developing novel therapeutics utilizing peptides, immunotherapies and stem cells. Residency training has added months in dermatopathology and molecular pathology at Keck Hospital of USC and in cytogenetics at CHLA. The hematopathology fellowship has increased fellowship items from two to three fellows and added Norris Cancer Hospital and CHLA as affiliated institutions, making this one of the leading hematopathology fellowships in the nation. CHLA has also provided funding for a second neuropathology fellow, and rotations at CHLA have been added in surgical and autopsy neuropathology, molecular genetics and research. The forensic pathology fellowship training program at the Los Angeles County Medical Examiner/Coroner's Office has administrative affiliation with the LAC+USC Medical Center.

The department provides diagnostic laboratory services for the LAC+USC Medical Center, the USC Norris Comprehensive Cancer Center and Hospital, Keck Hospital of USC, the USC Clinical Laboratories Group, and all USC Clinics. Approximately 30 of the department's full-time faculty members work in service laboratories throughout the LAC+USC Medical Center, where they are supported by 40 residents and fellows and a technical and clerical staff numbering in excess of 300. The USC Norris Comprehensive Cancer Center and Hospital and Keck Hospital of USC, as well as the USC clinics, are served by 34 full-time pathologists, two fellows, three residents and approximately 200 technical and support staff.

Graduate Programs

General Admissions

Applicants to the graduate program in pathology must have a bachelor's degree from an accredited college or university with an undergraduate major in one of the natural sciences; a minimum cumulative GPA of 3.0 for undergraduate work is required. Applicants must submit undergraduate transcripts and letters of recommendation from two undergraduate teachers with their

application. All applicants must take the general portion of the Graduate Record Examinations (GRE). A combined score of at least 315 for the verbal and quantitative scores is required. International students whose native language is not English must submit scores from the IELTS (International English Language Testing System) or the TOEFL (Test of English as a Foreign Language) examination. Personal interviews by members of the department's graduate committee may be requested.

Original application materials, except letters of recommendation, should be sent to the Office of Admission, University of Southern California. To expedite consideration of the application, applicants should also send photocopies of the application, transcripts and GRE scores to the Pathology Department's graduate committee secretary, Lisa Doumak. Letters of recommendation should be addressed directly to the secretary, graduate committee. Applications are considered for admission to both the fall and spring semesters.

Residency and Fellowship Programs

The Department of Pathology offers six first-year residency positions and 24 residency positions in its fully ACGME-accredited four-year training program in anatomic and clinical pathology at the LAC+USC Medical Center. Training is offered in autopsy and surgical pathology, neuropathology, cytology, microbiology, hematopathology, immunohematology, clinical chemistry, toxicology, immunopathology, cytogenetics, cytogenomics, instrumentation, laboratory management, clinical informatics, electron microscopy, molecular pathology and other specialty areas. The Department of Pathology also offers the Accreditation Council on Graduate Medical Education (ACGME) fully accredited fellowship training in cytopathology (four positions), hematopathology (three positions), neuropathology (two positions), surgical pathology (seven positions) and forensic pathology (six approved positions). Admissions to residency is exclusively through ERAS (Electronic Residency Application Service) and the NRMP (National Resident Matching Program). Applicants to fellowship should contact the fellowship program director and program coordinator directly; the CAP (College of American Pathologists) Universal Fellowship Application Form is accepted by all USC fellowships.

Master's Degree

Experimental and Molecular Pathology (MS)

The Department of Pathology offers a program for the master of science degree with a major in experimental and molecular pathology. The primary objectives of this program are to provide the necessary theoretical and practical training in experimental pathology that culminates with the master of science degree. Goals of the program are to train students in preparation for senior research staff or senior technician positions in academic or industrial institutes, further MD or PhD study, consultantships requiring multidisciplinary backgrounds or advanced teaching positions in community colleges.

Admissions The prerequisite for applicants to this program in pathology is a bachelor's degree with an undergraduate major in one of the natural sciences. A minimum GPA of 3.0 in the natural sciences (including mathematics) is usually required. Applicants must achieve a competitive score on the general portions of the Graduate Record Examinations (GRE). In addition, the department requires at least two letters of recommendation from faculty members who can evaluate the applicant's potential for graduate work. Demonstrated proficiency in the English language is required. International students whose native language is not English must submit scores from the IELTS (International English Language Testing System) or the TOEFL (Test of English as a Foreign Language) examination. Special circumstances may provide consideration for conditional admission.

Course Requirements At least 34 units of graduate study are required. The required courses include INTD 522 Infection and Host Responses 4, INTD 531 Cell Biology 4, INTD 550 Introduction to Pathology 4, INTD 551 Pathobiology of Disease 4, INTD 571 Biochemistry 4, PATH 553 Methods in Cellular and Clinical Pathology 3, PATH 554 Methods in Molecular Pathology 2 and PATH 570a Seminar in Pathology 1, PATH 570b Seminar in Pathology 1. Fourteen or more course units must be taken in the Department of Pathology, 8 units may be pursued outside the department, and a maximum of 8 units of directed research in pathology may be applied to the degree. No more than 4 units of course work taken outside of USC should be applied toward the MS degree requirements. Students considering such an action should submit a petition to the pathology graduate committee and document a rigorous academic standard for the course (reading materials, texts and other performance criteria, lecture content, etc.). The pathology graduate committee reviews the petition and informs the student of its decision.

Master's Examinations/Master's Thesis

The Master of Science has the option of either an experiment-based thesis or theory-based thesis course of study. Each student's program will be tailored to suit individual needs and background. Students who require training mainly in the knowledge of pathology may opt for the theory-based thesis course of study. Students also have an opportunity to register for directed research (PATH 590). For the experiment-based thesis option, the student must take PATH 594a Master's Thesis 2, PATH 594b Master's Thesis 2. For the theory-based thesis option, the student must take GRSC 810 Studies for Master's Examination during the semester they plan to graduate if not otherwise enrolled.

Department of Pediatrics, Division of Medical Education

Keith Administration Building 211
1975 Zonal Avenue
Los Angeles, CA 90089-9024
(323) 442-2372
FAX: (323) 442-2051

Faculty

Division Head: C.C. Fung
Professors: J.G. Nyquist; B.P. Wood
Associate Professors: C.C. Fung; J. Gates *(Family Medicine)*; R.A. Girard; W. May
Assistant Professsors: T. Kovin, D. Souder
Instructor: D. Poole
Clinical Faculty: A.M. Alexander; J. Davis; D.L. Fisher; A. Richards
Emeritus Professors: S. Abrahamson; M.A. Hitchock; K. Hoffman

Established in 1963 as one of the first medical education units in the United States, the division conducts educational programs for four different types of students: medical students; graduate students in education; those teaching in medical and other health professional education settings; and physicians in the postgraduate study of medical education.

The division's primary mission is to enhance the quality of medical education by serving as a resource of educational expertise for planning, developing, and evaluating medical education programs and conducting educational research. Similar activities and programs are conducted with various government and private organizations outside the university.

Major research and training interests of the faculty include the instruction of lay persons to be used as standardized patients for teaching and evaluation, case-based learning, pre-med programs for minority students and interactive video systems.

Administratively, the division is an independent unit in Educational Affairs in the Keck School of Medicine. The faculty hold appointments in the Department of Pediatrics. The division also employs 10 staff and research assistants. All activities of the division are conducted at the USC Health Sciences Campus.

Fellowship Programs

Teaching and Learning

A Teaching and Learning Fellowship program is offered to health care professionals who are engaged in teaching. The primary goals of this fellowship are to provide participants with multiple ways to teach and evaluate effectively. Through seminars, fellows will gain increased understanding of basic principles of teaching and learning and achieve the skills necessary to apply principles effectively.

Educational Leadership

An Educational Leadership Fellowship program is available for health care professionals with two primary goals: to prepare participants for understanding and serving in positions of leadership and enhance fellows' personal and professional effectiveness. Seminars will explore transformational change, team and community formation, group dynamics, organizational culture and resources.

Health Professions Teachers

From time to time, the division offers special workshops or seminars in various subject areas related to the improvement of instruction. Division staff members are available to plan these special programs on request.

Master of Academic Medicine

The program addresses the unique population of medical and health professions faculty who are focused on leading the academic enterprise for health professionals at the undergraduate, graduate and continuing education levels. The six-semester program consists of 32 graduate units and employs a hybrid model, combining on-campus face-to-face sessions, blended with online course work. For more information, see the Academic Medicine (MACM) page.

Postgraduate Program

Individually tailored programs of study in medical education are available to visiting postdoctoral fellows who wish to gain an understanding of principles, problems and practices in medical education. These visiting fellows may spend from a few weeks to a year in residence, participating in ongoing projects, seminars, readings and independent study.

Department of Physiology and Biophysics

Keith Administration Building 400
1975 Zonal Avenue
Los Angeles, CA 90089-9037
(323) 442-1145
FAX: (323) 442-2494
Email: janet.stoeckert@usc.edu
Student Adviser: H. Kaslow, PhD, hrkaslow@usc.edu

Faculty

Information for individual faculty: profiles.sc-ctsi.org/search/
Chair of the Department of Physiology and Biophysics and Director of the Center for Neurodegeneration and Regeneration at the USC Zilkha Neurogenic Institute: Berislav V. Zlokovic, MD, PhD
Director, USC Research Center for Liver Diseases, Chief, Division of Gastrointestinal and Liver Diseases, USC Associates/Thomas H. Brem Chair in Medicine, and Veronica P. Budnick, MD, Chair in Liver Disease: Neil Kaplowitz, MD
Professors: Vito M. Campese; Robert H. Chow; Casey Donovan *(Exercise Science)*; Robert A. Farley* *(Biochemistry)*; Caleb Finch *(Gerontology and Neurobiology)*; Michael Goran *(Preventive Medicine)*; Sarah Hamm-Alvarez *(Pharmaceutical Sciences)*; Cage Johnson *(Professor Emeritus);* Neil Kaplowitz *(Medicine/GI Liver/Patient Care)*; Thomas Keens *(Pediatrics);* Kwang Jin Kim *(Medicine, Biomedical Engineering)*; Herbert J. Meiselman; Austin K. Mircheff; Janos Peti-Peterdi; Richard Watanabe; Alan G. Watts; Li Zhang
Associate Professors: Harvey R. Kaslow; Richard L. Lubman *(Medicine/Pulmonary Patient Care)*; Steven Mittelman; Jang-Hyun Youn
Assistant Professors: Jon Detterich; Joyce Richey
Adjunct Professor: Dwight W. Warren III
**Recipient of university-wide or school teaching award.*

The administrative offices of the Department of Physiology and Biophysics are located on the Health Sciences Campus. Faculty of the department are located predominantly at the Health Science Campus.

Master's Degree

Medical Biophysics (MS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-0230
FAX: (323) 442-9031
Program Director: **R. Farley, PhD, rfarley@usc.edu**

The Medical Biophysics (MBPH) program is designed to attract students who are motivated to pursue graduate degrees in biomedical research areas that require a more quantitative mindset than is demanded in most biomedical research. These students often have backgrounds in mathematics, physics, chemistry and engineering, and are keen to apply their quantitative skills in biomedical research. These potential applicants usually do not apply to the existing MS or PhD programs at USC because faculty members who have research programs of interest to these students often do not have high visibility in the larger existing programs. The MBPH program will include faculty from different departments who have research programs that involve quantitative biophysical laboratory work. Research areas appropriate for the MBPH program include structural biology, neuroscience, membrane biophysics and theoretical biophysics. As the only organizing unit for biophysics research at USC, the MBPH program will be unique and has the potential both to provide new educational opportunities and to strengthen existing graduate programs at USC.

Admission to the Program

Applications to the MBPH program will normally be processed through the online Graduate Admission Application *gradadm.usc.edu/apply/*. Potential applicants will be encouraged to inquire about the program by contacting one or more members of the MBPH program graduate committee prior to submitting the online application. Applicants to the MBPH program will usually have completed course work in mathematics (including calculus), physics, chemistry and biological sciences, and will have earned a Bachelor's degree. Applicants will submit either GRE or MCAT test scores, a personal statement explaining the reasons for applying to the MBPH Program, a brief description of any previous or ongoing laboratory research, and three letters of recommendation. Foreign applicants may be required to submit results from a TOEFL examination. Applicants who are deficient in some areas may be required by the MBPH program graduate committee to remedy the deficiencies as a condition of admittance to the program. The MBPH program graduate committee may recommend admission of a candidate after review of the completed admissions application. Admission to the MBPH program is usually made for an applicant to complete the MS thesis research in a specific laboratory, with the expectation that a thesis will be submitted in partial fulfillment of the requirements for the MS in Medical Biophysics degree. For this reason, at least one member of the MBPH program graduate committee must agree to serve as the research mentor for an entering student. Students will be admitted into the MBPH program upon agreement between a faculty mentor and the student that the student will pursue research leading to the MS degree in the laboratory of the faculty mentor. Normally, students are expected to complete the MS in Medical Biophysics program in two years. A five-year limit is allowed for completion of the degree requirements.

Grades and Continued Enrollment

Continuation in the MBPH program requires an average GPA of

3.0 or greater and a "Pass" or "Credit" in all non-graded courses. The MBPH program graduate committee will review each student's progress at the end of each academic semester. At any time after evaluating a student's progress, the MBPH program graduate committee may require a student to pass a screening examination to be eligible to continue in the program. If a student fails to achieve the required metrics or pass a screening examination, the student's guidance committee will recommend either to place the student on a probationary enrollment status with a defined remediation sufficient to remedy the deficiency, to recommend that the student withdraw from the program, or to dismiss the student from the program.

Course Requirements

Completion of the MS degree requires satisfactory completion of a minimum of 32 units of graduate study. This total includes formal graded course work, courses and seminars graded "Pass/Fail" or "Credit/No Credit," and research units. No fewer than 16 units of formal graded course work are required for the MS in Medical Biophysics.

Thesis Defense

An acceptable thesis based upon completion of an original research investigation is required for the MS in Medical Biophysics. The candidate must defend an approved draft of the thesis in a public oral defense. The Thesis Committee will then meet with the student in a closed session to complete the oral examination. Upon successful completion of the defense, a MS degree in Medical Biophysics is awarded.

If a student does not pass the thesis defense on the first attempt, the MBPH guidance committee may grant a second opportunity to pass according to the policies in the USC Catalogue:

"A student who fails the master's examination may be permitted, at the discretion of the faculty, to take it a second time. The retaking of a failed master's examination must be completed before the end of the second consecutive semester (excluding summer session) following the first examination. Requests for exception must be approved by the department chair. A student may not take the master's examination more than twice and must be appropriately enrolled at USC during the semester in which such an examination is taken or retaken. A student who fails the master's examination a second time may not continue in the degree program after the end of the semester in which the second examination was taken. No exceptions are allowed."

Required Courses

All students in the MBPH program are required to take the following courses:

- BIOC 522 Applications of Physical Methods in Biochemistry Units: 2
- CHEM 521 Basic Principles of Physical Methods in Biochemistry Units: 2
- MBPH 550 Seminar in Medical Biophysics Units: 1
- INTD 531 Cell Biology Units: 4
  Or
- PHYS 690 Introduction to Physical Biology Units: 3
- CHEM 544 Introduction to Quantum Chemistry Units: 4
  Or
- PHYS 558a Quantum Mechanics Units: 3
  In addition, students must receive a Certificate of Completion of INTD 500 no later than the summer following their first semester in the program.
- INTD 500 Ethics and Accountability in Biomedical Research Units: 1

Elective Courses

The balance of graded course work should be selected from the following list of courses, or other courses recommended by the Guidance Committee of the student and approved by the Executive Committee.

- CHEM 538 Mathematical Techniques of Physical Chemistry Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- MPHY 572 Systems Physiology and Disease I Units: 4
- MPHY 573 Systems Physiology and Disease II Units: 4
- PHBI 651 Molecular Modeling and Kinetic Simulations in Membrane Transport Units: 2
- PHBI 650 Mechanisms of Ion and Solute Transport Across Cell Membranes Units: 2
- PHYS 516 Methods of Computational Physics Units: 3
- PHYS 518 Thermodynamics and Statistical Mechanics Units: 3

Note:

As described above, the executive committee may modify the list of required and recommended courses.

Medical Physiology (MS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90089-9031
(323) 442-0230
FAX: (323) 442-9031
Program Director: **H. Kaslow, PhD, hrkaslow@usc.edu**

Physiology is the study of the functions and activities of life and living matter at all levels of organization within an organism. While physiology research is frequently at the molecular level, the tradition of the discipline challenges the researcher to consider all homeostatic and developmental functions of an organism. This tradition can guide research efforts seeking to identify causes of disease and critical physiological functions possessing therapeutic and health-promoting opportunities. The Medical Physiology program focuses on the research experience of the thesis track but in special circumstances will consider applications to the non-thesis track.

Admission Applicants to the Master of Science in Medical Physiology (MPHY) program will have earned a bachelor's degree and completed course work in mathematics (including calculus), physics, chemistry and biological sciences. To be considered, applicants must complete a USC Graduate Admissions application and submit either GRE or MCAT test scores, a brief personal statement explaining the reasons for applying to the program, official transcripts from all academic institutions previously attended and three letters of recommendation. Foreign applicants are required to submit results from a TOEFL or IELTS examination. Potential applicants are encouraged to submit questions regarding the program and application process to the Medical Physiology Graduate Program Office prior to submitting the formal application (physiology@usc.edu). In the personal statement, applicants must specify whether they are applying to the thesis- or non-thesis track and the rationale for that decision. Normally, admission will be in the thesis track and a recommendation to admit an applicant will require MPHY graduate committee approval of an agreement between an applicant and a faculty member who will serve as mentor of the thesis project. The agreement shall specify the general research area of the thesis.

The Medical Physiology graduate program participates in the USC Progressive Master's Degree Program and seeks applications from qualified students (*usc.edu/programs/ugprograms/progressive*).

Course Requirements The master's degree in Medical Physiology requires the completion of at least 32 graduate-level units with a grade point average of 3.0. All students are required to take the following: INTD 531, INTD 561, MPHY 572, MPHY 573, MPHY 590, PM 510L, and at least 2 units in either INTD 574, PHBI 550 or a seminar course approved by the program director. Elective courses must be approved by the director of the MPHY Graduate Program. Students may pursue a thesis option, which requires completion of MPHY 594a, MPHY 594b, MPHY 594z. The thesis track is required when students take less than 26 units of non-research units (i.e., more than 6 research units out of the 32 units required for graduation). Students pursuing a non-thesis option must complete 32 units of approved course work.

Continued enrollment: Continued enrollment in the program requires an average GPA of at least 3.0, a grade of at least B in MPHY 572 and MPHY 573. *Beginning no later than the second year of enrollment, students must enroll in PHBI 550, INTD 574, or equivalent, and achieve a grade of at least B, "Pass" or "Credit."* At

any time, after evaluating a student's progress, the MPHY Graduate Committee, at its discretion, may require a student pass a screening examination to be eligible to progress to the third or later semester of graduate study. If a student fails to achieve these metrics or pass a screening examination, the MPHY Graduate Committee will make a recommendation as to whether or not to place the student on probationary enrollment with a defined remediation sufficient to remedy the deficiency or to recommend the student withdraw or be dismissed from the program.

Thesis track:

The thesis work of a student in the thesis track will be conducted under the guidance of a Master's Student Thesis Committee, which shall consist of at least:

1. The student's adviser who shall chair the committee and be a tenure-track member of the MPHY Graduate Committee.
2. The student's thesis mentor if not the same faculty member as the adviser.
3. One additional tenure-track faculty member of the Department of Physiology and Biophysics.
4. One additional tenure-track faculty member.

Final Examination: Passing the examination requires: 1) submission of a thesis document describing the work of the thesis, and 2) an oral defense of the thesis both to the satisfaction of the Thesis Committee. The thesis document shall be distributed to the student's Master's Thesis Committee and a copy provided to the Medical Physiology Graduate Program Office at least two weeks prior to the oral examination. If the document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. Final acceptance of the document and passage of the oral examination requires the unanimous recommendation of all members of the thesis committee. If the student does not pass the examination on the first attempt, at its discretion the MPHY Graduate Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Non-thesis track:

Final Examination. A comprehensive examination replaces the thesis defense. The MPHY Graduate Committee shall appoint a member of the MPHY Graduate Committee to supervise the final examination process (the "Examination Supervisor"). The examination shall be on a topic approved by the Examination Supervisor and consist of: 1) a document sufficiently discussing the topic, and 2) passing an oral examination on the substance of the topic. The document shall be submitted to the Examination Supervisor at least two weeks prior to the oral examination. If the document is not provided by that date, then the oral examination shall be rescheduled to accommodate this requirement. To qualify as the final examination, all the faculty of the MPHY Graduate Committee shall be invited to attend the presentation with notice given at least two weeks in advance and at least three members of the MPHY Graduate Committee or alternates selected by the program director shall attend.

During and following the presentation, faculty members may pose questions relevant to the presentation to determine if the student has mastered an appropriate breadth and depth of knowledge of physiology. The Examination Supervisor shall then receive reports from faculty attending the presentation, usually within a week, and make a recommendation to the MPHY Graduate Committee as to whether or not the student passed the examination. Unless a member of the Graduate Committee objects, the recommendation shall be considered accepted. If an objection is received a decision shall be made by a secret ballot vote with two thirds of those voting in favor of passage required for passage of the examination. If the student does not pass the examination on the first attempt, at its discretion the MPHY Graduate Committee may grant a second opportunity to pass the examination according to policies in the *USC Catalogue*.

Department of Preventive Medicine

Biostatistics Division
2001 N. Soto Street, Suite 201-A
Los Angeles, CA 90032-3628
Director: W. Gauderman, PhD
(323) 442-1810
FAX: (323) 442-2993
Email: mtrujill@usc.edu
keck.usc.edu/preventive-medicine/
Health Behavior Research Division
c/o USC/IPR
2001 N. Soto Street, Suite 201-B
Los Angeles, CA 90032-3628
Director: Mary Ann Pentz, PhD
(323) 442-8299
Email: barovich@usc.edu
phdhbr.usc.edu
Environmental Health Division
2001 N. Soto Street, Suite 230
Los Angeles, CA 90032-3628
Director: Frank D. Gilliland, MD, PhD
(323) 442-1096
FAX: (323) 442-3272
keck.usc.edu/preventive-medicine/
Master of Public Health Program
2001 N. Soto Street, Suite 201-D
Los Angeles, CA 90032-3628
Director: Louise A. Rohrbach, MPH, PhD
(323) 442-8237
Email: oraliago@usc.edu
mph.usc.edu
Health Promotion and Disease Prevention Studies Program
837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu
Global Health Studies
837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu

Faculty

Distinguished Professor of Preventive Medicine and Flora L. Thornton Chair in Preventive Medicine: Jonathan M. Samet, MD
AFLAC Chair in Cancer Research: Christopher Haiman, ScD
The Dr. Robert C. and Veronica Atkins Chair in Childhood Obesity and Diabetes: Michael I. Goran, PhD
Verna R. Richter Chair in Cancer Research: Duncan Thomas, PhD
Professors: H. Allayee; L. Baezconde-Garbanati; K. Berhane; R. Bluthenthal; C.-P. Chou *(Social Work)*; D. Conti; W. Cozen *(Pathology)*; C. Haiman; W.J. Gauderman; F.D. Gilliland; M. Goran *(Physiology/Biophysics and Pediatrics [CHLA])*; S. Gruskin; R. Haile; H. Hodis *(Medicine)*; T.M. Mack *(Pathology)*; Wendy Mack; R. McConnell; M.A. Pentz; J.M. Samet; K. Siegmund; D. Stram; S. Sussman; T. Valente; D.C. Thomas; J. Unger; R. Watanabe *(Physiology and Biophysics)*; A. Wu
Associate Professors: J.C. Chen; G. Dunton; S. Ingles; A. Leventhal; L. Rohrbach; P.D. Thomas, Jr.
Assistant Professors: J. Barrington-Trimis; B. Belcher; D. Black; C. Breton; C. Curtis; K. de la Haye; S. Eckel; S. Farzan; L. Ferguson; M. Franklin; M. Herting; J. Johnston; J.P. Lewinger; D. Meeker; W. Setiawan; A. Valouev; H. Wipfli

Professor and Clinical Scholar: R. Bluthenthal
Professors of Clinical: E.L. Avol; M. Cousineau; D. Deapen; A. Hricko
Associate Professors of Clinical: V. Cortessis; C. Lane; K. Monroe; E. Nezami; D. Van Den Berg
Assistant Professors of Clinical: D. Barkauskas; T. Bastain; T. Boley-Cruz; H. Dang; R. Habre; R. Karim; S. Kim; S. Kumar; C. Koprowski; L. Liu; K. Miller; C. Patino-Sutton; K. Reuter; A. Ritt; C. Soto; J. Steinberg; S. Tommasi; M. Wilson; M. Withers
Professors of Research: T. Alonzo; J.D. Buckley *(Pediatrics)*; S. Groshen; A. Hamilton; M. Krailo; P. Marjoram; M.C. Pike; M. Stern; R. Sposto
Associate Professors of Research: H. Bersaratinia; H. Mi; J. Milam; J. Wang
Assistant Professors of Research: S. Fruin; J. Huh; K. Islam; M. Kirkpatrick; E. Lee; R. McKean-Cowdin; J. Millsten; R. Pang; L. Park
Adjunct Professors: J. Niland; G. Rennert; D.J.M. Tarantola; H.F. Tseng; J. Zhang
Adjunct Associate Professors: C.N. Bailey-Merz; M.R. Calderon; G. Marks; C.L. Pearce; A. Xiang
Adjunct Assistant Professors: C. Curtis; J. Lawrence; J.A. Longmate; S.V. McKane; S. Montgomery; T. Salam; H. Volk
Emeritus Professors: S.P. Azen *(Biokinesiology and Physical Therapy, Ophthalmology, Occupational Science)*; L. Bernstein; J. Casagrande; B. Langholz; S. Preston-Martin; J. Richardson

The Department of Preventive Medicine is responsible for training medical, graduate and undergraduate students in the areas of biostatistics, epidemiology, health behavior research, public health and preventive medicine. Faculty from the statistical genetics and molecular epidemiology department also perform research in the areas of biostatistics, epidemiology of acute and chronic diseases, and environmental health.

The undergraduate and graduate programs offered by the department are noteworthy for the extensive opportunities offered to the students for involvement in faculty research. It is not uncommon for students to begin working closely with faculty members on research projects as early as their first or second year of study.

Degree Programs

The Department of Preventive Medicine offers the following degree programs:

BS in Global Health
BS in Health Promotion and Disease Prevention Studies
BS in Health Promotion and Disease Prevention/Master of Public Health
BS in Health Promotion and Disease Prevention/MS in Biostatistics
BS in Health Promotion and Disease Prevention/MS in Molecular Epidemiology
BS in Dental Hygiene/Master of Public Health
MS in Applied Biostatistics/Epidemiology
MS in Molecular Epidemiology
MS in Biostatistics
Master of Public Health
Master of Public Health (online)
Master of Public Health/Doctor of Medicine
Master of Public Health (Health Promotion)/PhD in Psychology (Clinical)
Master of Public Health/PharmD
Master of Public Health/ Master of Planning
Master of Public Health/Master of Social Work
PhD in Biostatistics
PhD in Epidemiology
PhD in Preventive Medicine (Health Behavior Research)

The Department of Preventive Medicine also offers the following undergraduate minor programs:

Minor in Cinema-Television for the Health Professions
Minor in Cultural Competence in Medicine
Minor in Environmental Health
Minor in Global Health
Minor in Health Communication
Minor in Nutrition and Health Promotion
Minor in Public Health
Minor in Substance Abuse Prevention

Undergraduate Degrees

Progressive Degree Programs in Preventive Medicine

The Master of Public Health, the Master of Science in Biostatistics and the Master of Science in Molecular Epidemiology programs admit a limited number of undergraduate students to a progressive degree program, which allows them to pursue a master's level degree while completing the bachelor's degree. Applicants to the program must have completed 64 units of course work and must submit their applications prior to the completion of 96 units of course work. Applicants need not submit GRE scores, but are expected to have a minimum GPA of 3.0 at the time of application. The application for admission to a progressive degree program must be accompanied by an approved course plan proposal and two letters of recommendation. The requirements for both the BS and the master's degrees must be satisfied, including a minimum of 128 undergraduate units. For further details on progressive degree programs, see the Requirements for Graduation page.

Graduate Programs

Doctor of Philosophy in Psychology (Clinical)/ Master of Public Health (Health Promotion)

The PhD/MPH dual degree combines knowledge of clinical psychology research and practice with an understanding of health from a population perspective. The student enrolls primarily in the clinical psychology doctoral program and may apply to the MPH program during the first year. During the second and subsequent years, course work is taken in both programs. The dissertation is undertaken through the Department of Psychology.

PharmD/Master of Public Health

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment and in response to the growing demand for pharmacists who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

The PharmD/MPH program spans five years (four years of pharmacy school courses and one year of public health courses). Students begin the core MPH courses following the successful completion of the first year of pharmacy school. The last three years of the program are devoted to the clinical rotations of the School of Pharmacy and to the completion of the elective courses and practicum (field experience) of the MPH program.

All students in the PharmD/MPH program must meet course requirements, grade point average requirements and program residency requirements of both programs. Students must have a cumulative GPA of 3.0 in the PharmD curriculum and a 3.0 in the MPH curriculum to meet graduation requirements.

The PharmD and the MPH degrees are awarded simultaneously upon completion of the School of Pharmacy and the Master of Public Health requirements.

Application and Admissions Requirements

Students may apply to the dual PharmD/MPH degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD

with a minimum 3.0 G.P.A. Students who are accepted only by one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MPH program during their first year of enrollment in the PharmD prior to the MPH published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MPH program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 G.P.A. Students accepted to the dual degree program must maintain a minimum 3.0 G.P.A. in Public Health and PharmD courses.

MD/Master of Public Health

The joint MD/MPH program at the Keck School of Medicine is designed for individuals who envision a medical career that combines public health and medical disciplines. For further information about the joint program, refer to the program page.

Bachelor's Degree

Global Health Studies (BS)

837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, PhD
(213) 740-1060
FAX: (213) 821-1733
Email: bhealthy@usc.edu
hpdp.usc.edu

The Bachelor of Science in Global Health is a multidisciplinary degree of the Keck School of Medicine's Department of Preventive Medicine. This undergraduate program offers an examination of public health and policy issues in the context of global affairs. Students complete course work from Health Promotion and Disease Prevention Studies and International Relations in addition to requirements from other schools of the university. The program provides students with a strong background in understanding and evaluating global health issues and prepares students to become health professionals with international competencies. This program is an ideal major for students interested in medicine, pharmacy, dentistry, international relations, public health, epidemiology, health psychology and health behavior research.

Program Requirements

The Bachelor of Science degree is awarded after students successfully complete 128 units, consisting of 66 units for the major and fulfillment of USC general education requirements including third semester equivalency in a foreign language.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Requirements for the Major (66 units)

The program is divided into core and elective components. As part of the core research requirements, students must complete a directed research requirement, HP 490, with a specific international research focus.

The core component (42–46 units) is required for all students.

Core Courses (32 Units)

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- ECON 203g Principles of Microeconomics Units: 4
- HP 270 Introduction to Global Health Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4
- HP 470 Case Studies in Global Health Units: 4
- IR 308w Economic Globalization Units: 4
- MATH 125g Calculus I Units: 4

Core Research Courses (10-16 Units)

- HP 340L Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Note:

Students must choose 24 units of elective course work from the following lists. At least 8 units must be from HP and at least 8 units must be from IR.

HP Electives (Minimum 8 Units)

- HP 300 Theoretical Principles of Health Behavior Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 404 Religion and Health Units: 4
- HP 405 Sexually Transmitted Diseases: A Global Public Health Priority Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 409 Environmental Impacts on the Brain Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 434 Physical Activity and Health Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 443 Communicating Health Messages and Medical Issues Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- HP 465 Health Status of Indigenous Peoples of America Units: 4
- HP 470 Case Studies in Global Health Units: 4
- HP 483 Global Health and Aging Units: 4
- HP 485 Global Health: Obesity and Nutrition Units: 4

IR Electives (Minimum 8 Units)

- IR 305w Managing New Global Problems Units: 4
- IR 306 International Organizations Units: 4
- IR 307 Contemporary International Politics Units: 4
- IR 308w Economic Globalization Units: 4
- IR 309 Global Governance Units: 4
- IR 315 Ethnicity and Nationalism in World Politics Units: 4
- IR 316 Gender and Global Issues Units: 4

- IR 323 Politics of Global Environment Units: 4
- IR 325 North-South Relations in the Global Economy Units: 4
- IR 339 Public Health and International Relations Units: 4
- IR 344 Developing Countries in World Politics Units: 4
- IR 349 International Law and Politics Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- IR 424w Citizenship and Migration in International Politics Units: 4
- IR 444w Theories of Global Society Units: 4

Other Electives (Maximum 8 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4
- GERO 483 Global Health and Aging Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4

- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- POSC 442m The Politics of Human Differences: Diversity and Discrimination Units: 4
- POSC 451 Politics of Resources and Development Units: 4
- POSC 456 Women in International Development Units: 4
- PPD 250m Cities in the Developing World Units: 4
- PPD 382 International Development Units: 4
- SOCI 432m Racial and Ethnic Relations in a Global Society Units: 4
- SOCI 460 Key Issues in Contemporary International Migration Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Health Promotion and Disease Prevention Studies (BS)

837 Downey Way
Stonier Hall, Suite 101
Los Angeles, CA 90089-1149
Director: Elahe Nezami, Ph.D.
(213) 740-1060
Email: bhealthy@usc.edu
hpdp.usc.edu

The undergraduate program in Health Promotion and Disease Prevention Studies (HP) provides a well-rounded, professionally focused education leading to the Bachelor of Science degree. The program is concerned with the sociocultural, behavioral, psychological, and biological factors contributing to wellness and disease. It is an ideal major for students interested in medicine, pharmacy, dentistry, public health, epidemiology, health psychology and health behavior research. Areas of study include: global health; cultural diversity in medicine; substance abuse prevention and program planning; nutrition and fitness; health promotion of minority and underserved populations; and general public health issues (e.g., HIV/AIDS, violence, health promotion in the workplace and behavioral medicine).

Program Requirements

The Bachelor of Science degree is awarded after students successfully complete 128 units, consisting of 66 units for the major and fulfillment of USC general education requirements including third semester equivalency in a foreign language.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. For more information about USC's general education requirements, see General Education.

Requirements for the Major (66 units)

The program is divided into core and elective components.

The following core component (42 units) is required of all students.

Non-HP Courses (20 Units)

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4 or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4

- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4 or
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4

- CHEM 105aLg General Chemistry Units: 4 or
- CHEM 115aLg Advanced General Chemistry Units: 4

- MATH 108g Contemporary Precalculus Units: 4 or
- MATH 125g Calculus I Units: 4 *

- PSYC 100Lg Introduction to Psychology Units: 4

Note:

**MATH 125 allows students who have placed out of MATH 108 to take a higher-level math class; it also satisfies the math requirement for premedical students.*

HP Courses (22 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 300 Theoretical Principles of Health Behavior Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4
- HP 340L Health Behavior Statistical Methods Units: 4
- HP 350L Health Behavior Research Methods Units: 4

- HP 480 Internship in Health Promotion and Disease Prevention Units: 2, 3, 4 or
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Advanced HP and Health Profession Preparatory Courses

A total of 24 units of electives are required of all students (at least 12 of the 24 must be HP courses).

Electives (24 Units)

- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

- CHEM 105bL General Chemistry Units: 4 or
- CHEM 115bL Advanced General Chemistry Units: 4

- CHEM 322aL Organic Chemistry Units: 4
- CHEM 322bL Organic Chemistry Units: 4

- HBIO 301L Human Anatomy Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 404 Religion and Health Units: 4
- HP 405 Sexually Transmitted Diseases: A Global Public Health Priority Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 434 Physical Activity and Health Units: 4
- HP 440 Happiness, Well-Being, and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- HP 465 Health Status of Indigenous Peoples of America Units: 4
- HP 485 Global Health: Obesity and Nutrition Units: 4

- PHYS 135ag Physics for the Life Sciences Units: 4 and
- PHYS 135bL Physics for the Life Sciences Units: 4 or
- PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics Units: 4 and
- PHYS 152L Fundamentals of Physics II: Electricity and Magnetism Units: 4

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PSYC 336L Developmental Psychology Units: 4
- PSYC 355 Social Psychology Units: 4
- PSYC 437 Adolescent Development Units: 4
- SOCI 350 Social Exclusion, Social Power, and Deviance Units: 4
- SOCI 475 Medical Sociology Units: 4

Minor

Cinema-Television for the Health Professions Minor

This minor introduces pre-health students to the theory and techniques of the cinematic arts and to a set of media practices useful for the implementation of health promotion strategies. This minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in working with film and television producers to disseminate accurate health information to the public. It complements major programs such as biological sciences, chemistry, kinesiology, health promotion and disease prevention studies, and environmental studies.

Required Courses (24 Units)

- CTCS 190g Introduction to Cinema Units: 4
- HP 345 Health Issues in Entertainment Media Units: 4

Two of the following:

- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4

Eight additional units from the following:

- CTAN 451 History of Animation Units: 2
- CTCS 400 Non-Fiction Film and Television Units: 4
- CTPR 301 Creating the Non-Fiction Film Units: 4
- CTPR 375 Functions of a Director Units: 4
- CTPR 385 Colloquium: Motion Picture Production Techniques Units: 4
- CTPR 474 Documentary Production Units: 4
- CTWR 315x Filmwriting Units: 3
- CTWR 412 Introduction to Screenwriting Units: 2
- CTWR 416 Motion Picture Script Analysis Units: 2

Cultural Competence in Medicine Minor

This minor is designed for students who plan to enter careers or professional programs in medicine after graduation and are interested in using cultural knowledge to provide more effective health care. The minor focuses on cultural differences in the understanding of health, disease, health care and risk factors unique to specific populations. The minor provides a foundation for students who want to become effective health care providers in an increasingly diverse society. It complements major programs such as biological sciences, chemistry, kinesiology and environmental studies.

Required Courses (20 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 420m Gender and Minority Health Issues Units: 4

One of the following:

- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 450 Traditional Eastern Medicine and Modern Health Units: 4
- HP 460 Adolescent Health Units: 4
- PSYC 462m Culture and Mental Health Units: 4

Environmental Health Minor

This minor provides students with a basic understanding of environmental health and its challenges. Curriculum will focus on global health, epidemiology (as it relates to environmental exposures), toxicology and exposure science. Students will be prepared to address and prevent environmental health hazards, promote public health and contribute to the resolution of various environmental health challenges. This minor is ideal for pre-health majors across the university.

Required Courses (20 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 320 Biological and Behavioral Basis of Disease Units: 4 *
- HP 408 Environmental Health in the Community Units: 4
- HP 446 Poisons, People, and Politics Units: 4
- HP 448 Global Environmental Changes and Health Units: 4

Note:
**Prerequisite required*

Global Health Minor

This minor provides students with a basic understanding of the factors that determine the health of populations around the globe. Curriculum focuses on the cultural, environmental and clinical aspects of various health topics such as maternal and child health, aging, obesity, infectious disease and others. By studying these issues, students from majors across the university will be prepared to assess and contribute to the resolution of emerging global health challenges. This minor will appeal to a wide variety of majors, particularly majors centered on international affairs, business and health care.

Required Courses (20 Units)

- HP 270 Introduction to Global Health Units: 4
- HP 470 Case Studies in Global Health Units: 4

Three of the following:

- GERO 483 Global Health and Aging Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 422 AIDS in Society Units: 4

Health Communication Minor

This minor is designed to appeal to students with a wide range of interests, including those with a general interest in promoting healthy lifestyle practices through effective communication. These students will be prepared to seek jobs in areas such as the managed care industry, hospitals, wellness programs, broadcast and cable companies, and private and governmental agencies, as well as other organizations looking for experts with demonstrated knowledge in health-related fields

Required Courses (20 Units)

- COMM 302 Persuasion Units: 4
- COMM 385 Organizational Communication Units: 4
- COMM 443 Communicating Health Messages and Medical Issues Units: 4
- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4

One of the following:

- COMM 304 Interpersonal Communication Units: 4
- COMM 308 Communication and Conflict Units: 4
- COMM 315 Health Communication Units: 4
- COMM 324mw Intercultural Communication Units: 4
- COMM 375 Business and Professional Communication Units: 4
- COMM 402 Public Communication Campaigns Units: 4
- COMM 480 Nonverbal Communication Units: 4
- COMM 486 Human and Technological Systems in Organizations Units: 4
- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4

Nutrition and Health Promotion Minor

This minor is designed to appeal to students interested in nutrition, especially in preparation for graduate study in health-related fields (e.g., medicine, public health) or to enter health-related fields of employment. The focus of the minor is on assessing, planning and evaluating dietary intake of individuals or groups under various conditions of health and disease based upon principles of nutrition and behavioral science. Students in this minor will study factors associated with dietary habits and the development of effective individual and group interventions. It complements majors including psychology, gerontology, biological sciences, chemistry, kinesiology and environmental studies.

Required Courses (20 Units)

- HP 230 Nutrition and Health Units: 4
- HP 430 Obesity and Health Units: 4
- HP 431 Behavior and Education Strategies for Nutrition and Fitness Units: 4

Two of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 432 Clinical Nutrition Units: 4
- HP 433 Advanced Topics in Nutrition Units: 4
- HP 460 Adolescent Health Units: 4
- HP 480 Internship in Health Promotion and Disease Prevention Units: 2, 3, 4 , max 4
- HP 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8 , max 12

Public Health Minor

This minor is designed for students interested in a broad array of health issues. The focus of the minor is on reducing disability and mortality from avoidable injuries and chronic disease, educating the community about healthy lifestyles, assuring access to health care, and measuring changes using various indicators over time. This minor teaches students to meet the challenges of the changing environment of the health care system. It complements a number of majors including psychology, sociology, American studies and ethnicity, biological sciences, economics, environmental studies, kinesiology, gender studies, international relations, philosophy, religion, gerontology and political science.

Required Courses (20-24 Units)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4

Three of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 420m Gender and Minority Health Issues Units: 4
- HP 421 Violence as a Public Health Issue Units: 4
- HP 422 AIDS in Society Units: 4
- HP 430 Obesity and Health Units: 4
- HP 441 Health Promotion in the Workplace Units: 4
- HP 442 Chronic Disease Epidemiology Units: 4
- HP 460 Adolescent Health Units: 4

Substance Abuse Prevention Minor

This minor offers students an opportunity to gain an overall understanding of substance abuse as a major modifiable risk factor for illness. It allows students to learn theories of behavior change, to understand the issues in prevention and cessation of drug abuse, and to develop, implement, and evaluate intervention strategies. It

complements a number of majors including psychology, sociology, American studies and ethnicity, biological science and gerontology.

Required Courses (24 Units*)

- HP 200 Introduction to Health Promotion and Disease Prevention Units: 4
- HP 300 Theoretical Principles of Health Behavior Units: 4 *
- HP 410 Issues in Prevention and Cessation of Drug Abuse Units: 4
- HP 411 Drug Intervention Program Design and Evaluation Units: 4

One of the following:

- HP 365gmw Culture, Lifestyle, and Health Units: 4
- HP 370g Introduction to Epidemiology: Methods and Applications Units: 4
- HP 401 Cultural Competence in Medicine Units: 4
- HP 402 Maternal and Child Health Units: 4
- HP 403 Behavioral Medicine Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 421 Violence as a Public Health Issue Units: 4

Note:

*Including prerequisite

Master's Degree

Applied Biostatistics/Epidemiology (MS)

The department encourages applicants with undergraduate degrees in allied health, pharmacology, public health, medicine, biological and clinical sciences or other related fields. Undergraduate preparation should have included applied statistics, college algebra, an introductory course in calculus and basic computer programming. Applicants should also meet the minimum requirements for admission to the Graduate School. Demonstrated proficiency in the English language is essential. With approval of the Graduate School, applicants not meeting these requirements may be conditionally admitted contingent upon maintaining a GPA of 3.0 for the first 12 units of graduate study.

Course Requirements

General requirements include at least 38 units of required courses as follows: 25 units of core courses and at least 9 units of elective courses. In addition, each student must register for four units of PM 594a Master's Thesis, PM 594b Master's Thesis and write a master's thesis.

Core Courses (25 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 517a Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4

Electives (At Least 9 Units)

- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517b Research Methods in Epidemiology Units: 3
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 560 Statistical Programming With R Units: 2
- PM 569 Spatial Statistics Units: 3
- PM 574 Programming In Modern Statistical Software Units: 2
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 611 Advanced Topics in Epidemiology Units: 3

Thesis (4 Units)

- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Additional Requirements

Electives will be determined by the student's needs and interests and will be approved by the student's adviser. When appropriate, courses not listed above may be chosen with approval of the student's adviser. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Thesis Requirement

A master's thesis is required of all students. This thesis consists of a research project approved by the faculty and chosen from problems encountered within the department, in other departments of the Keck School of Medicinen or university or elsewhere in the community.

Biostatistics (MS)

The department encourages applicants with undergraduate degrees in mathematics, statistics or biostatistics, computer science or other related fields. Undergraduate preparation should have included differential and integral calculus, introduction to mathematical statistics, and basic computer programming. Applicants should also meet the minimum requirements for admission to the Graduate School. Demonstrated proficiency in the English language is essential. With approval of the Graduate School, applicants not meeting these requirements may be conditionally admitted contingent upon maintaining a GPA of 3.0 for the first 12 units of graduate study.

Course Requirements

General requirements include at least 39 units of required courses as follows: 28 units of core courses and at least 7 units of elective courses. Each student must also register for 4 units of PM 594a Master's Thesis, PM 594b Master's Thesis and write a master's thesis.

Core Courses (28 Units)

- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3

Electives (At Least 7 Units)

- PM 511cL Data Analysis Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 520L Advanced Statistical Computing Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 534 Statistical Genetics Units: 4
- PM 544L Multivariate Analysis Units: 3, 2 years
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years
- PM 560 Statistical Programming With R Units: 2
- PM 569 Spatial Statistics Units: 3
- PM 574 Programming In Modern Statistical Software Units: 2

- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 603 Structural Equation Modeling Units: 4, 2 years
- PM 604 Health Behavior Research Methods Units: 4

OR

- MATH 542L Analysis of Variance and Design Units: 3
- MATH 543L Nonparametric Statistics Units: 3
- MATH 545L Introduction to Time Series Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 548 Sequential Analysis Units: 3
- MATH 550 Sample Surveys Units: 3

Thesis (4 Units)

- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Additional Requirements

The student's choice of elective courses will be directed by needs and interests and must be approved by the student's graduate adviser. When appropriate, elective courses not listed above may be substituted with approval of the adviser. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Molecular Epidemiology (MS)

Students with a bachelor's degree in quantitative biological sciences will be eligible for admission. In addition, the BA students must have completed at least one year of general biology, one semester of biochemistry and one semester of statistics to be admitted into the Graduate School. Under unusual circumstances, conditional acceptance will be offered to students who do not meet these requirements — allowing them to complete the missing undergraduate courses prior to their full admission into the Graduate School. An introductory biochemistry class is also available in the School of Pharmacy, which may satisfy the biochemistry prerequisite.

Course Requirements

The MS program requires 38 graduate-level units with a minimum grade point average of 3.0 including Epidemiology core courses, 15 units; Biological Sciences core courses, 12 units; at least 3 elective units; Research plus Thesis, 8 units. Students must also complete a Master's thesis.

Epidemiology Core Courses (15 Units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 533 Genetic and Molecular Epidemiology Units: 3

Admission Requrements

We offer Fall, Spring and Summer admissions into the program. For Fall admissions applications need to be submitted by June 15. For Spring admissions applications need to be submitted by November 15 and Summer deadline is April 15. Applicants will be considered on a rolling base. Applicants should hold a baccalaureate degree or foreign equivalent, and have a cumulative GPA of 3 or greater from their most recent degree. All applicants must take the GRE unless they have a doctoral degree.

Biological Sciences Core Courses (12 Units)

- BIOC 575 Predictive and Prognostic Biomarkers in Cancer Treatment Units: 2
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 522 Infection and Host Responses Units: 4
- INTD 531 Cell Biology Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- INTD 550 Introduction to Pathology Units: 4
- INTD 551 Pathobiology of Disease Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 532 Genetics in Public Health and Preventive Medicine Units: 4
- PM 554 Biological Effects of Environmental Toxins Units: 4
- PM 572 Systems Physiology and Disease I Units: 4
- PM 573 Systems Physiology and Disease II Units: 4

Electives (At Least 3 Units)

- PM 517a Research Methods in Epidemiology Units: 3
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 534 Statistical Genetics Units: 4
- PM 537 Chronic Disease Epidemiology Units: 4
- PM 549 Human Molecular Genetics Units: 4
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 560 Statistical Programming With R Units: 2
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 574 Programming In Modern Statistical Software Units: 2
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 586 Reproductive and Perinatal Epidemiology Units: 4
- PM 588 The Practice of Epidemiology Units: 4

Research + Thesis (8 Units)

Research towards the MS thesis can be conducted in combinations of wet and dry labs or dry labs only, and should consist of original work worth of submitting for publication in a peer-review journal. Research can be conducted at a wet or dry lab in Preventive Medicine, Biochemistry, or Pathology. However, a Preventive Medicine faculty needs to be included as co-chair if a thesis supervisor is selected from another department.

- PM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 594a Master's Thesis Units: 2
- PM 594b Master's Thesis Units: 2

Public Health (MPH)

The MPH program is offered in two formats: the traditional format (on-campus) and via distance learning (online). The traditional MPH program allows students to choose from eight tracks: Health Education and Health Promotion, Biostatistics/Epidemiology, Health Communication, Child and Family Health, Global Health Leadership, Health Services and Policy, Environmental Health, and Generalist. The online program allows students to choose from five tracks: Health Education and Promotion, Biostatistics/Epidemiology, Global Health Leadership, Health Services and Policy, and GeoHealth. The curriculum includes a set of core courses for each track and electives. The program also includes a capstone course and an internship placement that integrates academic and practical experiences and prepares individuals to work in governmental and non-governmental organizations in health-related fields.

The master's degree program in public health (MPH) requires a minimum of 47 semester units of required and elective graduate study.

Core Requirements

- PM 501 Foundations in Health Education and Promotion Units: 4

- PM 508 Health Service Delivery in the U.S. Units: 4 or
- PM 509 Comparative Health Care Systems Units: 4

- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 564 Public Health Leadership and Management Units: 3

Additional Requirements

In addition, at least another 20 to 24 units including the practicum and capstone, must be completed in their selected track of study.

Track 1: Health Education and Health Promotion

Required Courses (12 Units)

- PM 526 Communications in Public Health Units: 4 * or
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4 *

- PM 528 Program Design and Evaluation Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4

At least 4 units from the following**:

- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 525 Culture and Health: Global Perspectives Units: 4
- PM 526 Communications in Public Health Units: 4 *
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 536 Program Evaluation and Research Units: 4
- PM 542 Social Network Analysis Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4 *
- PM 564 Public Health Leadership and Management Units: 3
- PM 587 Qualitative Research Methods in Public Health Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course**

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report.

**May not receive credit for both track core and track elective category.*

***Distance learning track elective and elective options are limited. Students should consult their adviser for guidance about available options.*

Track 2: Biostatistics/Epidemiology

Required Courses (At Least 12 Units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4

Select one course from the following:

- PM 527 Epidemiology of Infectious Disease Units: 4 *
- PM 536 Program Evaluation and Research Units: 4 *
- PM 537 Chronic Disease Epidemiology Units: 4 *

At least 4 units from the following**:

- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 517a Research Methods in Epidemiology Units: 3
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4 *
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 532 Genetics in Public Health and Preventive Medicine Units: 4
- PM 536 Program Evaluation and Research Units: 4 *
- PM 537 Chronic Disease Epidemiology Units: 4 *
- PM 542 Social Network Analysis Units: 4
- PM 546 Biological Threats and Terrorism Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 586 Reproductive and Perinatal Epidemiology Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course**

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report.

**May not receive credit for both track core and track elective category.*

***Distance learning track elective and elective options are limited. Students should consult their adviser for guidance about available options.*

The elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser. Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Track 3: Health Communication

Required Courses (8 Units)

- PM 526 Communications in Public Health Units: 4
- PM 536 Program Evaluation and Research Units: 4

At least 8 units from:

- CMGT 510 Communication, Values, Attitudes and Behavior Units: 4
- CMGT 511 Health Communication Units: 4
- CMGT 528 Web Designs for Organizations Units: 4
- CMGT 583 Social Marketing and Entertainment Education Units: 4
- CMGT 587 Audience Analysis Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 542 Social Network Analysis Units: 4
- PM 562 Intervention Approaches for Health Promotion and Disease Prevention Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report.

Track 4: Child and Family Health

Required Courses (12 Units)

- PM 528 Program Design and Evaluation Units: 4
- PM 580 Foundations of Child Health Units: 4
- PM 585 Child Health Policy Units: 4

At least 4 units from:

- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 540 Maternal and Child Nutrition: Practice and Policy Units: 4
- PM 581 Quality and Inequality in Health Care: Examination of Health Services Units: 4
- PM 582 Epidemiology and Prevention of Pediatric Injuries Units: 4
- PM 583 Foundations of Early Childhood Mental Health Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course

2 units of a practicum (PM 596) and 2 units of the capstone (PM

597), ending in a final report.

Track 5: Global Health Leadership

Required Courses (12 Units)

- PM 525 Culture and Health: Global Perspectives Units: 4
- PM 565 Introduction to Global Health Units: 4
- PM 576 Global Health Research and Programs Units: 4

At least 4 units from the following**:

- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 557 Global Environmental Health Units: 4
- PM 563 Organizing and Mobilizing Communities for Public Health Units: 4
- PM 567 Disasters, Conflict and Global Health Units: 4
- PM 568 Ethical Issues in Global Health Units: 4
- PM 577 Global Health, Law and Human Rights Units: 1, 2, 3, 4
- PM 578 Global Health Governance and Diplomacy Units: 4
- PM 587 Qualitative Research Methods in Public Health Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course**

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report.

***Distance learning track elective and elective options are limited. Students should consult their adviser for guidance about available options.*

Track 6: Health Services and Policy

Required Courses (12 Units)

- PM 547 Public Health Policy and Politics Units: 4
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 560 Methods for Policy Analysis Units: 4

At least 4 units from:

- PM 514 Sexually Transmitted Infections: a Systems Approach Units: 4
- PM 528 Program Design and Evaluation Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 536 Program Evaluation and Research Units: 4
- PM 542 Social Network Analysis Units: 4
- PM 548 Prevention and Public Policy Units: 2
- PM 555 Environmental Health, Policy and Practice Units: 4
- PM 577 Global Health, Law and Human Rights Units: 1, 2, 3, 4
- PM 578 Global Health Governance and Diplomacy Units: 4
- PM 585 Child Health Policy Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PM 504 Quality in Health Care Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report

Track 7: Environmental Health

Required Courses (12 Units)

- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 554 Biological Effects of Environmental Toxins Units: 4
- PM 555 Environmental Health, Policy and Practice Units: 4

At least 4 units from:

- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 556 Environment and the Brain Units: 4
- PM 557 Global Environmental Health Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4

Additional Requirements

At least 4 units from any 500- or 600-level course

2 units of a practicum (PM 596) and 2 units of the capstone (PM 597), ending in a final report.

Track 8: GeoHealth (Online Option Only)

Required Courses (8 Units)

- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 583 Spatial Analysis Units: 4

At least 8 units from:

- SSCI 584 Spatial Modeling Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Additional Requirements

At least 4 units from any 500- or 600- level course

And, 2 units of a practicum (PM 596) and 2 units of Capstone (PM 597), ending in a final report

The elective courses will be directed by the student's needs and interests and must be approved by the student's graduate adviser.

Track 9: Generalist

Required Courses (20 units)

Students will complete 20 units of coursework through courses identified with their faculty advisor in an individualized program of instruction that has been tailored to their background and career plans in public health.

Additional Requirements

Students must complete 2 units of a practicum (PM 596) and 2 units of Capstone (PM 597), ending in a final report.

Additional Requirements

Practicum Requirement

A practicum (PM 596) is required of all students. The practicum is provided by an internship rotation through an area of public health practice in a county, state, federal or community-based agency. The practicum offers students the opportunity to observe as well as participate in applying their newly acquired skills and tools. All students are expected to participate in at least one internship and attend a corresponding seminar. An electronic portfolio describing the project and evaluating the outcomes completes the course requirement.

Capstone Requirement

Completion of the capstone course (PM 597) is required of all MPH students during their last semester prior to graduation and is the culminating experience for the master's program. The course draws on students' prior training in the five core areas of public health; their additional required course work in their selected track of study; and their "real world" experience gained in the field prior to their graduation. The capstone class is closely linked to the MPH practicum and is designed to challenge students to reflect and integrate their training and experience with the goal of developing their own individual point of view regarding the role of public health in contributing to the improvement of the health and well-being of populations in the United States, as well as abroad.

Criteria

Students enrolled in one of the MPH professional dual degree programs (e.g., MD/MPH, PharmD/MPH, DPT/MPH, and PhD (Clinical Psychology)/MPH, MPl/MPH) may waive 4 units of the elective requirement and thus are required a minimum of 43 units to graduate. All other students must complete a minimum of 47 units to graduate.

Dual Degree

Master of Public Health/Doctor of Pharmacy (MPH/PharmD)

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment and in response to the growing demand for pharmacists

who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

The PharmD/MPH program spans five years (four years of pharmacy school courses and one year of public health courses). Students begin the core MPH courses following the successful completion of the first year of pharmacy school. The last three years of the program are devoted to the clinical rotations of the School of Pharmacy and to the completion of the elective courses and practicum (field experience) of the MPH program.

All students in the PharmD/MPH program must meet course requirements, grade point average requirements and program residency requirements of both programs. Students must have a cumulative GPA of 3.0 in the PharmD curriculum and a 3.0 in the MPH curriculum to meet graduation requirements.

The PharmD and the MPH degrees are awarded simultaneously upon completion of the School of Pharmacy and the Master of Public Health requirements.

Application and Admissions Requirements

Students may apply to the dual PharmD/MPH degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 G.P.A. Students who are accepted only by one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MPH program during their first year of enrollment in the PharmD prior to the MPH published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MPH program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the Pharm.D. with a minimum 3.0 G.P.A. Students accepted to the dual degree program must maintain a minimum 3.0 G.P.A. in Public Health and PharmD courses.

Master of Public Health/Master of Planning (MPH/MPl)

The Master of Public Health/Master of Planning (MPH/MPl) dual degree is designed for individuals who envision a career that combines urban planning and public health disciplines. This dual degree combines the knowledge of urban planning with an understanding of health from a population perspective. It will provide training for planning, evaluating and guiding healthy community and urban development, and will enable graduates who seek to be agents of change within the profession to assume leadership roles in planning and in public health at the local, state and national levels. The degree requires 36 MPl units and 36 MPH units for a total of 72 units required for the dual degree.

Planning Core Requirements

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Concentration and Planning Studios

Planning Concentration

Students must select 16 units in a concentration from one of the five concentrations in the planning program. Students are required to complete the gateway course and methodology course related to their concentration as part of their preparation for their comprehensive examination. The student's concentration must contain a 4-unit methodology course, a 4-unit gateway course and 8 other units. See further details on the concentrations in the Master of Planning section of the catalogue.

Planning Studios

Students will complete a total of 8 units of domestic or international planning studios under PPD 531L (4) to satisfy this requirement.

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill an internship requirement. Students will take 200 hours of planning internship placement in addition to 2 units in PM 596 and 2 units in PM 597. See below for further internship details for this dual degree.

MPH Core Requirements

- PM 501 Foundations in Health Education and Promotion Units: 4
- PM 508 Health Service Delivery in the U.S. Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 596 Practicum in Public Health Units: 2
- PM 597 Capstone in Public Health Units: 2

MPH Track Core Requirements

Students may choose one of three tracks in the MPH program: Health Education and Promotion; Public Health Policy; or Environmental Health. Students are required to complete the track core requirements (12 units) specific to their chosen track of study. Relevant courses taken in the Price School of Public Policy will be counted toward the MPH track elective requirement required by non-dual degree students. Additionally, students in the dual degree are not required to take PM 564 Public Health Leadership and Management (as opposed to stand alone MPH degree students) because they develop the necessary leadership proficiencies in PPD 500 which provides them with a skill base necessary for development, planning, and management across sectors.

Students will complete a total of 36 units specific to the MPH program.

MPH Practicum Requirement

For PM 596, students will complete an internship specific to meet the competencies of the students' chosen track. Dual degree students will enroll in this 2-unit course and complete a 150-hour placement. The other 150 hours would be waived because students will spend 200 hours during their planning internship, acquiring additional relevant practical experience. (Note: This is consistent with the established dual degree programs with medicine, pharmacy, social work and clinical psychology).

Units required to complete program: 72

Master of Public Health/Master of Science, Social Entrepreneurship (MPH/MS)

The Master of Public Health/Master of Science in Social Entrepreneurship (MPH/MSSE) dual degree program is designed for individuals who wish to create sustainable solutions to public health challenges through the creation of innovative enterprises and organizations. This program combines the business aspects of social entrepreneurship with the knowledge and understanding of public health challenges and how to improve the health of individuals, communities, and populations, locally and globally. It will enable graduates to become agents of change by equipping them with the tools to build innovative enterprises that balance financial sustainability with public health impact, preparing them uniquely to become leaders in the field.

Application and Admission

Applicants to the MSSE/MPH should apply for admission to both schools simultaneously.

Information about the application process and admission

requirements for the MPH degree is available on the MPH Website at *http://mph.usc.edu.*

Information about the application process and admission requirements for the MSSE degree is available on the MSSE Website at *https://www.marshall.usc.edu/msse/admission*

Degree Requirements

The total unit requirement for the MPH/MSSE dual degree is 64 units - 40 units for the MPH degree and 24 units for the MSSE degree.

Students are required to complete 40 units of MPH specific course work, including 24 units of MPH core course work and 16 units of track specific course work. Students may choose from any track within the MPH program.

Students are required to complete 24 units, including all "Required Courses," in the Master of Science in Social Entrepreneurship curriculum. Dual degree program students may not count courses taken outside the USC Marshall School of Business toward the MSSE degree. Visit the Social Entrepreneurship (MS) section of this Catalogue for MSSE degree requirements. The MSSE and the MPH degrees are awarded simultaneously upon completion of all program requirements.

Master of Public Health/Master of Social Work (MPH/MSW)

The Master of Public Health/Master of Social Work (MPH/MSW) dual degree offers the student interdisciplinary preparation in the fields of public health and social work leading to the Master of Social Work (MSW) and Master of Public Health (MPH) degrees.

The dual degree program is a collaborative effort between the USC Suzanne Dworak-Peck School of Social Work and the Department of Preventive Medicine in the Keck School of Medicine. The objectives of the program are to provide students with the knowledge and skills necessary to promote health, prevent disease, and enhance the delivery of health and social services in the community. Students will build interdisciplinary skills and an interdisciplinary professional identity by developing an understanding of the breadth of each field and their interface, while permitting concentration in particular specialization areas. The program prepares graduates for work in a variety of interdisciplinary settings; and for some, it will provide the basis for doctoral study.

Program Requirements:

Students must complete a minimum of 84 units, 37 of which fulfill unique requirements of the MSW, 27 which fulfill the unique requirements of the MPH, and 20 which fulfill the requirements of both degrees. Most students complete both program requirements over three years for full-time students; however, the program may be completed in less time if the student takes a full course load during the two summer sessions (MPH course work only; MSW is not available during the summer).

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

Students will take MPH course work specific to the following public health tracks: health education and promotion; public health policy; or child and family health. MPH track will be determined by the MSW department chosen by the student.

Doctoral Degree

Biostatistics (PhD)

The department offers a degree program leading to the PhD in biostatistics. The program is designed to produce biostatisticians who will have in-depth knowledge of statistical theory and methodology and the ability to apply this knowledge creatively to statistical problems in the biological and health sciences. All students will enroll in a set of core courses that cover both biostatistical theory and applications. Students will then choose from one of four tracks that will allow them to develop expertise in a specific area. The available tracks are: (1) biostatistics theory; (2) statistical genetics; (3) environmental statistics; (4) clinical trials.

Course Requirements

A minimum of 60 units of graduate study is required for the PhD degree; a maximum of 19 of these units may be from research and dissertation. In preparation for the qualifying examination, students are required to take all remaining core and track-specific courses.

Screening Procedure

In preparation for the screening examination, all students must take four core courses: PM 511a, PM 511b and PM 522a, PM 522b. A student failing the screening examination will either terminate or will terminate with the MS degree upon completion of an acceptable thesis.

Qualifying Exam Committee

A formal qualifying exam committee will consist of at least five faculty members. The committee chair and at least two additional members must be affiliated with the student's program. At least three members of the committee must be tenured or tenure track.

Qualifying Examination

The written portion of the qualifying examination will comprise testing on track-specific course content and focus on the student's dissertation topic. An oral examination will ascertain the student's competence in orally communicating this knowledge. Students must pass the written portions and the oral portions in order to pass the qualifying examination.

Annual Research Appraisal (ARA)

Beginning in the second year, each student must register for PM 610 (1 unit) and present an annual progress report to the program oversight committee. Once a dissertation topic has been selected, the annual progress report is presented to the student's qualifying exam committee. Once the student has passed the qualifying examination and is appointed to candidacy, the annual progress report is presented to the student's dissertation committee. The student will meet annually with the dissertation committee, until he or she graduates from the program. The oral portion of the screening examination as well as the qualifying examination and the defense examination will count as ARAs.

Dissertation and Oral Defense

Upon passing the qualifying examination the PhD candidate and his or her chair will recommend a three-member dissertation committee. The dissertation should be completed within two years and should be oriented toward a theoretical-methodological application to a problem area in the biological or health sciences. The oral defense is based on a rough draft or final version of the dissertation. The defense is administered by the dissertation committee, with other faculty invited to attend.

Prerequisite

- PM 510L Principles of Biostatistics Units: 4

Required Courses For All Tracks (Screening Exam Courses)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 522b Introduction to the Theory of Statistics Units: 3

Recommended Courses: All Tracks

- PM 511cL Data Analysis Units: 4
- PM 520L Advanced Statistical Computing Units: 3
- PM 610 Seminar in Biostatistics and Epidemiology Units: 1

Recommended Courses: Biostatistics Theory Track

- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3

Recommended Courses: Statistics Genetics Track

- PM 534 Statistical Genetics Units: 4
- PM 570 Statistical Methods in Human Genetics Units: 4

Recommended Courses: Environmental Statistics Track

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3

Recommended Courses: Clinical Trials Track

- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years

Elective Courses

- BIOC 543 Human Molecular Genetics Units: 4
- BISC 478 Computational Genome Analysis Units: 4
- BISC 502a Molecular Genetics and Biochemistry Units: 4
- BISC 502b Molecular Genetics and Biochemistry Units: 4
- BISC 505 Genomics and Molecular Genetics Units: 4
- BISC 577a Computational Molecular Biology Laboratory Units: 2
- BISC 577b Computational Molecular Biology Laboratory Units: 2
- CSCI 570 Analysis of Algorithms Units: 4
- CSCI 653 High Performance Computing and Simulations Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 572 Systems Physiology and Disease I Units: 4
- INTD 573 Systems Physiology and Disease II Units: 4
- MATH 505a Applied Probability Units: 3
- MATH 505b Applied Probability Units: 3
- MATH 507a Theory of Probability Units: 3
- MATH 507b Theory of Probability Units: 3
- MATH 509 Stochastic Differential Equations Units: 3
- MATH 520 Complex Analysis Units: 3
- MATH 541a Introduction to Mathematical Statistics Units: 3
- MATH 541b Introduction to Mathematical Statistics Units: 3
- MATH 542L Analysis of Variance and Design Units: 3
- MATH 543L Nonparametric Statistics Units: 3
- MATH 545L Introduction to Time Series Units: 3
- MATH 547 Mathematical Foundations of Statistical Learning Theory Units: 3
- MATH 548 Sequential Analysis Units: 3
- MATH 550 Sample Surveys Units: 3
- MATH 578a Computational Molecular Biology Units: 3
- MATH 578b Computational Molecular Biology Units: 3
- PM 511cL Data Analysis Units: 4
- PM 513 Experimental Designs Units: 3
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517a Research Methods in Epidemiology Units: 3
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 520L Advanced Statistical Computing Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 544L Multivariate Analysis Units: 3, 2 years
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 565 Introduction to Global Health Units: 4
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 599 Special Topics Units: 2, 3, 4
- PM 603 Structural Equation Modeling Units: 4, 2 years
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 589 Cartography and Visualization Units: 4

Epidemiology (PhD)

The department offers a degree leading to the PhD in epidemiology. This program may be an extension of the applied biostatistics and epidemiology MS program and is especially aimed at persons with a strong background in medicine: in particular, students enrolled in the MD program of the Keck School of Medicine who wish to interrupt their MD studies after two years to complete a PhD degree. This program is designed to produce an epidemiologist with in-depth statistical skills. The program requires a solid core of courses in methodological aspects of statistics and in statistical thinking as applied to medicine, as well as a solid grounding in epidemiological methods and in certain medical disciplines.

Course Requirements

A minimum of 60 course units with a maximum of 20 units of research and dissertation; passing of screening and qualifying examinations; and completion of dissertation and final oral are required. In preparation for the screening examination the student must take the required core course and elective 33 units of master's level applied biostatistics and epidemiology courses. A student failing the screening examination will either terminate or terminate with the MS degree upon satisfactory completion of a master's thesis. In preparation for the qualifying examination, the student is required to join an on-going research project under the direction of the chair of the qualifying exam committee and directly participate in the conduct of that project. Credit will be given as PM 790 (4 units, two semesters). In addition, it is recommended that the student take PM 610 (at least two semesters). Electives may be selected with the approval of the chair of the qualifying exam committee from courses in the biological sciences or from the medical school. For students in the MD/PhD program in epidemiology, satisfactory completion of the first two years of the MD program will be considered to provide 20 units toward the PhD degree.

Qualifying Exam Committee

The student, in consultation with his/her mentor, will nominate five faculty members to serve on the Qualifying Examination Committee. Three of the faculty must be from the Epidemiology Program and one from another department (the "External Member"). The Committee should reflect a diversity of expertise and typically will include one member from a different division of the Department of Preventive Medicine (e.g., one with subject-matter expertise in the proposed application portion of the dissertation). The role of the Qualifying Examination Committee is to guide the student on development of an appropriate dissertation project, both in content and time commitment, and to evaluate the student's knowledge of the topic, epidemiologic and biostatistical methodology, and readiness for completing the dissertation research.

Qualifying Examination

A written and oral qualifying examination will be completed after the student has completed all general and track-specific course requirements and passed the written screening examination. The written portion of the qualifying examination requires the submission

of a qualifying examination document written by the student that summarizes the current state of knowledge of the research topic, the epidemiologic questions addressed by the work, the work completed to date, and student's proposed plan and timeline to complete the research. The oral portion will be a seminar-style presentation to the Qualifying Exam Committee, focusing on the dissertation proposal, followed by questions from the Committee on both the proposal and the student's general mastery of the field. This exam is open to other interested students and faculty.

In case of failure, the student will have 60 days in which to reschedule and successfully pass the oral exam. A second failure will be grounds for dismissal from the Program.

Annual Research Appraisal and Program Activities

After advancing to candidacy, progress on dissertation research is evaluated annually with an Annual Research Appraisal (ARA) by the Annual Dissertation Committee. A key element is participation in PM 610: Graduate Seminar in Epidemiology and Biostatistics for at least two semesters after passing the Screening Exam. It is recommended that students take PM 610 to gain presentation experience and feedback before completing the qualifying examination and again before completing the final dissertation defense. Students give seminars and research updates that encompass both a global view of their area of investigation and a focus on the problem they are addressing. Having both epidemiology and biostatistics students in the seminar provides valuable experience in communicating their work to a diverse audience. All students provide feedback by filling in a feedback form and by active discussion.

Dissertation

Upon passing the qualifying examination, the PhD candidate and his or her chair will recommend a three-member dissertation committee. The dissertation should be completed within two years and should be oriented toward a methodological application to a problem area in the biological or health sciences.

The Oral Defense

This examination is based on a draft or final version of the dissertation and will be administered by the dissertation committee with other faculty invited to attend.

Language and Other Requirements

Proficiency in the English language is essential.

Course Requirements

Students must complete a minimum of 60 units, with a maximum of 20 units of research and dissertation; pass screening and qualifying examinations; complete the dissertation and the dissertation defense examination. In addition the student is required to join a research project under the direction of one or both of the chairs of the qualifying exam committee and directly participate in the conduct of that project. Credit will be given by the department (DPT) conducting the research project DPT 790 Research (4 units, 2 semesters). In addition, at least two semesters of PM 610 is recommended.

Prerequisites:

As a condition of admission, students must hold a Masters' degree in a related discipline (e.g., mathematics, statistics, epidemiology, public health) and have completed a Masters' thesis. Students entering the program with a relevant Masters' degree that does not require a thesis (e.g. Masters of Public Health) will be assigned an administrative or research mentor upon entering the program who will evaluate their quantitative and writing skills before the student takes the screening exam. All students are required to pass the program screening examination before being fully admitted as a doctoral student in the program. It is preferred that all students admitted to the program have successfully completed a minimum of one class in epidemiology and one class in biostatistics before entering the doctoral program. Some students may be admitted to the program without meeting the Masters' program requirements (e.g., if they have strong research background and clear evidence of ability in the health research field or were admitted through PIBBS), but will be expected to complete PM 510L and PM 512 and pass the screening examination prior to being considered fully admitted as a doctoral student in the program.

- PM 510L Principles of Biostatistics Units: 4 (or the equivalent)
- PM 512 Principles of Epidemiology Units: 4 (or the equivalent)

Screening Exam Core Courses (14 units)

- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 517a Research Methods in Epidemiology Units: 3
- PM 517b Research Methods in Epidemiology Units: 3

Suggested Electives (at least 11 units)

- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 555 Biochemical and Molecular Bases of Disease Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 571 Biochemistry Units: 4
- MICB 551 Procaryotic Molecular Genetics Units: 4
- MPTX 511 Introduction to Medical Product Regulation Units: 3
- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- PM 512 Principles of Epidemiology Units: 4
- PM 515 Multivariate Statistics in Health Behavior Research Units: 4
- PM 516a Statistical Problem Solving Units: 1
- PM 516b Statistical Problem Solving Units: 1
- PM 517a Research Methods in Epidemiology Units: 3
- PM 517b Research Methods in Epidemiology Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 518b Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 522a Introduction to the Theory of Statistics Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 527 Epidemiology of Infectious Disease Units: 4
- PM 529 Environmental Health: An Epidemiological Approach Units: 4
- PM 530 Biological Basis of Disease Units: 4, 2 years
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 534 Statistical Genetics Units: 4
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 544L Multivariate Analysis Units: 3, 2 years
- PM 549 Human Molecular Genetics Units: 4
- PM 551 Statistical Methods in Genome-Wide Association Studies Units: 3
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years
- PM 554 Biological Effects of Environmental Toxins Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 570 Statistical Methods in Human Genetics Units: 4
- PM 571 Applied Logistic Regression Units: 3
- PM 575 Statistical Methods in Environmental Epidemiology Units: 3
- PM 579 Statistical Analysis of High-Dimensional Data Units: 4
- PM 588 The Practice of Epidemiology Units: 4
- PM 603 Structural Equation Modeling Units: 4, 2 years
- PM 604 Health Behavior Research Methods Units: 4
- PM 610 Seminar in Biostatistics and Epidemiology Units: 1
- PM 611 Advanced Topics in Epidemiology Units: 3
- PM 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- PM 794a Doctoral Dissertation Units: 2
- PM 794b Doctoral Dissertation Units: 2
- PSCI 665 Drug Transport and Delivery Units: 4
- PSYC 514 Psychopathology Units: 4
- PSYC 524 Research Design in Developmental Psychology Units: 4
- RSCI 531 Industrial Approaches to Drug Discovery Units: 4

- RSCI 532 Early Stage Drug Development Units: 3
- RSCI 533 Safety Evaluation during Drug Development Units: 3
- SSCI 581 Concepts for Spatial Thinking Units: 4
- SSCI 582 Spatial Databases Units: 4
- SSCI 583 Spatial Analysis Units: 4
- SSCI 585 Geospatial Technology Project Management Units: 4
- SSCI 586 GIS Programming and Customization Units: 4
- SSCI 587 Spatial Data Acquisition Units: 4
- SSCI 588 Remote Sensing for GIS Units: 4
- SSCI 589 Cartography and Visualization Units: 4
- SSCI 591 Web GIS Units: 4

Additional Requirements

Preparation for Screening Examination

The screening examination will be taken after two years in the program. Prior to the screening examination a mentor who will serve on the qualifying exam committee must be identified. The screening examination will consist of a written component and an oral component. The written component will be drawn from the core courses. A student failing the screening examination may be given a second opportunity to retake either one or both portions. Students failing the examination for the second time will terminate with the MS degree upon satisfactory completion of 37 units and an acceptable master's thesis.

Annual Research Appraisal (ARA)

After advancing to candidacy, progress on dissertation research is evaluated annually with an Annual Research Appraisal (ARA) by the Annual Dissertation Committee. A key element is participation in PM 610: Graduate Seminar in Epidemiology and Biostatistics for at least two semesters after passing the Screening Exam. It is recommended that students take PM 610 to gain presentation experience and feedback before completing the qualifying examination and again before completing the final dissertation defense. Students give seminars and research updates that encompass both a global view of their area of investigation and a focus on the problem they are addressing. The oral portion of the screening examination as well as the qualifying examination and the defense examination will count as ARAs.

EPIDEMIOLOGY TRACKS

Please choose one track: Cancer Epidemiology, Genetic Epidemiology, Environmental Epidemiology, Clinical Trials, or General Epidemiology and Methods

Cancer Epidemiology

- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 534 Statistical Genetics Units: 4
- PM 588 The Practice of Epidemiology Units: 4

Genetic Epidemiology

- BIOC 543 Human Molecular Genetics Units: 4
- INTD 531 Cell Biology Units: 4
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 533 Genetic and Molecular Epidemiology Units: 3
- PM 534 Statistical Genetics Units: 4

Environmental Epidemiology

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 553 Human Exposure Assessment for Public Health Units: 4
- PM 554 Biological Effects of Environmental Toxins Units: 4
- PM 558 Environmental Epidemiology: Concepts, Methods, and Practice Units: 4
- PM 569 Spatial Statistics Units: 3

Clinical Trials

- MPTX 512 Regulation of Pharmaceutical and Biological Products Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- PM 513 Experimental Designs Units: 3
- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3

General Epidemiology and Methods

Students may choose to design specific class electives with their advisor, tailored to their unique research interests.

- PM 518a Statistical Methods for Epidemiological Studies I, II Units: 3
- PM 523 Design of Clinical Studies Units: 3
- PM 569 Spatial Statistics Units: 3
- PM 588 The Practice of Epidemiology Units: 4

Preventive Medicine (Health Behavior Research) (PhD)

The Department of Preventive Medicine, Division of Health Behavior Research, offers a degree program in preventive medicine (health behavior), leading to attainment of the PhD. The program is designed to train exceptional researchers and scholars in the multidisciplinary field of health behavior research. Students receive a thorough grounding in academic and research experience, encompassing theoretical and methodological training in such allied fields as communication, psychology, preventive medicine, biostatistics, public health and epidemiology. Students receive research experience by participating in projects conducted through the USC Institute for Health Promotion and Disease Prevention Research (IPR). The doctoral program is full-time: students are expected to enroll for fall, spring and summer semesters.

Assistantships

Financial and educational support is provided to qualified doctoral students in health behavior research. Graduate (research and/or teaching) assistantships are half-time (20 hours per week) and provide tuition remission as well as a monthly stipend.

Computer Language Requirement

Sufficient familiarity in computer languages to operate major software packages for data management and analysis is required.

Course Requirements

The doctoral program in health behavior research is structured as a four to five year course of study for students entering with a bachelor's degree. Time requirements are subject to review and approval by the division's Graduate Program Committee and the Graduate School.

A total of 60 units of graduate study is required for the PhD in health behavior research. Students are required to complete nine core courses: PM 500, PM 511a, PM 511b, PM 515, PM 530, PM 576, PM 601, PM 604 and PM 615 (total of 37 units). Other requirements include: two elective PM courses, one not offered by health behavior faculty (minimum of 7 units); and a minimum of 4 units each in PM 590, PM 690 series (PM 690a, PM 690b, PM 690c, PM 690d, PM 690z), PM 790 and the PM 794 series (PM 794a, PM 794b, PM 794c, PM 794d, PM 794z).

For students entering with a bachelor's degree, one of the directed research projects will be equivalent in scope to a master's thesis. All research experiences/projects must be completed before registering for the PM 794 Doctoral Dissertation series (PM 794a, PM 794b, PM 794c, PM 794d, PM 794z).

Screening Procedure

The progress of each student is reviewed at the end of every academic year. At the end of the second year of study, students who have not made satisfactory progress are advised that they will be dropped from the program unless their progress improves during their second year.

Qualifying Exam Committee

Each student's qualifying exam committee consists of five members, including: no more than three health behavior faculty members; one other member from the Department of Preventive

Medicine; and one member from a doctorate-granting program outside the Department of Preventive Medicine, representing the student's minor field.

Qualifying Examination

Following course work and prior to beginning the dissertation, students must demonstrate written and oral mastery of the general field of health behavior research as well as of their chosen area of specialization. The qualifying process includes a written examination on theory and literature relevant to a selected content area. The examination is administered by the student's qualifying exam committee.

In addition to the qualifying examination, each student is expected to produce the following as evidence of qualification to conduct dissertation research: an academic dossier consisting of a summary of the student's academic record, teaching and research experience, and professional presentations and publications; at least one original empirical research paper of publishable quality, produced in connection with one of the student's courses or research experiences or developed independently; a dissertation proposal; and an oral defense of all the preceding materials.

Department of Stem Cell Biology and Regenerative Medicine

Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC
1425 San Pablo St.
Los Angeles, CA 90033
(323) 865-1266
FAX: (323) 442-8067
Email: scrm@usc.edu
scrm.usc.edu
Chair: Andrew P. McMahon, PhD
Program Director: Henry Sucov, PhD

Master of Science in Stem Cell Biology and Regenerative Medicine

Stem cell biology is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions, create models of human disease and develop cell-based therapeutics.

This intensive one-year program (with an optional second year) will give students a deep understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine. The program includes three didactic lecture courses that address developmental cell biology and human embryology, stem cell biology and regenerative medicine, and translational and therapeutic aspects of stem cell technology; the program also includes an intensive laboratory module that provides guided hands-on experience with stem cells and stem cell laboratory approaches, and several different faculty-led discussion-based courses that allow detailed investigation of specific aspects of stem cell biology and regenerative medicine.

Students completing this program will be well-positioned to proceed to medical or PhD programs, find laboratory or administrative employment in the growing stem cell pharmaceutical domain, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

California is globally recognized as the worldwide center of stem cell science, and USC has invested significantly in building the new Department of Stem Cell Biology and Regenerative Medicine at the Keck School of Medicine of USC, within which this MS program is based and administered.

Admissions Requirements

Applicants must supply a completed application for graduate studies including: transcripts from all institutions previously attended, standardized test scores, a personal statement describing scientific and career interests, and two letters of recommendation. Applications are generally anticipated for fall enrollment, but applications for spring enrollment may also be considered. Applicants to the program must apply to the USC Graduate School and must meet the minimum requirements for admission to the Graduate School. Students are required to have a 3.0 or better overall GPA (or equivalent) and have achieved graduation with a BS or BA degree (or equivalent) before matriculation. Students are expected to have taken the general portion of the GRE exam before application and to have met or exceeded university score requirements. (MCAT scores that are less than five years old may be submitted in lieu of GRE scores by physicians and MD students with a 3.0 LCME-accredited medical school GPA or higher, or by medical school-bound students with a 3.0 undergraduate GPA or higher. DAT scores that are no more than three years old and that reflect a minimum score of 15 in each area may also be submitted in lieu of GRE scores.) Applicants not meeting Graduate School requirements for regular standing may, with the approval of the Graduate School, be admitted with continuing registration requirements. International students from non-English speaking home countries are expected to demonstrate English language proficiency or take remedial English language courses, according to Graduate School policy. Specific prerequisites for this program include completed course work with a B or better grade (or equivalent) in Cell Biology and in Molecular Biology.

Advisement

The program recommends that students meet with the student services adviser each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be given written notification that they have been placed on academic probation. Students who do not raise their GPA to 3.0 after two semesters on academic probation will be academically disqualified.

Master's Degree

Stem Cell Biology and Regenerative Medicine (MS)

Degree Requirements

Graduation requires completion of 25 units, according to the required Year 1 course schedule outlined below. None of these courses may be substituted or waived.

This program is intended to be completed within one academic year, and does not include a requirement for independent laboratory research or a thesis. Students may request approval to undertake laboratory research and continuing course work during a second year research option; students must already be matriculated into the program before making this request, and not all students will be granted this opportunity (selection will be based on academic performance and student research interests, and on availability of laboratory space). During this optional second year, students must enroll in the required Year 2 courses listed below; none of these courses may be substituted or waived.

Required Courses - Year 1, Fall Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 511 Developmental Biology and Human Embryology Units: 4
- SCRM 513 Stem Cells and Regenerative Medicine Units: 4
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Required Courses - Year 1, Spring Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1

- DSR 610 Current Topics in Regenerative Medicine Units: 1
- SCRM 515 Bringing Stem Cells to the Clinic Units: 4
- SCRM 522L Biological Imaging in Stem Cell Research Units: 2
- SCRM 524L Culture and Differentiation of Human Pluripotent Stem Cells Units: 2
- SCRM 555 Writing About Stem Cell Biology and Regenerative Medicine Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2

Required Courses - Optional Research Year 2, Fall Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

Required Courses - Optional Research Year 2, Spring Semester

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 610 Current Topics in Regenerative Medicine Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

University Certificate

Stem Cell Biology and Regenerative Medicine Certificate

The certificate program is designed for current students in the Master of Science in Stem Cell Biology and Regenerative Medicine program at USC, who have completed the requirements for the MS degree and wish to complete a second year of study including an independent research project. Graduates from other programs and other institutions both inside and outside the U.S., who desire advanced training in this field may also be considered for admission. A smaller number of students may come from nontraditional backgrounds (business, legal, etc.) and seek specific training in this discipline in order to advance specific career paths in which they are already employed. All students are expected to already have completed undergraduate courses in cell and molecular biology.

Stem cell biology is one of the newest and most powerful approaches in biomedical science; it offers the opportunity to experimentally approach previously intractable biological questions, create models of human disease and develop cell-based therapeutics. This one-year program will give students a solid understanding of the scientific and clinical underpinnings of stem cell biology and regenerative medicine.

Students completing this program will be well positioned to proceed to medical or PhD programs, find laboratory or administrative employment in the growing stem cell pharmaceutical domain, or engage in public policy or regulatory administration of academic, clinical or business efforts in this expanding discipline.

California is globally recognized as the worldwide center of stem cell science, and USC has invested significantly in building the new Department of Stem Cell Biology and Regenerative Medicine at the Keck School of Medicine of USC, within which this certificate program is based and administered.

Degree Requirements

Graduation requires completion of 16 units according to the course schedule outlined below. None of these courses may be substituted or waived. This program is intended to be completed within one academic year, and does not include a requirement for a thesis.

- DSR 574 Stem Cell and Developmental Biology Seminar Series Units: 1
- DSR 610 Current Topics in Regenerative Medicine Units: 1
- DSR 620 Current Topics in Stem Cell Biology and Organogenesis Units: 1
- SCRM 580 SCRM External Speaker Seminar Series Units: 2
- SCRM 590 Independent Research Units: 1, 2, 3, 4

Note:

DSR 574 (1 unit) and SCRM 580 (2 units) must be taken twice for a total of 6 units. SCRM 590 (1-4 units) must be taken twice for a total of 8 units.

Department of Translational Genomics

Harlyne J. Norris Cancer Research Tower G502
1450 Biggy Street
Los Angeles, CA 90089-9601
(323) 865-1591
Fax: (323) 442-2490
Email: hmanojlo@usc.edu
dtg.usc.edu

Faculty

John D. Carpten, PhD, *Professor and Chair, Director, Institute of Translational Genomics*
David Wesley Craig, PhD, *Professor and Vice Chair, Co-Director, Institute of Translational Genomics*
Carol S. Lin, PhD, *Associate Professor*
Troy A. McEachron, PhD, *Assistant Professor of Research*
Bodour Salhia, PhD, *Assistant Professor*

The Department of Translational Genomics represents an academic department within the Keck School of Medicine of USC with a core mission of developing and driving genetic methodologies toward improvements in patient management and outcomes through translational research and training.

Over the past decade, genomics has led to massive changes in biomedical research in which top medical schools lead in research and clinical trials by leveraging investments in genomics infrastructure coupled to strong bioinformatics. In particular, the emergence next-generation sequencing (NGS) technology has changed how systems are being studied at the molecular, cellular and systems level through hundreds of novel assays. Even further, these assays on NGS platforms have been translated to the clinic, changing how clinical researchers approach patient-driven trials. This may never be more evident than through the recent signing of bi-partisan legislation, the 21st Century Cures Act, the Precision Medicine Initiative, the Cancer Moonshot and the BRAIN Initiative. Genomics represents a central and foundational discipline underpinning these programs; it represents the emerging standard for molecular research. To be competitive small and large universities are making massive investments to build NGS infrastructure, expertise and informatics.

The department is committed to excellence in translational genomics education and research, bringing to bear vast experience and expertise in molecular genetics, genome science, biomedical informatics, translational science, and molecular medicine. The ultimate goal is to serve the Keck community by bridging basic and clinical research through discovery and validation of novel diagnostics and therapeutics for earlier diagnosis and smarter treatments.

Master's Degree

Translational Biomedical Informatics (MS)

Keck School of Medicine of USC
Harlyne J. Norris Cancer Research Tower
1450 Biggy St. NRT 4506
Los Angeles, CA 90089-9601
Email: davidwcr@usc.edu
Program Director: David W. Craig, PhD
dtg.usc.edu/education/translational_bioinformatics

Program Summary

The Department of Translational Genomics is offering a Master of Science (MS) degree in Translational Biomedical Informatics. This MS program aims to train medical students, fellows and other healthcare scientists in biomedical informatics, specifically around translational applications in human health and care moving from bench to bedside. The goal of this program is to provide individuals with a solid biology or medical background a program a degree grant mechanism for transitioning from the bench to the dry-lab in academic biomedical research, clinical research and pharmaceutical research. Graduates will have the practical skills to understand molecular biology, systems biology, structural biology, proteomics, genomic sequencing and genomic tools and datasets.

The program focuses on training in human biomedical informatics centered around applications in healthcare and biomedical research. Students will learn to effectively implement, develop, and design analytical solutions within for different healthcare applications from prototyping to production. Moreover, students will learn by application with a major emphasis on data analysis, data processing, and interpretation of next-generation sequencing (NGS) datasets. Students will be trained and gain an understanding of modern web-development frameworks, and how to extract and interact with a wide variety of databases spanning open access frameworks to restricted and regulated frameworks. A capstone project helps students build an on-line portfolio that showcases both their ability to conduct complex analysis and share their results through interactive web-applications.

The program is intended to be flexible, and attract applicants with training in biology, medicine, and related biomedical disciplines. It will focus on individuals with a background in biology and medicine, and is not intended or appropriate for those with computer engineering and software degrees.

Admission

Applicants should have a minimum cumulative undergraduate GPA 3.0. Applicants should have two semesters/three quarters of General Biology; two semesters/two quarters of General Chemistry, and one semester/one quarter of Statistics.

A minimum score of 300 on the Graduate Record Examinations (GRE) General Test is required. In lieu of GRE, DAT (minimum 18), MCAT (minimum 28 pre-2015 or 505 post-2015) or USMLE may be submitted. Applicants must also supply a statement of purpose and three letters of recommendation from evaluators qualified to assess their potential for graduate work. Please visit program web site for additional information on admission and application procedures.

Advisement

The program recommends that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 28 units of graduate level course work is required for graduation.

Required (24 Units)

- TRGN 510 Basic Foundations in Translational Biomedical Informatics Units: 4
- TRGN 514 Introduction to Human Genomic Analysis Methods Units: 4
- TRGN 515 Advanced Human Genomic Analysis Methods Units: 4
- TRGN 516 Translational Genomics, Applied Databases and Datastructures Units: 4
- TRGN 520 Translational Biomedical Informatics Capstone Portfolio Units: 4
- TRGN 524 Applications of Genomic Technology in Biomedical Research I Units: 4

Electives (4 Units)

- BISC 478 Computational Genome Analysis Units: 4
- BME 528 Medical Diagnostics, Therapeutics and Informatics Applications Units: 3
- INF 510 Principles of Programming for Informatics Units: 4
- INF 549 Introduction to Computational Thinking and Data Science Units: 4
- INF 550 Overview of Data Informatics in Large Data Environments Units: 4
- NIIN 500 Neuroimaging and Systems Neuroscience Units: 3
- NIIN 540 Neuroimaging Data Processing Methods Units: 3
- PM 510L Principles of Biostatistics Units: 4
- PM 538 Introduction to Biomedical Informatics Units: 3
- PM 570 Statistical Methods in Human Genetics Units: 4
- TRGN 525 Applications of Genomic Technology in Biomedical Research II Units: 4
- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2

Translational Biotechnology (MS)

Keith Administration Building 409
1975 Zonal Avenue
Los Angeles, CA 90033
(323) 442-3237
Email: CarolLin@usc.edu
Program Director: Carol S. Lin, PhD, MAE
keck.usc.edu/translational-biotechnology-program/
dtg.usc.edu/education/translational_biotechnology

Keck School of Medicine Department of Translational Genomics offers a Master of Science (MS) degree in Translational Biotechnology. This program combines a unique curriculum and distinctive practical training that exposes students to biotechnology and its applications in translating genomic and molecular insights into developing novel therapies and precision medicine. Drawing strength from the Keck School of Medicine faculty's education, research, and practice expertise, this program educates students on approaches used in the academic research, biotechnology and medical sciences industries.

Program Summary

Students in this program will gain an understanding of:

- the science of human diseases and their interventions
- the role of biotechnology in developing new therapies and precision medicine
- the scope of issues and decisions faced by collaborating basic and clinical researchers in the bench-to-bedside process
- the regulatory framework that impacts the use of new interventions
- the private and public capital that develop the growing biotechnology and biomedical markets.

The program is ideal for those who are passionate about biomedical sciences and would like a career in biotechnology beyond laboratory research.

- Students with a moderate biology background have the opportunity to extend their course work in biotechnology and biological sciences and continue in these fields.
- Professionals in management, investment, regulatory affairs or law in the biotechnology industry are able to extend their knowledge of the science behind this industry, enabling them to make better decisions regarding this rapidly developing technology.

- Students interested in doctoral programs or professional degree programs, such as medical school and law school, will build a strong foundation in biotechnology prior to applying to their top programs of study.

Admission

Admission requirements include a minimum GPA of 3.0 and an undergraduate major in biological sciences, or at least 6 bioscience courses in the molecular, cellular, genetics and biochemistry topics.

A minimum score of 300 on the Graduate Record Examinations (GRE) General Test is required. In lieu of GRE, DAT (minimum 18), MCAT (minimum 28 pre-2015 or 505 post-2015) or USMLE may be submitted. Applicants must also supply a statement of purpose and three letters of recommendation from evaluators qualified to assess their potential for graduate work. Please visit program Website for additional information on admission and application procedures.

Advisement

The program requires that students meet with an academic adviser of the program each semester prior to registration.

Satisfactory Academic Progress

A graduate GPA of at least 3.0 is required at all times. Any student whose graduate GPA falls below 3.0 will be placed on academic probation. Students on academic probation who do not raise their GPA to 3.0 after two semesters of written notification of academic probation will be academically disqualified.

A minimum of 28 units of graduate level course work is required for graduation.

Core Lecture Courses (Required, 12 Units)

Students with strong background in biotechnology may substitute TRGN 536 with another appropriate course, with permission of the program director. A minimum grade point average of 3.0 on all core courses is required.

- TRGN 536 Biotechnology Primer Units: 4
- TRGN 537 Pathway and Target Discovery Units: 4
- TRGN 538 Seminar in Translational Biotechnology Units: 2
- TRGN 543 Biotechnology Entrepreneurship and Commercialization I Units: 2

Experiential Learning (Required, 7 Units)

Experiential learning includes a total of 4 units of TRGN 539 plus two Capstone courses. This program does not require a thesis. Instead, students are required to defend their program capstone through TRGN 540 and TRGN 541, which include practicum conclusion, reflective narratives, and portfolio presentation.

- TRGN 539 Translational Biotechnology Practicum Units: 2, 3, 4
- TRGN 540 Translational Biotechnology Capstone Preparation Units: 1
- TRGN 541 Translational Biotechnology Capstone Defense Units: 2

Electives (At least 9 Units)

At least 4 units must be from TRGN. No more than 4 units of TRGN 590 may be used to fulfill degree requirements.

- BAEP 551 Introduction to New Ventures Units: 3
- BAEP 552 Cases in Feasibility Analysis Units: 3
- BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences Units: 1.5
- BAEP 563 Corporate Entrepreneurship Units: 3
- INTD 504 Molecular Biology of Cancer Units: 4, 2 years
- INTD 531 Cell Biology Units: 4
- INTD 572 Systems Physiology and Disease I Units: 4
- INTD 573 Systems Physiology and Disease II Units: 4
- TRGN 510 Basic Foundations in Translational Biomedical Informatics Units: 4
- TRGN 514 Introduction to Human Genomic Analysis Methods Units: 4
- TRGN 515 Advanced Human Genomic Analysis Methods Units: 4
- TRGN 516 Translational Genomics, Applied Databases and Datastructures Units: 4
- TRGN 524 Applications of Genomic Technology in Biomedical Research I Units: 4
- TRGN 525 Applications of Genomic Technology in Biomedical Research II Units: 4
- TRGN 542 Biotechnology-based Therapeutics Units: 2
- TRGN 544 Biotechnology Entrepreneurship and Commercialization II Units: 2
- TRGN 545 Exploring Chemical and Biological Therapeutic Modalities Units: 2
- TRGN 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

USC Thornton School of Music

Since its founding in 1884, the USC Thornton School of Music has become the center of higher education in music in the western United States and is among the top schools of music in the nation. Situated in the heart of the vital musical life of Los Angeles, USC Thornton brings together a distinguished faculty and gifted students from around the world. It is in this wonderfully diverse cultural milieu that students are offered instruction in virtually all professional and scholarly branches of music, including instrumental and vocal performance, jazz, popular music performance, music production, early music, composition, screen scoring, music industry, musicology, music teaching and learning, arts leadership, pedagogy, choral and sacred music, conducting and opera. In addition to its major programs, USC Thornton also offers a wide array of music minors and general interest courses for students majoring in other disciplines.

The USC Thornton Symphony, Chamber Choir, Concert Choir, Opera, Wind Ensemble, Popular Music Ensembles, Songwriter Showcases, Jazz Orchestra, Contemporary Music Ensemble, Early Music Ensemble and a wide variety of large and small choral and instrumental ensembles offer students a broad performing experience. More than 500 formal and informal concerts and recitals are presented on campus each year and the school regularly presents eminent visiting artists and scholars in master classes, workshops, lectures, seminars and in performance.

Los Angeles is the home of numerous musical organizations whose performances contribute immeasurably to the cultural life of the region, and is also the home of the nation's major recording, radio, film and television industries. All offer abundant opportunities to the serious young music professional.

Music Student Affairs
The Music Complex 200
(213) 740-4721
FAX: (213) 740-5950
Email: studentaffairs@thornton.usc.edu
Assistant Dean: Phillip Placenti

Music Admission
The Music Complex 200
(213) 740-8986
FAX: (213) 740-8995
Email: uscmusic@thornton.usc.edu
Assistant Dean: Phillip Placenti

Arts Leadership
Music Faculty Building 402
(213) 740-1895
Director: Kenneth Foster

Choral Music
Music Faculty Building 416
(213) 740-7418
Chair: Jo-Michael Scheibe

Classical Guitar
Ramo Hall of Music 112
(213) 740-7702
Chair: Brian Head

Composition
Music Faculty Building 308
(213) 740-7416
Chair: Donald Crockett

Conducting
Music Faculty Building 308
(213) 740-7416
Chair: Larry Livingston

Jazz Studies
The Music Complex 118
(213) 740-3119
Chair: Bob Mintzer

Keyboard Studies
Ramo Hall of Music 112
(213) 740-7703
Chair: Alan Smith

Musicology
Music Faculty Building 308
(213) 740-3211
Chair: Joanna Demers

Music Teaching and Learning
Music Faculty Building 402
(213) 740-6935
Chair: Susan Helfter

Music Industry
The Music Complex 118
(213) 740-3224
Email: scmusind@usc.edu
Chair: Paul Young

Music Technology
The Music Complex 118
(213) 740-3224
Chair: Richard Schmunk

Organ
Ramo Hall of Music 112
(213) 740-7703
Director: Ladd Thomas

Popular Music Performance
The Music Complex 118
(213) 740-3244
Chair: Patrice Rushen

Strings
Ramo Hall of Music 112
(213) 740-7702
Chair: Ralph Kirshbaum

Studio Guitar
The Music Complex 118
(213) 740-7399
Chair: Frank Potenza

Vocal Arts
Ramo Hall of Music 112
(213) 740-7704
Chair: Ken Cazan

Winds and Percussion
Music Faculty Building 308
(213) 740-7416
Chair: Kristy Morrell

Keyboard Collaborative Arts
Ramo Hall of Music 112
(213) 740-7703
Director: Alan Smith

Screen Scoring
The Music Complex 118
(213) 821-4192
Email: smptv@usc.edu
Director: Daniel Carlin

All departments may be reached by writing to:
USC Thornton School of Music
Music Faculty Building
Los Angeles, CA 90089-0851
FAX: (213) 740-3217
email: uscmusic@usc.edu
usc.edu/music

Administration

Robert A. Cutietta, DEd, *Dean*
Lucinda Carver, DMA, *Vice Dean, Division of Classical Performance Studies*
Christopher Sampson, MM, *Vice Dean, Division of Contemporary Music*
Peter Webster, PhD, *Vice Dean, Division of Scholarly and Professional Studies*
Jeffrey de Caen, MBA, *Associate Dean for Operations*
Susan Miltner Lopez, MBA, *Associate Dean for Administration and Finance*
Donald Crockett, PhD, *Assistant Dean for Faculty Affairs*
A. Phoenix Delgado, DMA, *Assistant Dean for Advancement*
Brian Head, MM, *Assistant Dean for Academic Programs*
Phillip Placenti, EdD, *Assistant Dean for Admission and Student Affairs*

Faculty

Jascha Heifetz Chair in Music and Distinguished Professor of Strings: Midori Goto, MA*
Robert Mann Chair in Strings and Chamber Music: Glenn Dicterow, BA
Bowen H. "Buzz" McCoy and Barbara M. McCoy Endowed Chair in Jazz at the Flora L. Thornton School of Music, Honoring President Steven B. Sample, 10th President of the University of Southern California: Bob Mintzer, BA*
Gregor Piatigorsky Chair in Violoncello: Ralph Kirshbaum, BA
H. Robert Reynolds Chair in Wind Conducting: H. Robert Reynolds, MM
Alice and Eleonore Schoenfeld Endowed Chair in String Instruction: Alice Schoenfeld, Dipl*
Judge Widney Professor of Poetry and Public Culture: Dana Gioia, MA, MBA
Distinguished Professor of Composition: Morten Lauridsen, DMA*
Professors: Arthur C. Bartner, EdD*; Bruce Brown, PhD*; Ken Cazan, BFA*; Terry Cravens, DMA*; Donald Crockett, PhD*; Robert A. Cutietta, DEd; Kevin Fitz-Gerald, Art. Dipl; Stewart Gordon, DMA*; Jeffrey Kahane, MA; Larry Livingston, MM; Ronald McCurdy, PhD; Richard McIlvery, MM; Erica Muhl, DMA*; Tim Page, BA; Alan Pasqua, BM*; Daniel Pollack, MS*; Frank Potenza, MM*; Jo-Michael Scheibe, DMA; Alan Smith, DMA*; Richard Smith, MM; John Thomas, MM; Frank Ticheli, DMA*
Associate Professors: Joanna Demers, PhD; Yehuda Gilad, Dipl*; Adam Gilbert, PhD; Rod Gilfry, MM; Cristian Grases, DMA; Elizabeth Hynes, BM; David Moore, BM; Robert Moore, PhD
Assistant Professors: Lina Bahn, DM; Ted Hearne, MM; Beatriz Ilari, PhD; Andrew Norman, Art Dipl; Lisa Vest, PhD
Professors of Practice: Daniel Carlin, MM; Lucinda Carver, DMA*; Peter Erskine; Joel Timm, DMA; James Walker, BME
Associate Professors of Practice: Bernadene Blaha, MM; Karen Dreyfus, BM; Kenneth Foster, MA; Rotem Gilbert, DMA*; Mark Goldstein, JD; Brian Head, MM*; Lynn Helding, MM; Susan Helfter, DMA*; William Kanengiser, MM*; Veronika Krausas, DMA; Sharon Lavery, MM; Ken Lopez, BA; Brent McMunn, MM; Kristy Morrell, DMA*; Christopher Sampson, MM; Richard Schmunk, DMA; Nick Stoubis, MM; Nick Strimple, DMA; Scott Tennant, MM
Assistant Professors of Practice: Jeffrey Allen, BA; Thomas Allen, MM; Russell Ferrante, Dipl; Andrew Garver, BS*; Jason Goldman, MM; Sean Holt, MA; Sean Nye, PhD; Antoinette Perry, MM; Stephen Pierce, DMA; Patrice Rushen; Michael Smith, BA; Lisa Sylvester, DMA; Mark Weiser, MM; Paul Young, DMA
Lecturers and Senior Lecturers (Full-time): David Arnay, MM; William Biersach, BA; Sean Friar, PhD; Charles Gutierrez, AA; Patrick Kelley, BM; Jonathan Patterson, DMA; Christopher Roze, DMA; Aaron Serfaty, BFA; Stephen Trovato, BS
Adjunct Professors: Jeff Brabec; Todd Brabec; Bruce Broughton; Martin Chalifour; Suzi Digby; Vincent Mendoza; Norman Pearson; H. Robert Reynolds; Cherry Rhodes; Pepe Romero; Carl St. Clair; James Self; Jo Ann Turovsky; Allan Vogel; Peter Webster; Richard Wolf; Michele Zukovsky
Adjunct Associate Professors: Margaret Batjer; Che-Yen Chen; Judith Farmer; David Howard; Andrew Shulman; Tram Sparks; Bing Wang
Adjunct Assistant Professors: James Babor; Jon Burlingame; Leon Ndugu Chancler; Neal Desby; Susan Feldman; Bruce Forman; Parmer Fuller; Adam Kofler; Leah Morrison; Darek Oleszkiewicz; Joseph Pereira; Robert Sheppard; Andrea Stolpe; Robert Young
Adjunct Instructors: Andy Abad; Ted Ancona; Helane Anderson; Robert Anderson; Adriana Balic; Steve Becknell; Daniel Bell; Sean Dougall; Rachelle Fox; Sara Gazarek; Kathleen Grace; Ben Hong; Alphonso Johnson; Laura Karpman; Dax Kimbrough; Patrick Kirst; Tim Kobza; Marion Kuszyk; Edwin Livingston; Andrew Martin; Mary Mattei; Roy McCurdy; Shawn Mouser; Sung-Hwa Park; David Poe; Michael Powers; John Schmidt; Garry Schyman; Lawrence Shragge; William Skeen; Douglas Tornquist; Vivian Wang
Lecturers (Part-time): Lot Demeyer; Charles Koster; Michael Stever; Jason Yoshida
Emeritus Professors: William Dehning, DMA*; Gary Glaze, MM*; James Hopkins, PhD*; Arend Koole, DLitt et Phil; Frederick Lesemann, DMA*; Thom Mason, DMA; Donald McInnes, MM; Cynthia Munzer, BM; William A. Schaefer, MA; Margaret Schaper, MM*; Alice Schoenfeld*; Bryan Simms, PhD*; Ladd Thomas, DMA; William Thomson, PhD; James Vail, DMA*
Distinguished Professor Emeritus of Composition: Stephen Hartke, PhD*
**Recipient of university-wide or school teaching award.*

Degree Programs

The Thornton School of Music offers professional and academic degrees at the bachelor's, master's and doctoral levels. These degrees are summarized below.

Bachelor of Music: Students working toward this professional degree have a wide choice of specializations: composition, music industry, instrumental performance, jazz studies, popular music performance, music production and vocal arts. Students can take either a single major program or double majors in several combinations such as piano and composition, string, or percussion instrument. The two majors must be offered by different departments but lead to the same degree (for example, Bachelor of Music). Double majors consisting of two majors in the same department are not permitted. The degree is granted by the Thornton School of Music.

Bachelor of Arts: These degrees are designed for students with a strong music background who wish to combine professional music training with substantial study in other disciplines.

Bachelor of Science: Offered by the Thornton School of Music in the specialized area of music industry.

Minors in Music: Eight different minors in music are offered, each approaching the discipline from a unique perspective and with a distinct curriculum: Jazz Studies, Musical Studies (Performance), Musical Theatre, Music Industry, Music Production, Music Recording, Popular Music Studies and Songwriting.

Master of Music: This is a professional degree that represents proficiency in one area of musical practice and relevant knowledge in musical literature, performance and technique. It requires a minimum of 30 graduate units, of which 15 must be at the 500 level or higher. Students complete either a thesis or recital(s) as part of the degree requirements. The degree can be earned in choral music, composition, conducting, jazz studies, keyboard collaborative arts, guitar, organ, piano, voice or instrumental performance, or sacred music. The degree is granted by the Thornton School of Music.

Master of Arts: This degree, offered through the Graduate School in conjunction with the Thornton School of Music, stresses music history or early music performance, with emphasis on scholarly research.

Master of Science: Two degrees are offered in Arts Leadership and Music Industry.

Doctor of Musical Arts: This is a professional degree that represents the highest level of expertise in a major field of musical practice and competence in several additional areas. Students may specialize in choral music, composition, jazz studies, vocal or instrumental performance, or sacred music.

Doctor of Philosophy: Conferred by the Graduate School, this is an academic degree in the field of historical musicology. A substantial background in music, research and languages is required.

Entrance to the Degree Programs

Admission to a degree program is granted through USC's admission process, described in the Admission section of this catalogue. Supplementary materials are also required for students seeking admission to the Thornton School of Music, which are described online at usc.edu/music.

Applicants to a program within the school are screened by appropriate faculty selection committees that hold auditions, interviews and examine supporting materials. Letters of acceptance are issued by the USC Office of Admission.

Audition

A performance audition is required of applicants to most degree and certificate programs in the Thornton School of Music. Detailed information regarding audition requirements for specific Thornton programs is available online at usc.edu/music.

Graduate Record Examinations

Scores from the general test of the Graduate Record Examinations (GRE) are required for application and admission to the Master of Arts, Doctor of Philosophy and certain Master of Music and Doctor of Musical Arts degrees. (The music subject test is not required.) Test scores on the GRE that are more than five years old at the time of application are not accepted.

Placement Tests

Undergraduate transfer students who have had formal study in any of the following areas must take the appropriate placement examination prior to their first registration: aural skills, theory, music history, conducting, analysis, orchestration and performance. The results of these examinations determine placement in appropriate sequential courses.

Admission to Graduate Standing

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office.

MGEEs are administered during the week prior to the first week of classes each fall and spring semester. Entering students must take all required exams at the scheduled exam time prior to the beginning of their first semester in the program. If any given exam is not passed on the first attempt, that exam can be retaken at the scheduled exam time prior to the beginning of the second semester in the program. If the exam is not passed on the second attempt, the corresponding review course must be successfully completed with a grade of B minus or better before the beginning of the third semester in the program. No MGEE can be attempted after the second semester in the program, regardless of whether the exam has previously been attempted. If students complete any MGEE after their second semester in the program, the score earned on said exam will be invalid. Failure to fulfill all MGEE requirements by the beginning of the third semester – either through exams or review courses – may delay permission to fulfill degree requirements such as recitals, comprehensive or qualifying examinations, thesis projects, and dissertations, and may also have a negative impact on financial aid eligibility.

If a student is not able to take an exam at the scheduled exam time, the exam administrator may choose to administer a similar exam at another scheduled time during the first week of the semester. This alternate exam time will be arranged in rare cases and at the sole discretion of the exam administrator.

Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS)

The Thornton School of Music adheres to the USC Admission policies regarding TOEFL and IELTS scores. With some exceptions, international applicants from non-English-speaking countries are required to submit these scores by the application deadline. Test scores that are more than two years old at the time of application are not accepted. For any applicant whose first language is not English, regardless of educational background or immigration status, the Thornton School may require as a condition of admission that she or he take the International Student English (ISE) exam, administered by the USC American Language Institute, as well as complete any English language course work that may be prescribed from the results of that exam.

Advanced Standing Credit for Music Courses Taken at Accredited Institutions

Music courses completed with satisfactory grades at a regionally accredited institution of higher education may be acceptable for transfer. A review of transcripts and course syllabi will be required in order to determine transferability of course work. The Thornton School may also require a student to take a placement test (at no cost) to determine the extent of his or her knowledge in a given area of musical study before a final determination is made regarding transferability of course work.

Advanced Standing Credit for Music Courses Not Taken at Accredited Institutions

Music courses completed at an institution that is not regionally accredited will generally not be transferable. In exceptional cases, the Thornton School may consider petitions for transfer credit for these courses. The petition review process will include evaluation of transcripts with letter grades, course syllabi for each course for which transfer credit is being requested, and examples of work completed for a grade in those courses. Additional information may also be required in order for the Thornton School to complete a full transfer credit evaluation.

Curriculum Requirements

The curriculum requirements for each major are listed under each degree. The USC course classification and numbering system is explained in the Registration section of this catalogue. In addition, music courses sometimes carry the following abbreviations: CD = Conducting; CG = Classical Guitar; HC = Harpsichord; OR = Organ; P = Piano; SG = Studio Guitar; VA = Viola; VC = Voice Coaching; VO = Voice.

Change of Curriculum

To change from one curriculum to another, a student must apply and be approved for the new curriculum by the appropriate department chair and declare the intent to change curriculum through his or her academic adviser in the Thornton School.

Non-Degree Programs

Students who have highly specialized interests that may not be met through degree programs may apply for admission to one of the following non-degree programs.

Artist Diploma Program

This program is designed for young artists of exceptional ability and musical sensitivity who plan careers as solo performers. The Artist Diploma Program provides young artists the opportunity to devote their full time to concentrated study and practice for the duration of their assigned programs. This program typically requires two to three consecutive years of study for completion.

Graduate Certificate in Arts Leadership

The graduate program in arts leadership is a two-semester certificate program for artists, arts administrators and cultural workers of all types to develop the skills necessary to become successful leaders in the arts and arts organizations in a rapidly changing and radically altered contemporary world.

Graduate Certificate Program in Performance

This two-year graduate-level program is designed for students

who have completed their undergraduate education in music, or its equivalent, and intend to concentrate their energies on the full-time development of their discipline.

Honor Society

Pi Kappa Lambda

Pi Kappa Lambda is a national honor society established in 1918 for the promotion and recognition of scholarship and performance in music. Students of the Thornton School of Music are eligible for election to Eta chapter at the University of Southern California, established in 1923, according to guidelines established by the board of the Eta chapter.

Undergraduate Degrees

Minors in Music

Minor in Performing Arts Studies

The minor in performing arts provides an interdisciplinary inquiry into the nature and aesthetics of the performing arts. It combines the disciplines of cinematic arts, dance, music and theatre. The minor is a unique course of study that looks at how the performing arts contribute to a culturally literate society. See the USC School of Dramatic Arts section of this catalogue.

Graduate Degrees

Admission-Audition Requirements

Applicants to graduate programs in the Thornton School of Music must fulfill all music admission requirements described at usc.edu/music, in addition to fulfilling all USC graduate admission requirements. See Thornton School of Music Degree Programs and Entrance to the Degree Programs sections of this catalogue for further information.

Bachelor's Degree

Choral Music (BA)

Overview

The Bachelor of Arts in Choral Music combines the flexibility of a Bachelor of Arts program with an in-depth education in choral music that includes an introduction to choral music and course work in choral conducting, choral development, choral arranging, diction and choral ensemble.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (6 units)

- MPVA 301 Individual Instruction Units: 1, 2
  6 units total of MPVA 301 (Choral)

Music Ensembles (8 units)

- Choral Music Ensemble at the 300-level: eight 1-unit courses

Program Intensive Courses (12 units)

- MPVA 442 Introduction to the International Phonetic Alphabet Units: 2
- MUCD 340 Choral Conducting I Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCM 320 Introduction to Choral Music Units: 2
- MUCM 440 Choral Development Units: 2
- MUCO 441 Choral Arranging Units: 1, 2 (2 units total of MUCO 441)

Core Thornton Academic Courses (38 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (12 units)

Three 4-unit courses in the same language

Electives (20 units)

Total required for degree: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Composition (BM)

Overview

The Bachelor of Music in Composition consists of course work in the major, core music studies (theory, aural skills, music history, keyboard instruction, conducting, ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC.

It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (4 units)

- MPKS 301 Individual Instruction Units: 1, 2
  4 units total of MPKS 301 (Piano)**

Music Ensembles (6 units)

Large ensemble electives: four 1-unit courses***
Ensemble electives: two 1-unit courses

Program Intensive Courses (40 units)

- MUCO 135 Counterpoint I Units: 2
- MUCO 137a Composition I Units: 4
- MUCO 137b Composition I Units: 4
- MUCO 235 Counterpoint II Units: 2
- MUCO 236 Orchestration I Units: 2
- MUCO 237a Composition II Units: 4
- MUCO 237b Composition II Units: 4
- MUCO 336a Orchestration II Units: 2
- MUCO 336b Orchestration II Units: 2
- MUCO 337a Composition III Units: 2
- MUCO 337b Composition III Units: 2
- MUCO 434 Analytical Techniques Units: 2
- MUCO 435 Counterpoint III Units: 2
- MUCO 437a Composition IV Units: 2
- MUCO 437b Composition IV Units: 2

2 units from the following:

- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8

Core Thornton Academic Courses (44 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPKS 350a Keyboard Instruction II Units: 2
- MPKS 350b Keyboard Instruction II Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCD 340 Choral Conducting I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Electives (6 units)

Capstone Project

Senior Recital: 0 units

Total Required For Degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Requirement may be fulfilled with MPKS 301 Piano if proficiency level equivalent to MPKS 350b is demonstrated by examination.*
****Transfer credit may not fulfill the large ensemble requirement.*

Jazz Studies (BM)

Overview

The Bachelor of Music in Jazz Studies consists of course work in the major, core music studies (theory, aural skills, music history, conducting, large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A senior recital or senior project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital or project, including content, length, format and/or other specifications. Note that senior projects must first be approved by the Jazz faculty. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives
GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)
Writing
- WRIT 150 Writing and Critical Reasoning–Thematic Approaches Units: 4
- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)
- MUJZ 153 Individual Instruction Units: 1, 2
  4 units total of MUJZ 153 in your primary instrument
- MUJZ 253 Individual Instruction Units: 1, 2
  4 units total of MUJZ 253 in your primary instrument
- MUJZ 353 Individual Instruction Units: 1, 2
  4 units total of MUJZ 353 in your primary instrument
- MUJZ 453 Individual Instruction Units: 1, 2
  4 units total of MUJZ 453 in your primary instrument

Music Ensembles (14 units)
Choose 14 units from the following as directed by the department:
- MUEN 305 Vocal Jazz Ensemble Units: 1
- MUEN 326 Guitar Ensemble Units: 1
- MUEN 329 Jazz Ensemble Units: 1
- MUEN 332 Jazz Chamber Music Units: 1

Program Intensive Courses (28 units)
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 195L Jazz Elements I Units: 2
  4 units total of MUJZ 195
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 395 Jazz Elements II Units: 2
  4 units total of MUJZ 395
- MUJZ 400 Arranging for Jazz Ensemble Units: 2
- MUJZ 443 Jazz Pedagogy Units: 2

Select 4 units from the following:
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4

Core Thornton Academic Courses (24 units)
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUSC 496 Careers in Music Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUJZ 350g A History of Jazz Music Units: 4

One course from the following:
- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Electives (18 units)

Capstone Projects
Senior Recital or Senior Project: 0 units

Total required for degree: 132
** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Music (BA)

Overview

The Bachelor of Arts in Music combines the flexibility of a Bachelor of Arts program with an in-depth education in music that includes theory, aural skills, music history and keyboard instruction.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Curriculum Requirements

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

Core Literacies
GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives
GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing
- WRIT 340 Advanced Writing Units: 3, 4

Lessons (6 units)
Individual Instruction at the 301 level in primary instrument/voice
- 6 units total of individual instruction

Music Ensembles (4 units)
Ensemble Electives at the 300-level: four 1-unit courses

Core Thornton Academic Courses (38)
- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2

- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (12 units)

Three 4-unit courses in the same language

Music Electives at the 300 or 400 Level (16 units)

Electives (20 units)

Total required for degree: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Curriculum Areas of Study

Within the curriculum for the BA, students may wish to focus in a particular area of music that suits their interest and the faculty's expertise. Students may specialize in one area or may design individual programs of study by choosing various combinations of electives that best meet their needs and career objectives. Relevant courses for each area are posted at usc.edu/music. One such option is listed below.

Vocal Jazz Option: This option is designed for students with a strong interest in the performance of solo and ensemble vocal jazz music. Students should take two semesters of Vocal Jazz Techniques, as well as individual instruction in jazz voice. Students may also perform in vocal ensembles and with instrumental combos.

Music Industry (BM)

Bachelor of Music

The Bachelor of Music (BM) is a professional degree granted by the Thornton School of Music. The various majors for the degree are listed below, along with specified requirements for each.

Senior Recital/Culminative Project

All performance majors are required, as indicated in the specific curriculum listings below, to either present a senior recital or complete a culminative project. Both must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determine the detailed requirements of these recitals and projects, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recital or complete the project, reservations must be made according to the current guidelines of the Music Operations office.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing.

The provost has allowed an exception to the rules governing the new general education requirements for certain groups of students pursuing performance degrees in music. Students pursuing the Bachelor of Music in Jazz Studies or the Bachelor of Music in Performance (in all tracks except organ) may satisfy their social issues and first writing requirement separately by taking WRIT 130 (instead of WRIT 150) in the spring of their freshman year. In addition those pursuing the Bachelor of Music in Performance (vocal arts) may satisfy Category I of the new program with MUHL 331 and MUHL 332.

In all other respects, students in the Thornton School of Music must satisfy the general education requirements as described on the General Education Program page.

Individual Instruction Limitations

Music majors may accumulate a maximum of 16 units of individual instruction at the 300 level toward an undergraduate degree program.

Entrance Requirements

Applicants must submit the Thornton School of Music Supplementary Application, a statement of objectives, resume and repertoire list. A performance audition according to the requirements of the department of the applicant's primary instrument or voice is also required.

Curriculum Requirements

- General education 6 courses
- Writing 2 courses
- MPxx 153 Units: 4 units total of individual instruction in primary instrument/voice
- MPxx 253 Units: 4 units total of individual instruction in primary instrument/voice
- MPxx 353 Units: 4 units total individual instruction in primary instrument/voice*
- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2

- MUCD 340 Choral Conducting I Units: 2 or
- MUCD 343 Instrumental Conducting I Units: 2

- Ensemble electives Units: 2 units total
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 231 Music History Units: 3
- MUHL 232 Music History II Units: 3
- MUHL 331 Music History III Units: 3
- MUHL 332 Studies in Musical Culture Units: 3
- MUIN 270 Introduction to the Music Industry Units: 4
- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 360 Introduction to Music Law Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4 (8 units total)

Two courses from the following:

- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 385 Radio in the Music Industry Units: 4
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 435 Manufacture and Distribution of Musical Products Units: 4
- MUIN 440 Arts Management Units: 4
- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 445 International Music Industry Units: 4
- MUIN 495 Web Design for the Music Industry Units: 4

Music Technology requirements:

- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4

6 units from the following:

- MUIN 287 The Business and Economics of the Recording Industry Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MTEC 389 Digital Equipment and Recording Units: 2

- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 392b Acoustics and Speaker Design Units: 2
- MTEC 442 Operation of the Radio Studio Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MTEC 477 Remote Recording Techniques Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 494 Classical Music Recording Units: 4
- MUIN 496 Music Media Solutions Units: 4

Electives: 6 units

Junior Recital: 0 units

Total required for degree: 132

**All individual instruction units must be taken in the same area in which the students auditioned.*

Music Industry (BS)

Overview

The Bachelor of Science in the Music Industry is a professional degree that prepares students to enter a variety of careers in the music industry of today. Students must fulfill a series of core requirements for the degree.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Business-related Requirements

In addition to the above general education requirements, the following courses offered through the USC Marshall School of Business, the USC Leventhal School of Accounting and the USC Dornsife College of Letters, Arts and Sciences are required.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Business Related Courses (12 units)

- ACCT 410x Foundations of Accounting Units: 4
  Any 4 unit ECON course

One course from the following:

- BAEP 450 Fundamentals of Entrepreneurship Units: 4
- BAEP 451 The Management of New Enterprises Units: 4

Program Intensive Courses (28 units)

- MPPM 100 Popular Music Forum Units: 1 (2 units total of MPPM 100)
- MTEC 175 Fundamentals of Audio Recording Units: 2
- MTEC 176 Critical Listening Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUIN 360 Introduction to Music Law Units: 4
- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4 (4 units total of MUIN 450)
- MUIN 497 Current Topics, Case Studies, and Analysis Units: 2 (4 units total of MUIN 497)

Select 12 units from the following:

- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MUIN 372 Business and Legal Aspects of the Music Industry Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 435 Manufacture and Distribution of Musical Products Units: 4
- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 444 Music Supervision Units: 4
- MUIN 445 International Music Industry Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4
- MUIN 475 Advanced Concert Management Units: 4
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MUIN 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
- MUIN 495 Web Design for the Music Industry Units: 4
- MUIN 496 Music Media Solutions Units: 4

Select 8 units from the following:

- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MUIN 476a Advanced Sound Reinforcement Units: 2
- MUIN 476b Advanced Sound Reinforcement Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 442 Operation of the Radio Studio Units: 2
- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 477 Remote Recording Techniques Units: 2

- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 486 Computer-Assisted Music Editing for Picture Units: 2
- MTEC 493 Audio Signal Processing Equipment Units: 2

Select 4 units from the following:

- BUAD 307 Marketing Fundamentals Units: 4
- MKT 385x Marketing of Creative Disruption and Innovation Units: 4
- MUIN 410 Marketing, Branding and Strategic Alliances in Music Units: 2
- MUIN 420 DIY Music Marketing Units: 2

Select 4 units from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 6 units from the following:

- MPGU 120a Beginning Pop/Rock Guitar Units: 2
- MPGU 120b Beginning Pop/Rock Guitar Units: 2
- MPGU 120c Beginning Pop/Rock Guitar Units: 2
- MPGU 121 Intensive Beginning Pop/Rock Guitar Units: 4
- MPKS 150a Beginning Piano Units: 2
- MPKS 150b Beginning Piano Units: 2
- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2
- MPPM 340 Intermediate Drum Set Proficiency Units: 2
- MPVA 141 Class Voice Units: 2
- MPVA 241 Intermediate Class Voice Units: 2
- MUCO 101x Fundamentals of Music Theory Units: 2
- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2
- MUSC 355 Songwriting II Units: 2
- MUSC 455 Songwriting III: The Performing Songwriter Units: 2

Electives (20 units)

Capstone Projects (2 units)

- MUIN 498a Final Capstone Project Units: 1
- MUIN 498b Final Capstone Project Units: 1

Total units: 128

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Music Production (BM)

Overview

The Bachelor of Music in Music Production consists of course work in the major area, core music classes, USC's general education and writing, as well as electives to take advantage of the offerings of the Thornton School and of the entire university.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons and Forum (6 units)

- MPPM 100 Popular Music Forum Units: 1
  2 units total of MPPM 100
- Individual Instruction at the 301 level in primary instrument/voice (4 units)

Music Ensembles (2 units)

Music Ensemble at the 300-level: two 1-unit courses

Program Intensive Courses (42 units)

- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2 ****
- MTEC 176 Critical Listening Units: 2
- MTEC 237a Music Production I Units: 2
- MTEC 237b Music Production I Units: 2
- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 337a Music Production II Units: 2
- MTEC 337b Music Production II Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2

- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4
  2 units total of MTEC 474a
- MTEC 478 Advanced Multichannel Remix Units: 2
- MUIN 270 Introduction to the Music Industry Units: 4
- MUSC 255 Songwriting I Units: 2

One course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2

8-units from the following:**

- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2
- MTEC 248 Introduction to Music Notation Units: 1
- MTEC 249 Introduction to Web Design for Musicians Units: 1
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 430 Advanced Instrumental Recording Units: 2
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4
- MTEC 479 Audio Mastering Units: 2
- MTEC 491 The Recording Console Units: 4
- MTEC 493 Audio Signal Processing Equipment Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4
- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 440 Arts Management Units: 4
- MUIN 450 Practicum in Music Industry Issues (Internship) Units: 2, 3, 4 ***
- MUIN 495 Web Design for the Music Industry Units: 4

Core Thornton Academic Courses (34 units)

- MUCO 131a Harmony in Popular Music Units: 2
- MUCO 131b Harmony in Popular Music Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUHL 250g Music and Ideas Units: 4

One course from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUJZ 350g A History of Jazz Music Units: 4

One course from the following:

- MUHL 351 Western Art Music History II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

4-units from the following:**

- MPPM 325a Arranging in Popular Music Units: 2 ***
- MPPM 325b Arranging in Popular Music Units: 2 ***
- MUCO 338x Elementary Orchestration Units: 2
- MUJZ 400 Arranging for Jazz Ensemble Units: 2
- MUSC 355 Songwriting II Units: 2

Electives (14 units)

Capstone Projects (2 units)

- MTEC 498a Senior Project Units: 1
- MTEC 498b Senior Project Units: 1

Total required for degree: 132

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Courses may be chosen from the list or in consultation with the chair of Music Technology.*
****Prerequisite required.*
*****Keyboardists will substitute a class in drums, guitar or voice.*

Performance (Classical Guitar) (BM)

Overview

The Bachelor of Music in Classical Guitar consists of course work in the major, core music studies (theory, aural skills, music history, keyboard instruction, conducting and large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons and Performance Classes (30 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Classical Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Classical Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Classical Guitar)

- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Classical Guitar)
- MPGU 257 Classical Guitar Performance Class Units: 2
  8 units total of MPGU 257
- MPGU 457 Classical Guitar Performance Class Units: 2
  6 units total of MPGU 457

Music Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  6 units total of MUEN 326
- Large ensemble: two 1-unit courses**
- Ensemble electives: two 1-unit courses

Program Intensive Courses (16 units)

- MPGU 159 Functional Skills for Studio Guitarists I Units: 2
- MPGU 259 Functional Skills for Classical Guitarists I Units: 2
- MPGU 357 Advanced Classical Guitar Techniques Units: 2
- MPGU 417 Classical Guitar Pedagogy Units: 2
- MPGU 426 Classical Guitar History and Literature Units: 3
- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 3
- MPGU 459 Functional Skills for Classical Guitarists II Units: 2

Core Thornton Academic Courses (40 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

One course from the following:

- MUCD 340 Choral Conducting I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2

Electives (4 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Transfer credit may not fulfill the large ensemble requirement.*

Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (BM)

Overview

The Bachelor of Music in Winds and Percussion consists of course work in the major, core music studies (theory, aural skills, music history, conducting, ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons and Performance Classes (24 units)

- MPWP 153 Individual Instruction Units: 1 or 2
  4 units total of MPWP 153 in your primary instrument
- MPWP 253 Individual Instruction Units: 1 or 2
  4 units total of MPWP 253 in your primary instrument
- MPWP 353 Individual Instruction Units: 1 or 2
  4 units total of MPWP 353 in your primary instrument
- MPWP 453 Individual Instruction Units: 1 or 2
  4 units total of MPWP 453 in your primary instrument
- MPWP 252 Individual Instrument Performance Class I Units: 1
  4 units total of MPWP 252
- MPWP 452 Individual Instrument Performance Class II Units: 1
  4 units total of MPWP 452

Music Ensembles (16 units)

- MUEN 323 University Wind Ensemble Units: 1 **
  8 units total of MUEN 323
- MUEN 325 Wind and Percussion Chamber Music Units: 1 **
  8 units total of MUEN 325

Core Thornton Academic Courses (42 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4

- MUHL 351 Western Art Music History II Units: 4
  One course from the following:
- MUCD 340 Choral Conducting I Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

Electives (18 units)

Capstone Project

Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence.*

Performance (Organ) (BM)

Overview

The Bachelor of Music in Organ consists of course work in the major, core music studies (theory, aural skills, music history, conducting, large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)

- MPKS 153 Individual Instruction Units: 1 or 2
  4 units total of MPKS 153 (Organ)
- MPKS 253 Individual Instruction Units: 1 or 2
  4 units total of MPKS 253 (Organ)
- MPKS 353 Individual Instruction Units: 1 or 2
  4 units total of MPKS 353 (Organ)
- MPKS 453 Individual Instruction Units: 1 or 2
  4 units total of MPKS 453 (Organ)

Music Ensembles (6 units)

Large ensemble: four 1-unit courses**
Ensemble electives: two 1-unit courses

Program Intensive Courses (8 units)

- MPKS 160a Functional Skills for Keyboard Majors I Units: 2
- MPKS 160b Functional Skills for Keyboard Majors I Units: 2
- MPKS 260a Functional Skills for Keyboard Majors II Units: 2
- MPKS 260b Functional Skills for Keyboard Majors II Units: 2

Core Thornton Academic Courses (38 units)

- MUCD 340 Choral Conducting I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Electives in Music (21 units)

Electives (11 units)

Capstone Project

Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Transfer credit may not fulfill the large ensemble requirement.*

Performance (Piano) (BM)

Overview

The Bachelor of Music in Piano consists of course work in the major, core music studies (theory, aural skills, music history, conducting, large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A senior recital must be completed under approved faculty

supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recital, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recital, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)

- MPKS 153 Individual Instruction Units: 1 or 2
  4 units total of MPKS 153 (Piano)
- MPKS 253 Individual Instruction Units: 1 or 2
  4 units total of MPKS 253 (Piano)
- MPKS 353 Individual Instruction Units: 1 or 2
  4 units total of MPKS 353 (Piano)
- MPKS 453 Individual Instruction Units: 1 or 2
  4 units total of MPKS 453 (Piano)

Music Ensembles (8 units)

- MUEN 328 Keyboard Collaboration Units: 1
- 4 units total of MUEN 328
  Large ensemble: four 1-unit courses**

Program Intensive Courses (26 units)

- MPKS 160a Functional Skills for Keyboard Majors I Units: 2
- MPKS 160b Functional Skills for Keyboard Majors I Units: 2
- MPKS 170a Introduction to Piano Repertoire and Performance Units: 1
- MPKS 170b Introduction to Piano Repertoire and Performance Units: 1
- MPKS 228 Four-Hand Keyboard Repertoire Units: 1
  2 units total of MPKS 228
- MPKS 260a Functional Skills for Keyboard Majors II Units: 2
- MPKS 260b Functional Skills for Keyboard Majors II Units: 2
- MPKS 360a Accompanying Units: 2
- MPKS 360b Accompanying Units: 2
- MPKS 431a Piano Pedagogy: Introduction and Practicum Units: 2
- MPKS 431b Piano Pedagogy: Introduction and Practicum Units: 2
- MPKS 472a Piano History and Literature Units: 2
- MPKS 472b Piano History and Literature Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2

Core Thornton Academic Courses (36 units)

- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

One course from the following:

- MUCD 340 Choral Conducting I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2

Electives (14 units)

Capstone Project

Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Transfer credit may not fulfill the large ensemble requirement.*

Performance (Popular Music) (BM)

Overview

The Bachelor of Music in Popular Music is designed for students interested in pursuing a career in the performance of popular music. This program consists of course work in the major performance area, core music classes, USC's general education and writing, as well as electives to take advantage of the offerings of the Thornton School and of the entire university.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Project

A capstone project must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the project, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the project, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons, Forum and Performance Class (24 units)

- MPPM 100 Popular Music Forum Units: 1
  4 units total of MPPM 100
- MPPM 120 Popular Music Performance I Units: 2
  8 units total of MPPM 120
- MPPM 153 Individual Instruction Units: 1, 2
  4 units total of MPPM 153
- MPPM 253 Individual Instruction Units: 1, 2
  4 units total of MPPM 253
- MPPM 320 Popular Music Performance II Units: 2
  4 units total of MPPM 320

Music Ensembles (2 units)

Music Ensemble at the 300-level: two 1-unit courses

Program Intensive Courses (20 units)

- MPPM 240 Drumming Proficiency for the Popular Musician Units: 2 **
- MPPM 250 Keyboard Proficiency for the Popular Musician Units: 2 ***
- MPPM 325a Arranging in Popular Music Units: 2
- MPPM 325b Arranging in Popular Music Units: 2
- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUIN 270 Introduction to the Music Industry Units: 4
- MUSC 255 Songwriting I Units: 2
- MUSC 496 Careers in Music Units: 2

Select one course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2

Core Thornton Academic Courses (30 units)

- MPPM 350g A History of Popular Music Units: 4
- MUCO 131a Harmony in Popular Music Units: 2
- MUCO 131b Harmony in Popular Music Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUHL 250g Music and Ideas Units: 4

  One course from the following:
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUJZ 350g A History of Jazz Music Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Electives (22 units)

Capstone Projects (2 units)

- MPPM 450a Final Project Units: 1
- MPPM 450b Final Project Units: 1

Total required for degree: 132

**With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

***Drummers will substitute a class in guitar or voice.*
****Keyboardists will substitute a class in guitar or voice.*

Performance (Studio Guitar) (BM)

Overview

The Bachelor of Music in Studio Guitar consists of course work in the major, core music studies (theory, aural skills, music history, conducting, large ensemble) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements for Traditional Emphasis

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Studio Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Studio Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Studio Guitar)
- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Studio Guitar)

Music Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  6 units total of MUEN 326
- Ensemble electives: four 1-unit courses

Program Intensive Courses (28 units)

- MPGU 158 Guitarists in the U.S. Units: 2
- MPGU 159 Functional Skills for Studio Guitarists I Units: 2
- MPGU 258 Functional Skills for Studio Guitarists I Units: 2
  4 units total of MPGU 258
- MPGU 358 Performance Practices for Studio Guitarists Units: 2
  4 units total of MPGU 358
- MPGU 415 Studio Guitar Pedagogy Units: 2
- MPGU 416 Evolution of the Guitar in the United States Units: 3
- MPGU 426 Classical Guitar History and Literature Units: 3
- MPGU 428a Improvisation and Arranging for Guitarists Units: 3
- MPGU 428b Improvisation and Arranging for Guitarists Units: 3
- MPGU 458 Current Electric Guitar Styles Units: 2

Core Thornton Academic Courses (40 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Electives (6 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Curriculum Requirements for Jazz Emphasis

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (18 units)

- MPGU 153 Individual Instruction Units: 1 or 2
  4 units total of MPGU 153 (Studio Guitar)
- MPGU 253 Individual Instruction Units: 1 or 2
  4 units total of MPGU 253 (Studio Guitar)
- MPGU 301 Individual Instruction Units: 1, 2
  2 units total of MPGU 301 (Classical Guitar)
- MPGU 353 Individual Instruction Units: 1 or 2
  4 units total of MPGU 353 (Studio Guitar)
- MPGU 453 Individual Instruction Units: 1 or 2
  4 units total of MPGU 453 (Studio Guitar)

Music Ensembles (10 units)

- MUEN 326 Guitar Ensemble Units: 1
  6 units total of MUEN 326
- Ensemble electives: four 1-unit courses

Program Intensive Courses (28 units)

- MPGU 158 Guitarists in the U.S. Units: 2
- MPGU 159 Functional Skills for Studio Guitarists I Units: 2
- MPGU 258 Functional Skills for Studio Guitarists I Units: 2
  4 units total of MPGU 258
- MPGU 358 Performance Practices for Studio Guitarists Units: 2
  4 units total of MPGU 358
- MPGU 415 Studio Guitar Pedagogy Units: 2
- MPGU 416 Evolution of the Guitar in the United States Units: 3
- MPGU 426 Classical Guitar History and Literature Units: 3
- MPGU 428a Improvisation and Arranging for Guitarists Units: 3
- MPGU 428b Improvisation and Arranging for Guitarists Units: 3
- MPGU 458 Current Electric Guitar Styles Units: 2

Core Thornton Academic Courses (34 units)

- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUJZ 141a Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 141b Basic Keyboard Skills for the Improviser Units: 2
- MUJZ 305a Advanced Jazz Theory Units: 2
- MUJZ 305b Advanced Jazz Theory Units: 2
- MUJZ 350g A History of Jazz Music Units: 4

One course from the following:

- MPPM 350g A History of Popular Music Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 2 units from the following:

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUCO 338x Elementary Orchestration Units: 2

Electives (10 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*

Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (BM)

Overview

The Bachelor of Music in Violin, Viola, Violoncello, Double Bass or Harp consist of course work in the major, core music studies (theory, aural skills, music history, conducting, chamber music and symphony) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to the current guidelines of the Music Operations office.

Curriculum Requirements For Violin, Viola, and Violoncello Majors

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (16 units)

- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 in your primary instrument
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 in your primary instrument
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 in your primary instrument
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 in your primary instrument

Music Ensembles (16 units)

- MUEN 327 String Chamber Music Units: 1
  8 units total of MUEN 327
- Large ensemble: eight 1-unit courses**

Program Intensive Courses (8 units)

- MPST 471a String Pedagogy Units: 2
- MPST 471b String Pedagogy Units: 2
- MPST 472 Orchestra Repertoire – Strings Units: 2
  4 units total of MPST 472

Core Thornton Academic Courses (46 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPKS 350a Keyboard Instruction II Units: 2
- MPKS 350b Keyboard Instruction II Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (8 units)

Two 4-unit courses in the same language

Electives (6 units)***

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*
****Violin majors are required to take MPST 301 Viola (2 units) as 2 units of the 6-unit elective requirement.*

Curriculum Requirements For Double Bass Majors

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons and Performance Class (24 units)

- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 (Double Bass)
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 (Double Bass)
- MPST 262 Double Bass Performance Class Units: 1
  4 units total of MPST 262
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 (Double Bass)
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 (Double Bass)
- MPST 462 Double Bass Performance Class Units: 1
  4 units total of MPST 462

Music Ensembles (12 units)
- MUEN 327 String Chamber Music Units: 1
  4 units total of MUEN 327
- Large ensemble: eight 1-unit courses**

Program Intensive Courses (4 units)
- MPST 472 Orchestra Repertoire – Strings Units: 2
  4 units total of MPST 472

Core Thornton Academic Courses (46 units)
- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPKS 350a Keyboard Instruction II Units: 2
- MPKS 350b Keyboard Instruction II Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (8 units)
Two 4-unit courses in the same language

Electives (6 units)

Capstone Projects
Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132
** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*

Curriculum Requirements For Harp Majors

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing
- WRIT 340 Advanced Writing Units: 3, 4

Lessons and Performance Class (24 units)
- MPST 153 Individual Instruction Units: 1 or 2
  4 units total of MPST 153 (Harp)
- MPST 253 Individual Instruction Units: 1 or 2
  4 units total of MPST 253 (Harp)
- MPST 263 Harp Performance Class Units: 1
  4 units total of MPST 263
- MPST 353 Individual Instruction Units: 1 or 2
  4 units total of MPST 353 (Harp)
- MPST 453 Individual Instruction Units: 1 or 2
  4 units total of MPST 453 (Harp)
- MPST 463 Harp Performance Class Units: 1
  4 units total of MPST 463

Music Ensembles (16 units)
- MUEN 327 String Chamber Music Units: 1
  8 units total of MUEN 327
- Large ensemble: eight 1-unit courses**

Core Thornton Academic Courses (46 units)
- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPKS 350a Keyboard Instruction II Units: 2
- MPKS 350b Keyboard Instruction II Units: 2
- MPKS 481 Interpretation of Baroque Music Units: 2
- MUCD 343 Instrumental Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUCO 338x Elementary Orchestration Units: 2
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (8 units)
Two 4-unit courses in the same language

Electives (6 units)

Capstone Projects
Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132
** With correct planning, only 32 units (6 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Required each semester in residence*

Performance (Vocal Arts) (BM)

Overview

The Bachelor of Music in Vocal Arts performance consists of course work in the major, core music studies (theory, aural skills, music history, conducting, ensembles) and USC's general education and writing program.

Entrance Requirements

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

General Education Requirements

The university's General Education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program is effective for all students entering USC in fall 2015 or later, or transfer students beginning college elsewhere at that time and subsequently transferring to USC. It requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. In addition, all entering freshmen are expected to complete a General Education Seminar during their first year at USC. These seminars satisfy one of the Core Literacy requirements above.

Note that courses within the major will also satisfy certain Core Literacy requirements. Please work with your major adviser to determine those courses.

Capstone Projects

A junior and senior recital must be completed under approved faculty supervision and guidance. The faculty of the department of the student's major program determines the detailed requirements of the recitals, including content, length, format, and other specifications. In cases in which a performance venue is required in order to present the recitals, reservations must be made according to

the current guidelines of the Music Operations office.

Curriculum Requirements

General Education *

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

Core Literacies

GE-A: The Arts (one course)
GE-B: Humanistic Inquiry (two courses)
GE-C: Social Analysis (two courses)
GE-D: Life Sciences (one course)
GE-E: Physical Sciences (one course)
GE-F: Quantitative Reasoning (one course)

Global Perspectives

GE-G: Citizenship in a Global Era (one course)
GE-H: Traditions and Historical Foundations (one course)

Writing

- WRIT 340 Advanced Writing Units: 3, 4

Lessons (19 units)

- MPVA 153 Individual Instruction Units: 1 or 2
  4 units total of MPVA 153 (Voice)
- MPVA 253 Individual Instruction Units: 1 or 2
  4 units total of MPVA 253 (Voice)
- MPVA 301 Individual Instruction Units: 1, 2
  3 units total of MPVA 301 (Vocal Coaching)
- MPVA 353 Individual Instruction Units: 1 or 2
  4 units total of MPVA 353 (Voice)
- MPVA 453 Individual Instruction Units: 1 or 2
  4 units total of MPVA 453 (Voice)

Music Ensembles (6 units)

Large ensemble electives: four 1-unit courses**
Ensemble electives: two 1-unit courses

Program Intensive Courses (16 units)

- MPVA 203a Acting for Singers I Units: 2
- MPVA 203b Acting for Singers I Units: 2
- MPVA 404 Word and Music in Opera Units: 2
- MPVA 438 Foundations of Vocology Units: 2
- MPVA 440 Italian and French Diction Units: 2
- MPVA 441 English and German Diction Units: 2
- MPVA 479 Song Literature Units: 2
  4 units total of MPVA 479

Core Thornton Academic Courses (42 units)

- MPKS 250a Keyboard Instruction I Units: 2
- MPKS 250b Keyboard Instruction I Units: 2
- MPKS 350a Keyboard Instruction II Units: 2
- MPKS 350b Keyboard Instruction II Units: 2
- MUCD 340 Choral Conducting I Units: 2
- MUCO 132a Aural Skills I Units: 2
- MUCO 132b Aural Skills I Units: 2
- MUCO 133a Theory I Units: 3
- MUCO 133b Theory I Units: 3
- MUCO 232a Aural Skills II Units: 2
- MUCO 232b Aural Skills II Units: 2
- MUCO 233a Theory II Units: 3
- MUCO 233b Theory II Units: 3
- MUHL 250g Music and Ideas Units: 4
- MUHL 350g Western Art Music History I Units: 4
- MUHL 351 Western Art Music History II Units: 4

Foreign Language (16 units)

- FREN 120 French I Units: 4
- GERM 101 German I Units: 4
- ITAL 120 Italian I Units: 4

And one course from the following:

- FREN 150 French II Units: 4
- GERM 102 German II Units: 4
- ITAL 150 Italian II Units: 4

Electives (5 units)

Capstone Projects

Junior Recital: 0 units
Senior Recital: 0 units

Total required for degree: 132

** With correct planning, only 28 units (5 GE and 2 Writing courses) will be needed outside of your major requirements.*
***Transfer credit may not fulfill the large ensemble requirement.*

Minor

Jazz Studies Minor

This 21-unit minor program in jazz studies incorporates course work in individual instruction, the history of jazz masters, techniques of jazz improvisation and jazz theory for improvisers. The minor is not available to BM jazz studies majors.

Requirements for admission are: GPA per university regulations and an audition.

Required Courses (19 units)

- MUCO 130ax Basics of Music Theory Units: 3
- MUJZ 150 Beginning Jazz Improvisation Units: 2
- MUJZ 301 Individual Instruction Units: 1, 2
  4 units total of MUJZ 301 in your primary instrument
- MUJZ 450 Intermediate Jazz Improvisation Units: 2
- MUSC 250gmw The Music of Black Americans Units: 4

Select 4 units from the following:

- MUEN 305 Vocal Jazz Ensemble Units: 1
- MUEN 326 Guitar Ensemble Units: 1
- MUEN 329 Jazz Ensemble Units: 1
- MUEN 332 Jazz Chamber Music Units: 1

Music Electives (2 units)

Music courses numbered 300–499 (2 units total)

Total units: 21

Music Industry Minor

A minor in the music industry is offered for undergraduate students to provide them with the background necessary to enter varied fields in the music business and to familiarize them with standard practices and procedures. A minimum of 20 units is required for completion of this minor. The minor is not available to music industry majors.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Required Courses

- MUIN 272x Basics of the Music Industry Units: 4

Select 4 units from the following:

- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Select 12 units from the following:

- MTEC 245 Introduction to MIDI Sequencing Units: 1

- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 277x Introduction to Music Technology Units: 4
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MUIN 280 Communications in the Music Industry Units: 4
- MUIN 370 Music Publishing and Licensing Units: 2
- MUIN 372 Business and Legal Aspects of the Music Industry Units: 4
- MUIN 410 Marketing, Branding and Strategic Alliances in Music Units: 2
- MUIN 420 DIY Music Marketing Units: 2
- MUIN 425 Live Music Production and Promotion Units: 4
- MUIN 430 Artist Management and Development Units: 4
- MUIN 443 The Business of Music for Visual Media Units: 4
- MUIN 444 Music Supervision Units: 4
- MUIN 495 Web Design for the Music Industry Units: 4
- MUIN 497 Current Topics, Case Studies, and Analysis Units: 2

Total units: 20

Music Production Minor

A successful career in the 21st century music industry often requires that musicians be the songwriter, performer, producer and/or audio engineer on any given project. The minor in Music Production allows students to develop the creative, collaborative and technical skills required to compose, arrange and produce for contemporary music projects.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music to assure that the student has sufficient musical background and skill.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Required Courses

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MTEC 277x Introduction to Music Technology Units: 4 *
- MUCO 130ax Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2

Select 8 units from the following:

- MTEC 378 Introduction to Mixing and Mastering Units: 2
- MTEC 443 Desktop Music Production Units: 2
- MTEC 444 Non-Linear MIDI Sequencing Units: 2
- MTEC 445 Advanced Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 474a Electronic Synthesizer Techniques Units: 2, 3, 4 (2 units total)
- MTEC 474b Electronic Synthesizer Techniques Units: 2, 3, 4 (2 units total)
- MTEC 478 Advanced Multichannel Remix Units: 2
- MUSC 355 Songwriting II Units: 2
- MUCO 338x Elementary Orchestration Units: 2
- SCOR 403 Introduction to Scoring Movies and Television Units: 2 **
- SCOR 405 Introduction to Scoring Video Games Units: 2 **

Note:

**Music Industry majors can substitute MTEC 175 and MTEC 176 for MTEC 277.*
***Courses have prerequisites*

Total Units: 19

Music Recording Minor

A minor in music recording is offered for undergraduate students to provide them with the background necessary to enter the field of audio engineering and to familiarize them with the standards and techniques used in audio recording, editing, mixing and mastering.

Prerequisite

Acceptance into the program might require a personal interview by the Thornton School of Music to assure that the student has sufficient musical background and skill.

Students admitted to this minor will be expected to have a minimum GPA of 2.0 and to maintain that average with no grade lower than a "C" for all courses taken in the minor.

Students must apply for this minor, and admission is based on successful completion of MTEC 277x. Generally, students who earn a B or better in this course and have a GPA of 2.0 or higher are admitted. Declared engineering (ENGR) majors with a GPA of 3.0 or higher may be admitted before completing MTEC 277x .

Required Courses

- MTEC 275 Fundamentals of Audio Engineering Units: 4
- MTEC 277x Introduction to Music Technology Units: 4 *
- MTEC 446a Computer Assisted Recording and Editing Units: 2

8 units from the following:

- MTEC 378 Introduction to Mixing and Mastering Units: 2
- MTEC 389 Digital Equipment and Recording Units: 2
- MTEC 392a Acoustics and Speaker Design Units: 2
- MTEC 430 Advanced Instrumental Recording Units: 2
- MTEC 446b Computer Assisted Recording and Editing Units: 2
- MTEC 477 Remote Recording Techniques Units: 2
- MTEC 478 Advanced Multichannel Remix Units: 2
- MTEC 479 Audio Mastering Units: 2
- MTEC 491 The Recording Console Units: 4
- MTEC 493 Audio Signal Processing Equipment Units: 2
- MUIN 340 Introduction to Sound Reinforcement Units: 4

Total units: 18

** Music Industry majors can substitute MTEC 175 and MTEC 176 for MTEC 277x.*

Musical Studies Minor

This 18-unit program in musical studies, with an emphasis in performance, incorporates the study of music theory, music history, performance, and ensembles. Students may enter the program in their freshman year. An audition is required for this minor, which is not available to music majors.

Required Courses

- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUEN 300–499
- MUSC 115gp Western Music as Sounding History Units: 4
- Individual Instruction at the 301 level

Total Units: 18

Musical Theatre Minor

The minor in musical theatre, interdisciplinary in nature, is a 21-unit program incorporating the study of acting, dance or movement, vocal arts and related musical subjects. Admission to the minor requires an audition for music but not for theatre.

Required Courses (13 units)

- MPVA 402 Musical Theatre Workshop I Units: 3
- MPVA 412 Musical Theatre Workshop II Units: 3
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- THTR 343 Musical Theatre Audition Units: 3

Select 8 units from the following: *

- DANC 175 Choreography for the Screen Units: 2

- DANC 181–189
- MPVA 301 Individual Instruction Units: 1, 2
- THTR 101 Introduction to Acting Units: 4
- THTR 216 Movement for Actors Units: 2
- THTR 252a Intermediate Acting I Units: 2
- THTR 252b Intermediate Acting I Units: 2
- THTR 316 Advanced Movement for Actors Units: 2
- THTR 352a Intermediate Acting II Units: 2
- THTR 352b Intermediate Acting II Units: 2

Total units: 21

**Note for dance, music and theatre majors: dance majors must select 8 units in music and/or theatre, music majors must select 8 units in dance and/or theatre, and theatre majors must select 8 units in dance and/or music. Exception: Theatre majors may select THTR 216 and/or THTR 316 as part of the 8-unit requirement.*

Popular Music Studies Minor

This minor consists of courses that examine different aspects of popular music. The minor focuses on the study of the repertories and their cultural and social context. Students must be in good academic standing to be admitted. No previous musical experience is required.

Course Requirements (16 units total)

Choose 16 units from the following:

- MUSC 102gw World Music Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Songwriting Minor

The minor in songwriting incorporates practical instruction in the craft of songwriting and in performance skills, instruction in the technology relevant to songwriting, and critical studies in the relevant repertories.

Requirements for admission: Those who are considering this program should enroll in MUSC 255 Songwriting I. Admission will be based on songwriting ability and potential as determined by the songwriting faculty.

Required Courses (16 units)

- MTEC 245 Introduction to MIDI Sequencing Units: 1
- MTEC 246 Introduction to Audio Recording and Editing Units: 1
- MUCO 130ax Basics of Music Theory Units: 3
- MUCO 130bx Basics of Music Theory Units: 3
- MUSC 255 Songwriting I Units: 2
- MUSC 355 Songwriting II Units: 2
- MUSC 455 Songwriting III: The Performing Songwriter Units: 2

Choose one course from the following:

- MTEC 443 Desktop Music Production Units: 2
- MTEC 446a Computer Assisted Recording and Editing Units: 2

Choose 4 units from the following:

- COMM 306 Innovation, Entertainment, and the Arts Units: 4
- COMM 307 Sound Clash: Popular Music and American Culture Units: 4
- COMM 384 Interpreting Popular Culture Units: 4
- COMM 440 Music as Communication Units: 4
- MUSC 102gw World Music Units: 4
- MUSC 115gp Western Music as Sounding History Units: 4
- MUSC 200gmw The Broadway Musical: Reflections of American Diversity Units: 4
- MUSC 210g Electronic Music and Dance Culture Units: 4
- MUSC 250gmw The Music of Black Americans Units: 4
- MUSC 320gmw Hip-hop Music and Culture Units: 4
- MUSC 371g Musical Genre Bending Units: 4
- MUSC 372g Music, Turmoil and Nationalism Units: 4
- MUSC 373g Writing About Popular Music Units: 4
- MUSC 422 The Beatles: Their Music and Their Times Units: 4
- MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies Units: 2
- MUSC 424 Iconic Figures of Popular Music Units: 2
- MUSC 444 American Roots Music: History and Culture Units: 4
- MUSC 460 Film Music: History and Function from 1930 to the Present Units: 4
- MUSC 465 Music, Television and American Culture Units: 4

Total units: 20

Diploma

Artist Diploma Program

This program is designed for young artists of exceptional ability and musical sensitivity who plan careers as solo performers. The Artist Diploma Program provides young artists with the opportunity to devote their full time to concentrated study and practice for the duration of their assigned programs.

Entrance Requirements

Following the recommendation of the student's major department, a performance audition, consisting of a full-length recital before the Artist Diploma Committee, is required.

Curriculum Requirements

A minimum of 16 units at the 754 level (from MPEM, MPGU, MPKS, MPST, MPVA or MPWP) and four full-length recitals are required. This program requires four consecutive semesters of study for completion.

Master's Degree

Arts Leadership (MS)

Overview

USC's Arts Leadership program (ARTL) is a flexible, multi-disciplinary graduate program for artists, arts administrators and cultural entrepreneurs who want to expand their personal vision and develop the ability to create a life and a career in the nonprofit arts. The curriculum is appropriate for both early and mid-career individuals engaged in any or multiple arts disciplines, who recognize that the rapidly changing world of the 21st century requires an innovative approach to arts leadership. The program is highly individualized, allowing students to design the course of study that is most appropriate for them and their career aspirations.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the Practicum. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit

must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Science degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Capstone

A practicum project is required as the capstone for the Master of Science in Arts Leadership. Students will conceptualize, develop and complete an arts project of his or her own choosing to pursue in conjunction with the course work. The practicum project will be centered around a complex leadership challenge that resonates both for the student's particular artistic circumstances and for the field of arts leadership.

Curriculum Requirements

Program Intensive Courses (11 units)

- ARTL 500 Arts Leadership and Arts Entrepreneurship Units: 2
- ARTL 501 Executive Leadership in the Arts Units: 2
- ARTL 502 Issues in the Arts and the Contemporary World Units: 2
- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- ARTL 504 Arts and the Community: Current Practice and New Visions Units: 2
- ARTL 520 Arts Leadership Intensive Units: 1

Field Experience Courses (4 units)

Select 4 units from the following:

- ARTL 512 Essentials of Orchestra Management Units: 2
- ARTL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- MUSC 598 Internship in Music Units: 1, 2, 3, 4

Elective Concentration Courses (12 units)

Students will select a topic area of concentration related to their interests. Relevant courses will be chosen from around the University in consultation with and approved by the Arts Leadership Program Director in conjunction with appropriate department chairs and directors.

Suggested topic areas include but are not limited to:

- Curatorial
- Organizational Communication
- Globalization and the Arts
- Diversity, Equity and Inclusion in the Arts
- Art and Technology
- Organizational Management
- Cultural Entrepreneurship
- Art and Social Change

Capstone Project (4 units)

- ARTL 510 Arts Leadership Practicum Units: 2
- 4 units total of ARTL 510

Total Units: 31

Choral Music (MM)

Overview

The MM in choral music consists of course work in choral conducting, choral music seminars, choral literature, choral development, music history, and vocal arts. The program culminates with a graduate recital.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital

One public recital is required of all candidates for the Master of Music degree (Choral Music), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique. A final oral examination in choral literature, conducting and rehearsal techniques will be administered by the choral music faculty.

Curriculum Requirements

Keyboard Proficiency

A keyboard proficiency test will be given by the choral faculty during the student's first semester in residence to determine if additional study in keyboard is required.

Lessons (2 units)

- MPVA 501 Individual Instruction Units: 1 or 2
  VO (2 units total)

Music Ensembles (2 units)

- Ensemble Units: 2 units total*

Program Intensive Courses (16 units)

- MUCD 541 Choral Conducting III Units: 2
  (6 units total)
- MUCM 440 Choral Development Units: 2
- MUCM 541 Choral Literature I Units: 2
- MUCM 542 Choral Literature II Units: 2
- MUCM 543 Seminar in Choral Music Units: 2
- MUCM 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
  (2 units total)

Core Thornton Academic Courses (10 units)

- MUCD 443 Instrumental Conducting II Units: 2
- MUHL 570 Research Materials and Techniques Units: 2

- MUHL Electives at 500 level Units: 4 units total
  Choose one course from the following:
- MPVA 438 Foundations of Vocology Units: 2 **
- MPVA 541 Advanced Vocology Units: 2 **
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Capstone Projects (0 units)

- Graduate recital Units: 0
- Comprehensive review Units: 0

Total units: 30

**Choral music majors must participate in a choral ensemble chosen from* MUEN 510 *or* MUEN 512 *each semester if enrolled for 4 or more units.*
***Courses with similar content in MPVA 438 and/or 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.*

Community Music (MM)

Overview

The Master of Music in Community Music is for musicians with a commitment to developing the necessary skills and best understandings of music teaching and learning in community settings. The program will build upon music preparation from the undergraduate level with course work designed to nurture skills in community music teaching, program development, professional practice, scholarship and research. With the wide range of courses available, the program can be tailored for a variety of student goals. This degree provides an academic link to the rich music learning opportunities available through community programs in urban Los Angeles and, in particular, to the Thornton Community Engagement Programs.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the MM in Community Music. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including a capstone and comprehensive review. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering this graduate-level degree program at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Capstone and Comprehensive Review

A final project is required for candidates as a capstone for the Master of Music in Community Music. The project will consist of a scholarly document written on a topic approved by the Music Teaching and Learning department. Candidates must also submit a comprehensive portfolio of representative work product consistent with their work in classes and in the field.

Guidance Committee

Before registering for MTAL 592, a student must establish a guidance committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the guidance committee directly supervises the preparation of the project. The final acceptance of the project and portfolio is based upon the unanimous recommendation of all three members of the committee.

Curriculum Requirements

Program Intensive Courses (minimum of 22 units)*

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 535 Community Engagement Through Music Units: 2
- MTAL 537 Community Engagement Models and Frameworks in Music Units: 1
- MTAL 538 Music in the Community, Program Development and Evaluation Units: 2
- MTAL 607 Alternative Models in Music Teaching and Learning Units: 2

Select two courses from the following:

- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 721 Qualitative Research in Music Teaching and Learning Units: 3

Select a minimum of three courses from the following:**

- MTAL 470 Improvisation and Composition for Teaching and Learning Units: 2
- MTAL 475 Teaching and Learning: Children Units: 2
- MTAL 476 Teaching and Learning: Youth Units: 2
- MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles Units: 3 ***
- MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles Units: 3 ***
- MTAL 482 Contemporary Pedagogy, Vocal and General Music Units: 2 ***
- MTAL 615 Assessment and Reflective Practice Units: 2

Applied Music (4 units)

Select four units from the following areas of musical study:
Courses in songwriting, arranging, composition, improvisation, conducting; individual instruction (lessons); or ensemble. Courses must be at the 500-level.

Capstone and Comprehensive Review (4 units)

- MTAL 589 Community Music Practicum Units: 2
- MTAL 592 Final Project Units: 2
- Comprehensive Review Units: 0

Total Units: Minimum of 30****

**Students must select courses accordingly to complete a minimum of 22 units from the Program Intensive Courses.*
***Courses may be chosen from this list or in consultation with faculty in the Music Teaching and Learning department.*
****A maximum of two of these courses may be selected.*
*****A minimum of 30 units are needed to complete the degree*

Composition (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Composition

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in composition or theory.

Curriculum Requirements

- Ensemble Units: 2 units total
- MUHL 570 Research Materials and Techniques Units: 2
- Electives at the 500 level in MUHL or MUCO
- Individual instruction 501 in any performance medium (MPxx 501) or applicable MTEC or MUCD instruction Units: 4 units total
- MUCO 537 Advanced Composition I Units: 1 or 2 (8 units total)
- MUCO 592 Selected Topics in Graduate Composition Units: 2
- MUCO 536 Advanced Orchestration I Units: 1, 2, 3, 4 (2 units total)
- Electives Units: 4 units total
- Graduate recital Units: 0
- Comprehensive review Units: 0
- MM composition portfolio Units: 0

Total units: 30

Conducting (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Conducting

Prerequisite

The applicant must hold a bachelor's degree with a music major and have at least one year of experience conducting an orchestra.

Curriculum Requirements

- MUCD 550 Orchestral Conducting Seminar Units: 2 (8 units total)
- Ensemble (preferably chamber music) Units: 4 units total
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 575 Music of the Baroque Era Units: 2, 2 years
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

One course from

- MUHL 573 Music of the Middle Ages Units: 2, 2 years
- MUHL 574 Music of the Renaissance Units: 2, 2 years
- MUHL 576 Music of the Classical Period Units: 2, 2 years
- MUHL 577 Music of the 19th Century Units: 2, 2 years or
- MUHL 578 Music since 1900 Units: 2

Total units: 30

Contemporary Teaching Practice (MM)

Overview

The Master of Music in Contemporary Teaching Practice is designed as an intensive program and places special emphasis on urban settings. The overall goal of this degree is to provide a credential path for graduate music students who wish to teach in public and private schools in California and other states. The program will build on the students' undergraduate preparation in music (including music theory, aural skills, keyboard skills, music history and performance education including playing, singing, conducting and ensemble work) by adding courses in music teaching and learning and general education. Special course work in music in the lives of children and youth, contemporary teaching methods, music composition/improvisation, research and assessment, and community and entrepreneurial engagement will highlight the degree. Certain courses will include extensive field experiences in the schools. Attention will be paid to children with special needs and English Language Learners (ELL), as mandated by the state of California. Finally, as a special opportunity, newly conferred students in this degree will have the ability to access monthly online mentoring sessions with USC faculty. This opportunity will be available in the first year of teaching, after the degree has been conferred.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examination

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the MM in Contemporary Teaching Practice. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Unit and Grade Requirements

Students must complete at least 30 semester units at USC, including the comprehensive review. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exam

All students entering this graduate-level degree program at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Comprehensive Review

Candidates for the Master of Music in Contemporary Teaching Practice must submit a comprehensive portfolio of music teaching experiences consistent with their work in class and in the field. This portfolio is reviewed by faculty in the department.

Curriculum Requirements

Program Intensive Courses (24 units)

- MTAL 470 Improvisation and Composition for Teaching and Learning Units: 2
- MTAL 475 Teaching and Learning: Children Units: 2
- MTAL 476 Teaching and Learning: Youth Units: 2
- MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles Units: 3
- MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles Units: 3
- MTAL 482 Contemporary Pedagogy, Vocal and General Music Units: 2
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 535 Community Engagement Through Music Units: 2
- MTAL 588 Guided Practice Units: 3
- MTAL 615 Assessment and Reflective Practice Units: 2

Courses from USC Rossier School of Education (10 units)

- EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools Units: 4
- EDUC 671 Contexts for Educational Equity, Access, and Agency Units: 3
- EDUC 672 Integrated Language Development Across the Curriculum Units: 3

Comprehensive Review (0 units)

Proficiencies (0 units)

- Certification in music for children with special needs
- Competency playing test in snare drum, drum set, acoustic and electric guitar, and electronic keyboard
- Competency playing test in flute, clarinet, trumpet, trombone, violin, and cello

- Competency singing test in vocal technique

Total Units: 34

Additional Note:

Information for Certification:

California has a two-tier credential structure. A five-year preliminary credential is the first credential issued after an individual meets basic credential requirements. A clear credential is issued when all credential requirements have been completed. Upon successful completion of the MM, CTP degree candidates are recommended for a Preliminary credential. Internships and Induction programs that lead to clear credentials are currently satisfied under the purview of your district of employment.

All Preliminary Credential teacher candidates must meet the following requirements in order to be recommended/endorsed for a teaching credential: Basic Skills Competency, successful completion of all MM, CTP course work, evidence of successful completion and passing of the edTPA (Teaching Performance Assessment) and verification of training in cardiopulmonary resuscitation (CPR) that covers infant, child and adult CPR skills.

Early Music Performance Emphasis (MA)

Master of Arts

This degree is under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue for general regulations.

Departmental Requirements

Applicants will be evaluated on the basis of scores on the Graduate Record Examinations, transcripts of previous college courses, a research paper and letters of reference.

Regular (classified) standing is achieved when the general test of the Graduate Record Examinations has been taken, and when the Music Graduate Entrance Examinations have been completed satisfactorily. Remedial course work, if recommended, may be substituted for repetition of examinations.

Language Requirement

Students are required to demonstrate a reading knowledge by passing an examination in one foreign language chosen by the student from among French, German, Italian or Latin. This requirement must be passed prior to the comprehensive examination.

Prerequisites

Applicants should have an undergraduate degree with a major in music or the equivalent, and a substantial background in languages, arts and letters.

Degree Requirements for the Early Music Performance Emphasis

Requirements

- MUEN 550 Early Music Ensemble Units: 1 (3 units total)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 572 Seminar in Historical Musical Notation Units: 2
- MUHL 574 Music of the Renaissance Units: 2, 2 years
- MUHL 575 Music of the Baroque Era Units: 2, 2 years
- MUHL 589 Seminar in Renaissance Repertories and Performance Practice Units: 2
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2
- MUHL 594a Master's Thesis Units: 2
- MUHL 594b Master's Thesis Units: 2
- MPEM 450 Collegium Workshop Units: 1 (2 units total)
- MPEM 553 Individual Instruction Units: 1 or 2 (5 units total)
- Elective in music
- Electives in letters, arts and sciences

Total units: 32

The thesis will include the planning, research, preparation and leadership of a full-length program in early music. This practical work will be supported by a written essay that deals, as appropriate, with historical data sources, authentic performance practices and a stylistic assessment of the repertoire that is performed. In lieu of a comprehensive examination, candidates for the Early Music Performance Emphasis will be required to pass periodic reviews to demonstrate progress.

Jazz Studies (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Jazz Studies

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in jazz studies or its equivalent.

Curriculum Requirements

- MUEN 505 Vocal Jazz Ensemble Units: 1 or
- MUEN 529 Jazz Ensemble Units: 1 (4 units total)

- MUEN 532 Jazz Chamber Music Units: 1 (4)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level

- MUJZ 443 Jazz Pedagogy Units: 2 or
- MUJZ 545 Jazz Ensemble Development Units: 2, 2 years

- MUJZ 547 Jazz Composition Units: 2
- MUJZ 553 Individual Instruction Units: 1 or 2 (8 units total)
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Music History and Literature Emphasis (MA)

Master of Arts

This degree is under the jurisdiction of the Graduate School. Students should also refer to The Graduate School section of this catalogue for general regulations.

Departmental Requirements

Applicants will be evaluated on the basis of scores on the Graduate Record Examinations, transcripts of previous college courses, a research paper and letters of reference.

Regular (classified) standing is achieved when the general test of the Graduate Record Examinations has been taken, and when the Music Graduate Entrance Examinations have been completed satisfactorily. Remedial course work, if recommended, may be substituted for repetition of examinations.

Language Requirement

Students are required to demonstrate a reading knowledge by passing an examination in one foreign language chosen by the student from among French, German, Italian or Latin. This requirement must be passed prior to the comprehensive examination.

Prerequisites

Applicants should have an undergraduate degree with a major in music or the equivalent, and a substantial background in languages, arts and letters.

Degree Requirements for the Music History and Literature Emphasis

Requirements

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL courses numbered MUHL 579 Studies in Music History Units: 4 , 600–699 Units: 6 units total
- Courses in history, language, literature or the arts other than music
- Electives
- Comprehensive examination Units: 0

Courses drawn from: 8 total units

- MUHL 500–699
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2

Total units: 30

Music Industry (MS)

Overview

The Master of Science in Music Industry program aims to produce the next generation of music industry leaders via a comprehensive yet student-tailored education. Class topics include copyright, concerts, artist management, marketing data and analysis, and a one-semester internship. Additionally, students have four emphasis track options including music performance, supervision, the business of touring/live event promotion, and entrepreneurship.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 32 semester units at USC, including the portfolio. A grade point average of not less than 3.0 (A = 4.0) is required for all USC courses. Students who transfer credits must achieve this average on all combined transferred and resident units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Science degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Portfolio Requirement

A portfolio, as capstone to a two-semester immersion into a student-led music campaign, is required for graduation. The Music Industry faculty will provide students with additional details for this requirement.

Curriculum Requirements

Program Intensive Courses (27 units)

- MUIN 510 The Music Industry: Careers, Rights and Income Streams Units: 4
- MUIN 511 Music Industry History: Entrepreneurs, Moguls and Catalogs Units: 2
- MUIN 512 The Management of Live Performances Units: 2
- MUIN 520 Artist Management: Campaign Planning, Pitching, Partnerships Units: 2
- MUIN 521 Music Industry/Producers Forum Units: 1
- MUIN 522 Music Marketing, Branding and Campaigns Units: 3
- MUIN 523 Survey/Analysis of Music Agreements Units: 4
- MUIN 530 Mentorship Units: 1
- MUIN 540 Artist Management: Campaign Execution and Hindsight Analysis Units: 2
- MUIN 541 Data Analytics: Music Marketing Decisions and Presentations Units: 2
- MUIN 542 Developing Copyright Laws and Business Models Units: 3
- MUIN 598 Internship Units: 1

Core Business Fundamentals Course (3 units)

- GSBA 520 Business Fundamentals for Non-Business Professionals Units: 3, 4

Select one Emphasis Option from the following and complete a minimum of 5 units from the emphasis (minimum 5 units)

Emphasis Option 1: Business of Live Promotion/Touring

- MUIN 515 Live Touring Strategy Units: 2
- MUIN 525 Concert Promotion, Venue Management and Event Planning Units: 3

Emphasis Option 2: Music Supervision and Visual Media

- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- MUIN 526 Music Supervision, Production and Creative Licensing Units: 3

Emphasis Option 3: Performance*

- MUEN at the 500 level: 2 units total
- Courses in music at the 400 or 500 level: 3 units total

Emphasis Option 4: Entrepreneurship

- BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup Units: 2
- BAEP 475 Entertainment Entrepreneurship Units: 2
- BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls Units: 3
- BAEP 556 Technology Feasibility Units: 3
- BAEP 563 Corporate Entrepreneurship Units: 3

Portfolio Requirement (0 units)

Portfolio: 0 units

Total Units: Minimum of 35

** Subject to Thornton audition/acceptance*

Performance (Classical Guitar) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Classical Guitar)

Prerequisite

The applicant must hold a bachelor's degree with a major in music with guitar as the principal instrument.

Curriculum Requirements

- MUEN 526 Guitar Ensemble Units: 1 (2 units total)
- Electives
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 3
- MPGU 553 Individual Instruction Units: 1 or 2 CG (8 units total)
- MPGU 557 Advanced Classical Guitar Performance Class Units: 1 (4 units total)
- MPKS 481 Interpretation of Baroque Music Units: 2
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Flute), (Oboe), (Clarinet), (Bassoon), (Saxophone), (French Horn), (Trumpet), (Trombone), (Tuba) or (Percussion)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in a wind instrument or percussion or equivalent.

Curriculum Requirements

- MUCD 443 Instrumental Conducting II Units: 2
- MUEN 523 University Wind Ensemble Units: 1 (4 units total)
- MUEN 525 Wind and Percussion Chamber Music Units: 1 (4 units total)
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level

- MPWP 481 Interpretation of Baroque Music Units: 2 or
- MPWP 482 Interpretation of Classic, Romantic, and 20th Century Wind and Percussion Music Units: 2

- MPWP 551 Individual Instrument Performance Class III Units: 1 (2 units total)
- MPWP 553 Individual Instruction Units: 1 or 2 (8 units total)
- Graduate recital Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Keyboard Collaborative Arts) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Keyboard Collaborative Arts)

Prerequisite

Applicants must hold the Bachelor of Music degree with a major in piano or keyboard collaborative arts or equivalent background as determined by the collaborative arts faculty. It is strongly suggested that students who have not previously taken courses in Italian, French, English and German diction, or in song literature, enroll in the appropriate course(s) (MPVA 440, MPVA 441, MPVA 479) as part of their electives.

Curriculum Requirements

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2

- MUHL electives at the 500 level
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 553 Individual Instruction Units: 1 or 2 CP (8 units total)
- MPKS 560 Song Interpretation Master Class Units: 2
- MPKS 561 Chamber Music Interpretation Master Class Units: 2
- Electives in music
- Two graduate recitals, one with voice(s), the other with instrument(s) Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Organ) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Organ)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in organ or equivalent.

Curriculum Requirements

- Ensemble
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 553 Individual Instruction Units: 1 or 2 or (8 units total)
- Music electives (at least two from the 500 level)
- Electives
- Graduate recital Units: 0
  Comprehensive review Units: 0

Total units: 30

Performance (Piano) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Piano)

Prerequisite

The applicant must hold a Bachelor of Music degree in piano or equivalent.

Curriculum Requirements

- Ensemble
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives at 500 level Units: 6
- MPKS 553 Individual Instruction Units: 1 or 2 P (8)
- MPKS 450a Piano Pedagogy: Intermediate Literature and Functional Skills Units: 2
- MPKS 520 Special Studies in Solo Repertoire for Piano Units: 2 (6 units total)
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Studio Guitar) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Studio Guitar)

Prerequisite

The applicant must hold a bachelor's degree with a major in music with guitar as the principal instrument.

Curriculum Requirements

- MUEN 526 Guitar Ensemble Units: 1 (2 units total)
- Electives
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPGU 553 Individual Instruction Units: 1 or 2 SG (8 units total)
- MPGU 558 Advanced Studio Guitar Performance Class Units: 1 (4 units total)
- Music electives
- Electives
- Two graduate recitals Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp) (MM)

Master of Music

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that

degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Thesis/Project/Portfolio Requirements and Qualifying Exam Committees

A composition portfolio is required of candidates for the Master of Music degree in composition; a thesis or final project is required of candidates for the Master of Music degree in music education. For music education majors, the thesis will consist of a research document written on a topic approved by the music teaching and learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis, or a similarly required course for a capstone project or portfolio, a student must establish a qualifying exam committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the qualifying exam committee directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Master's Recital

One or more public recitals are required of all candidates for the Master of Music degree, as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Violin), (Viola), (Violoncello), (Double Bass) or (Harp)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in a string instrument or equivalent.

Curriculum Requirements

- MUCD 443 Instrumental Conducting II Units: 2
- MUEN 527 String Chamber Music Units: 1 (2 units total) and
- MUEN 520 USC Symphony Units: 1
- MUEN 530 Contemporary Music Ensemble Units: 1 or
- MUEN 550 Early Music Ensemble Units: 1 (4 units total)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL 578 Music since 1900 Units: 2
- MUHL electives at the 500 level
- MPKS 481 Interpretation of Baroque Music Units: 2
- MPST 553 Individual Instruction Units: 1 or 2 (8 units total)
- Music electives
- Graduate recital Units: 0
- Comprehensive review Units: 0

Total units: 30

Performance (Vocal Arts) (MM)

Overview

The MM in vocal arts performance is a two-year, 30-unit program consisting of individual instruction, ensembles, cantata and oratorio, pedagogy, vocal literature, music history and electives. A graduate recital is required.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Thirty units of graduate work are required; a minimum of 15 units (excluding thesis or project) must be at the 500 level or higher. All students must satisfy the specified requirements of their major department (see department chair or academic adviser). Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital

One public recital is required of all candidates for the Master of Music degree (Vocal Arts), as indicated below. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Master of Music in Performance (Vocal Arts)

Prerequisite

The applicant must hold a Bachelor of Music degree with a major in vocal arts. Students who have not had formal training in foreign language, diction, vocal pedagogy, acting for singers, song literature and in Italian, French or German languages must show competency in these areas through examination or complete appropriate course work with a grade of B or higher.

Curriculum Requirements

Lessons (8 units)

- MPVA 553 Individual Instruction Units: 1 or 2
  8 units total of MPVA 553 (Voice)

  Music Ensembles (2 units)
  500 level Music Ensemble (two 1-unit courses)

  Program Intensive Courses (6 units)
- MPVA 443 Cantata and Oratorio Units: 2, 2 years
- MPVA 540 Special Studies in Vocal Literature Units: 2
- MPVA 541 Advanced Vocology Units: 2

  Core Thornton Academic Courses (4 units)
- MUHL 570 Research Materials and Techniques Units: 2
  MUHL Electives at the 500 level (2 units total)

  Electives (10 units)
  Electives in music at the 400 or 500 level (6 units total)
  Electives in non-music or music at the 400 or 500 level (4 units total)

  Capstone Projects
  Graduate Recital (0 units)
  Comprehensive Review (0 units)

Total Units: 30

Comprehensive Review

A final examination in vocal pedagogy, art song and oratorio literature and diction will be administered by the vocal arts faculty. Students are required to write extensive program notes for the degree recital.

USC Opera

USC Opera is an integral part of the Vocal Arts Department, providing career development opportunities for singers, coach/pianists, conductors and directors. The program includes instruction in opera history and literature, coaching techniques, stage direction, body movement for singers, stage training, role study and analysis. The opera workshop is a repertory experience involving preparation and performance of operatic works and excerpts for performance both on and off the USC campus.

Sacred Music (MM)

Overview

The MM in sacred music consists of course work in sacred music, choral conducting, choral literature, choral development, music history, and vocal arts. The program culminates with a graduate recital or project.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the thesis or recital. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Master's Recital/Project

Students majoring in Sacred Music must complete a recital or a project, as approved by the department. Candidates completing the recital must perform one public recital. Candidates must apply for recital dates, according to the current guidelines of the Music Operations office. Some departments require that a candidate be prepared to play or conduct the recital program for the approval of a faculty committee in advance. Candidates completing the project must work with the department to determine the details for this requirement.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique. A final oral examination in sacred music and related areas will be administered by the sacred and choral music faculty.

Curriculum Requirements

Keyboard and Voice Proficiency

Proficiency tests in keyboard and voice will be given by the choral and sacred music faculty during the student's first semester in residence to determine if additional study in either medium is required.

Lessons (2 units)

Take 2 units from the following:
- MPKS 501 Individual Instruction Units: 1 or 2 ** (PI or OR)
- MPVA 501 Individual Instruction Units: 1 or 2 **

Music Ensembles (2 units)

- Ensemble Units: 2 units total*

Program Intensive Courses (20 units)

- MSCR 571 Music of the Great Liturgies Units: 2
- MSCR 572 Sacred Music Administration Units: 2
- MSCR 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MUCD 541 Choral Conducting III Units: 2 ** (4 units total)
- MUCM 440 Choral Development Units: 2 **
- MUCM 541 Choral Literature I Units: 2 **
- MUCM 542 Choral Literature II Units: 2 **
  Choose one course from the following:
- MSCR 473 Hymnology Units: 2
- MSCR 475 Introduction to Jewish Music Units: 2
  Choose one course from the following:
- MSCR 474 The Organ in Worship and Congregational Life Units: 2
- MPVA 438 Foundations of Vocology Units: 2 ***
- MPVA 541 Advanced Vocology Units: 2 ***
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Core Thornton Academic Courses (4 units)

- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives at the 500 level Units: 2 units total

Electives (2 units)

Capstone Projects (0 units)

- Graduate recital or project Units: 0
- Comprehensive review Units: 0

Total units: 30

[*]Sacred music majors must participate in a choral ensemble chosen from MUEN 508, MUEN 510, MUEN 511 *or* MUEN 512 *each semester if enrolled for 4 or more units.*
[**]In some cases, MUHL 500-level courses and/or private instruction in organ, piano, voice or guitar may be substituted for MUCM 440, MUCM 541, MUCM 542 *and* MUCD 541. *In some cases, instruction in guitar or another instrument may be substituted for* MPKS 501 *or* MPVA 501.
[***]Courses with similar content in MPVA 438 and/or 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.

Screen Scoring (MM)

Overview

This two-semester master's program focuses on the art and craft of composing, orchestrating, programming, conducting, producing, recording, mixing, editing, copying and integrating music for screen-based media, including motion pictures, television programming, video games, Internet fare and other new visual media. Classes are also offered in technology, entrepreneurialism and the business of making movies.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the portfolio. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Portfolio Requirement

A portfolio of multiple original manuscript scores for films and/or games, along with screening copies containing audio tracks, is required for graduation. The scoring faculty will provide students with additional details for this requirement.

Curriculum Requirements

Lessons (4 units)

- SCOR 502 Individual Instruction in Advanced Screen Scoring Units: 1, 2
- 4 units total of SCOR 502

Program Intensive Courses (32 units)

- CTPR 410 The Movie Business: From Story Concept to Exhibition Units: 2
- CTPR 473 Spotting Music for Cinema Units: 2
- SCOR 503a Advanced Scoring for Motion Pictures and Television Units: 2
- SCOR 503b Advanced Scoring for Motion Pictures and Television Units: 2
- SCOR 504a Orchestral Scoring Units: 2
- SCOR 504b Orchestral Scoring Units: 2
- SCOR 505a Advanced Game Scoring and Integration Units: 2
- SCOR 505b Advanced Game Scoring and Integration Units: 2
- SCOR 506 Applied Techniques in Contemporary Scoring Units: 2
- SCOR 511a History of Film Scoring Units: 2
- SCOR 511b History of Film Scoring Units: 2
- SCOR 512 Entrepreneurialism for the Screen Composer Units: 2
- SCOR 521a Recording, Mixing and Editing for the Screen Composer Units: 2
- SCOR 521b Recording, Mixing and Editing for the Screen Composer Units: 2
- SCOR 523a Advanced Screen Scoring Technology Units: 2
- SCOR 523b Advanced Screen Scoring Technology Units: 2

Portfolio Requirement

Portfolio: 0 units

Total Units: 36

Teaching and Learning (MM)

Overview

The goal of this professional degree is to prepare the student for an advanced level of pre-college teaching and leadership in the music education profession by developing core knowledge and expertise in pedagogical skills and scholarship. It provides a seamless transition into the DMA in Teaching and Learning, with most units being transferable to the DMA requirements.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the MM in Teaching and Learning. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Unit and Grade Requirements

Students must complete at least 26 semester units at USC, including the capstone. A grade point average of not less than 3.0 (A = 4.0) is required for all graduate courses in music, and a grade of B or higher is required for all courses in the major department. Students who transfer credits must achieve this average on all combined transferred and residence units.

Transferred Credits

All credits transferred must be the equivalent of corresponding *current work* at USC. Course work completed at another institution that has been approved by the Thornton School for transfer credit must have been completed within seven years from the date of admission to a master's degree program to be applied toward that degree. Transfer credit petitions must be filed with the appropriate Thornton adviser during the first semester in residence.

Time Limit

The time limit for completing the Master of Music degree is five years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA, PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Capstone and Guidance Committee

A thesis or final project is required for candidates as a capstone for the Master of Music in Teaching and Learning. The thesis will consist of a research document written on a topic approved by the Music Teaching and Learning department; the final project will consist of a creative project that will present the arrangement, production or design of innovative ideas, materials or curricula for specific applications in teaching music. Before registering for 594a Thesis or 590 and 592 (for the project option), a student must establish a guidance committee composed of three members of the faculty, approved by the department chair, of which at least two are from the home department. The chair of the guidance committee

directly supervises the preparation of the thesis, the final acceptance of which is based upon the unanimous recommendation of all three members of the committee.

Comprehensive Review

Candidates for the Master of Music must pass a comprehensive review toward the end of their course of study, usually in the final semester. This review, which is administered by the faculty of the major department, consists of an oral or written examination, covering relevant aspects of musical performance, literature, and/or technique.

Curriculum Requirements

Applied Music (4 units)

4-units total are to be earned by choosing from the following:

Individual Instruction (lessons); courses in conducting, composition or arranging; or ensemble. Individual instruction and ensembles must be at the 500 level. Conducting, composition and arranging courses must be at the 400 or 500 level.

Program Intensive Courses (11 units)

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 505 Teaching and Learning Music Units: 2

Two courses from the following:

- MTAL 501 Historical Foundations of Music Education Units: 3
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 504 Psychological Foundations of Music Units: 3

Core Thornton Academic Courses (8 units)

MUHL electives at the 500 level: two 2-unit courses

One course from the following:

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2

One course from the following:

- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2

Electives in music at the 400 or 500 level (3 units)

Comprehensive Review (0 units)

Capstone Project (4 units)

Choose one group from the following:

- MTAL 594a Master's Thesis Units: 2
  and
- MTAL 594b Master's Thesis Units: 2

Or

- MTAL 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
  (2 units total of MTAL 590) and
- MTAL 592 Final Project Units: 2

Total units: 30

University Certificate

Arts Leadership Graduate Certificate

Certificate in Arts Leadership (ARTL)

The graduate program in arts leadership is a two-semester certificate program for artists, arts administrators and cultural workers of all types to develop the skills necessary to become successful leaders in the arts and arts organizations in a rapidly changing and radically altered contemporary world. The program is based in the Thornton School of Music, but it is designed to be applicable for artists/students engaged in any of the arts disciplines who want to develop their leadership skills in the hybrid and holistic environment of the contemporary arts. The program is highly individualized and deeply student centered in its approach, with simultaneous emphases on research, discovery, theory and current practice. With strong faculty mentorship and guidance from the director of the program and other working professionals in the field, students explore the dimensions of the most current issues and ideas while developing specific real-world applications of these ideas to their own practice as artists and leaders.

The program consists of a minimum of 18 units which can be completed in two semesters. The program begins with a 2-unit gateway course (ARTL 500) which introduces the students to the varied, complex and contentious issues in the arts and arts leadership that currently exist in the contemporary arts world. From this experience, students will develop a life plan that examines their own career and life trajectory for the next several years, providing a guidepost for their own personal development in arts leadership. Students will take four core courses including ARTL 501, which focuses on a deep understanding and application of the challenges of executive leadership in the arts and ARTL 502, which looks at major environmental trends affecting the arts and how that impacts the student's leadership role in the arts. Essential to all of these courses is developing the ability to think, speak and write critically about the arts in the contemporary world, key components of strong arts leadership. There is also a two semester practicum, ARTL 510, in which the student creates, develops and completes an actual arts leadership project of his or her own choosing, supported by faculty mentorship and the cohort of other practicum students.

Admission to the program is by application, reviewed and approved by the director of the program. Admission to the practicum requires a project proposal to be created by the student and approved by the director of the program.

Core Courses

- ARTL 500 Arts Leadership and Arts Entrepreneurship Units: 2
- ARTL 501 Executive Leadership in the Arts Units: 2
- ARTL 502 Issues in the Arts and the Contemporary World Units: 2
- ARTL 503 Arts Organizations: Innovation and New Models Units: 2
- ARTL 504 Arts and the Community: Current Practice and New Visions Units: 2
- ARTL 510 Arts Leadership Practicum Units: 2 (2 semesters) (4 units total)

Total units: 14

Select a Minimum of 4 Units From the Following Courses*

- MUIN 570 The Music Industry Units: 4
- PAS 561 Curatorial/Organizational Models Units: 2
- PAS 571 Histories of Art in the Public Sphere Units: 3
- PAS 572 Contemporary Art in the Public Sphere Units: 3
- PAS 585 Theorizing the Public Realm Units: 3
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 687 Strategic Management in the Nonprofit Sector Units: 4 **
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Total units: 4

**Courses may be chosen from this list or in consultation with the Director of Arts Leadership.*

***Prerequisite:* PPD 675 *and* PPD 689

Minimum total units: 18

Performance Graduate Certificate

This two-year graduate-level program is designed for students who have completed their undergraduate education in music, or its equivalent, and intend to concentrate their energies on the full-time development of their discipline.

Entrance Requirements

A performance audition is required with repertory to be determined by the student's primary department.

Curriculum Requirements

The requirements for this program consist of 16 units of Graduate Certificate Performance (4 units per semester of MPEM 554, MPGU 554, MPKS 554, MPST 554, MPVA 554, MPWP 554 or MUJZ 554). Graduate Certificate Performance encompasses individual instruction, studio class and two ensembles or the equivalent as appropriate to the discipline.

Doctoral Degree

Choral Music (DMA)

Overview

The DMA in Choral Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the DMA in Choral Music. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five

members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Choral Music, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations.

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and

the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Choral Music Major

A keyboard proficiency test will be given by the choral faculty during the student's first semester in residence to determine if additional study in keyboard is required.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2 *
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons, Ensemble and Performance Classes (10 units)

- MUCD 541 Choral Conducting III Units: 2
- Ensemble (500 level; choral music majors must participate in a choral ensemble each semester if enrolled for 4 or more units) Units: 2 units total
- 4 units total of MUCD 541
- MUCD 641 Choral Conducting IV Units: 2
- MUCD 653 Performance Units: 1 or 2
- 2 units total of MUCD 653

Program Intensive Courses (12 units)

- MSCR 571 Music of the Great Liturgies Units: 2
- MUCM 440 Choral Development Units: 2 **
- MUCM 541 Choral Literature I Units: 2 **
- MUCM 542 Choral Literature II Units: 2 **
- MUCM 641 Choral Literature III Units: 2
- MUCO 441 Choral Arranging Units: 1, 2
- 2 units total of MUCO 441

Electives to Fulfill the Academic Field and Two Elective Fields (19 units)

Conduct two principal choral concerts; at least one of which will include instrumental ensemble (0 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Capstone Project (4 units)

- MUCM 794a Doctoral Dissertation Units: 2
- MUCM 794b Doctoral Dissertation Units: 2

Total units: 65

**Choral music majors are not required to take* MUCD 441.
***May be taken as part of the master's degree.*

Composition (DMA)

Overview

The DMA in Composition consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination

that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Composition, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to

candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations.

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Composition Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons, Ensemble and Performance Classes (8 units)

- MUCO 637 Advanced Composition II Units: 1, 2
- 4 units total of MUCO 637
- MUCO 737 Advanced Composition III Units: 1 or 2
- 4 units total of MUCO 737

Program Intensive Courses (8 units)

- MUCO 536 Advanced Orchestration I Units: 1, 2, 3, 4
- 2 units total of MUCO 536
- MUCO 592 Selected Topics in Graduate Composition Units: 2
- 4 units total of MUCO 592
- MUCO 636 Advanced Orchestration II Units: 1 or 2
- 2 units total of MUCO 636

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Graduate Recital (0 units)

Capstone Project (4 units)

- MUCO 794a Doctoral Dissertation Units: 2
- MUCO 794b Doctoral Dissertation Units: 2

Total units: 65

Jazz Studies (DMA)

Overview

The DMA in Jazz Studies consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years

of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as

determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice. The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Jazz Studies Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons, Ensemble and Performance Classes (12 units)

- MUEN 532 Jazz Chamber Music Units: 1
- 4 units total of MUEN 532
- MUJZ 653 Performance Units: 1 or 2
- 8 units total of MUJZ 653

Program Intensive Courses (12 units)

- MUJZ 443 Jazz Pedagogy Units: 2
- MUJZ 545 Jazz Ensemble Development Units: 2, 2 years
- MUJZ 547 Jazz Composition Units: 2
- 4 units total of MUJZ 547
- MUJZ 688 Special Topics in Jazz Performance Units: 2
- 4 units total of MUJZ 688

Electives to Fulfill the Academic Field and Two Elective Fields (21 units)

Comprehensive Examinations (0 units)

Examinations that include the major area, one academic field and two elective fields.

Recitals (0 units)

- Two recitals of original compositions and arrangements written while in the DMA program Units: 0
- Lecture-recital in conjunction with an appropriate research project Units: 0

Total units: 65

Music, Historical Musicology Emphasis, (PhD)

The Doctor of Philosophy degree with a major in music is granted by the Graduate School. Candidates for the PhD in music should also refer to the Graduate School section of this catalogue for general regulations.

A substantial background in music and liberal arts is required. Graduate course requirements for the PhD are adapted to the needs and research interests of the individual student. A minimum of 60 post-baccalaureate units is required.

Foreign Language Requirements

Students are required to demonstrate a reading knowledge by passing an examination in German and one other foreign language chosen by the student from among French, Italian or Latin. With the permission of the chair of the qualifying exam committee, a foreign language relevant to the dissertation may be chosen in place of French, Italian or Latin. The language requirement for the MA degree may be applied toward the PhD Doctoral language requirements should be passed as early as possible, but, at latest, during the fourth semester of course work.

Screening Procedure

Before the completion of 24 units of graduate work at USC and with the approval of the department chair, students must be interviewed by the curriculum committee of the School of Music. Continuance in course work will be contingent upon approval of the committee. PhD candidates in musicology who did not receive an MA degree from USC must take the MA comprehensive examination in historical musicology prior to the interview. Continuance in course work will be contingent upon passing these examinations.

Historical Musicology Emphasis

Requirements

- MUHL 570 Research Materials and Techniques Units: 2

Courses selected from:

- MUHL 579 Studies in Music History Units: 4
- MUHL 600–699

Total units: 12

Electives in history, language, literature or arts other than music

Total units: 8

Courses drawn from:

- MUHL 500–699
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2

Total units: 10

Electives in music, letters, arts and sciences

Total units: 24

Dissertation

- MUHL 794a Doctoral Dissertation Units: 2
- MUHL 794b Doctoral Dissertation Units: 2

Total units: 4

Total units: 60

Performance - Organ, Percussion, Strings, Vocal Arts, or Winds (DMA)

Overview

The DMA in Performance - Organ, Percussion, Strings, Vocal Arts, or Winds consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the

presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major - Organ, Percussion, Strings, Vocal Arts, or Winds

It is the objective of the performance curriculum to combine high standards of performance with intellectual accomplishments appropriate to a university degree. Candidates electing this major must present at least four major public appearances: two solo recitals and two other appropriate appearances. The exact format, content and scheduling of the four appearances are the responsibility of the candidate's faculty advisers for the major field of study.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons (12 units)

- Individual instruction 653 (take organ, percussion, strings, vocal arts or winds for a maximum of 12 units): 12 units total in your primary instrument

Electives to Fulfill the Academic Field and Two Elective Fields (33 units)

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Total units: 65

Majors in percussion, strings and winds must participate in a large ensemble each semester if enrolled in four or more units.

Performance — Classical Guitar (DMA)

Overview

The DMA in Classical Guitar consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form

of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Classical Guitar

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons (12 units)

- MPGU 653 Performance Units: 1 or 2
- 12 units total of MPGU 653

Program Intensive Courses (5 units)

- MPGU 427 Advanced Topics in Classical Guitar History and Literature Units: 3
- MPKS 481 Interpretation of Baroque Music Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (28 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Two solo recitals and two other appropriate performances Units: 0

Total units: 65

Performance — Early Music (DMA)

Overview

The DMA in Early Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the DMA in Early Music. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice. The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Early Music

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total *
- Ensemble Units: 2 units total

Note

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons, Ensemble and Performance Classes (16 units)

- MPEM 650 Collegium Directing Units: 2
- 4 units total of MPEM 650
- MPEM 653 Performance Units: 1 or 2
- 8 units total of MPEM 653
- MUEN 650 Early Music Ensemble Units: 1
- 4 units total of MUEN 650

Program Intensive Courses (6 units)

- MUHL 572 Seminar in Historical Musical Notation Units: 2
- MUHL 589 Seminar in Renaissance Repertories and Performance Practice Units: 2
- MUHL 591 Seminar in Baroque Repertories and Performance Practice Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (23 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four graduate recitals: two as soloist and ensemble director, one lecture-recital, and one recital of the student's choice Units: 0

Total units: 65

**Must include* MUHL 574 *and* MUHL 575.

Performance — Keyboard Collaborative Arts (DMA)

Overview

The DMA in Keyboard Collaborative Arts consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee. A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Keyboard Collaborative Arts

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons (12 units)

- MPKS 653 Performance Units: 1 or 2
- 12 units total of MPKS 653

Program Intensive Courses (6 units)

- MPKS 481 Interpretation of Baroque Music Units: 2
- MPKS 560 Song Interpretation Master Class Units: 2
- MPKS 561 Chamber Music Interpretation Master Class Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (27 units)

Comprehensive Examinations (0 units)

Examinations, which include the major area, one academic field and two elective fields.

Recitals (0 units)

- Four doctoral level recitals; one with voice(s), one with instrument(s), one lecture recital, and other recital as approved Units: 0

Total units: 65

The exact format, content and scheduling of the four graduate recitals are the responsibility of the candidate's major professor.

Performance — Piano (DMA)

Overview

The DMA in Piano consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral

examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice. The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Piano

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons (12 units)

- MPKS 653 Performance Units: 1 or 2
- 12 units total of MPKS 653

Program Intensive Courses (6 units)

- MPKS 520 Special Studies in Solo Repertoire for Piano Units: 2
- 6 units total of MPKS 520

Electives to Fulfill the Academic Field and Two Elective Fields (27 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four graduate recitals: two solo recitals, one chamber recital, and one lecture-recital Units: 0

Total units: 65

Performance — Studio Guitar (DMA)

Overview

The DMA in Studio Guitar consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading

knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice. The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Curriculum Requirements for Performance Major — Studio Guitar

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2

- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Lessons, Ensemble and Performance Classes (20 units)

- MPGU 558 Advanced Studio Guitar Performance Class Units: 1
- 4 units total of MPGU 558
- MPGU 653 Performance Units: 1 or 2
- 12 units total of MPGU 653
- MUEN 526 Guitar Ensemble Units: 1
- 4 units total of MUEN 526

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)

Comprehensive Examinations (0 units)

Examinations which include the major area, one academic field, and two elective fields.

Recitals (0 units)

- Four doctoral recitals, one of which must be a lecture recital in conjunction with an appropriate research project Units: 0

Total units: 65

Sacred Music (DMA)

Overview

The DMA in Sacred Music consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the DMA in Sacred Music. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (six units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to ten units are taken in the academic field. Six to eight units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic

and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty adviser in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination is comprised of a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice.

The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For students pursuing the dissertation option, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy. For students pursuing the project option, the project must also be completed *after* the student has passed the comprehensive examination.

Doctoral Project

The doctoral project must be approved by the department and may take the form of a lecture recital, a composition, a musical edition, or other appropriate creative endeavor. The doctoral project must reveal creative and scholarly ability, technical mastery, and must take a form relevant to the field. The evaluation of the doctoral project is made by the department in accordance with Thornton School of Music practice in evaluation of capstone doctoral recitals.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning, and Choral Music. This also applies to Sacred Music candidates who pursue the dissertation option. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of

absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations .

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral adviser of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Sacred Music Major

Proficiency tests in both keyboard and voice will be given by the choral and sacred music faculty during the student's first semester in residence to determine if additional study in either area is required.

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MTAL 505 Teaching and Learning Music Units: 2
- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MUHL 570 Research Materials and Techniques Units: 2
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Music Ensembles (2 units)

- Music Ensemble at the 500-level: 2 units total*

Program Intensive Courses (6 units)

- MSCR 571 Music of the Great Liturgies Units: 2 **
- MSCR 572 Sacred Music Administration Units: 2 **

One course from the following:

- MSCR 474 The Organ in Worship and Congregational Life Units: 2
- MPVA 438 Foundations of Vocology Units: 2 ***
- MPVA 541 Advanced Vocology Units: 2 ***
- MPVA 542 Vocal Pedagogy Teaching Practicum Units: 2

Choose 4 units from the following:

- MSCR 473 Hymnology Units: 2
- MSCR 475 Introduction to Jewish Music Units: 2
- MUHL 550 Music and the Holocaust Units: 2

Electives to Fulfill the Academic Field and Two Elective Fields (25 units)****

Comprehensive Examinations (0 units)

Examinations, which include the major area, one academic field and two elective fields.

Capstone Project (8 units)

Choose one option from the following:

Dissertation Option:

- Individual Instruction at the 501 level (2 units total)
- MSCR 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MSCR 794a Doctoral Dissertation Units: 2
- MSCR 794b Doctoral Dissertation Units: 2

Final Project Option:

- MSCR 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (2 units total)
- MUCD 653 Performance Units: 1 or 2 (2 units total)
- Individual Instruction at the 501 level (4 units total)
- Lecture/Recital Units: 0

Total required for degree: 65

**Sacred music majors must participate in a choral ensemble chosen from* MUEN 508, MUEN 510, MUEN 511 *or* MUEN 512 *each semester if enrolled for 4 or more units.*

***If these courses have already been taken toward a Master of Music degree at USC, then 500-level MUHL courses or 500-level MUCO analysis courses should be substituted, on consultation with the Sacred Music faculty.*

****Courses with similar content in MPVA 438 and/or 541 taken at another institution may be substituted, subject to Vocal Arts departmental approval. Consult with the Vocal Arts and Sacred Music departments to finalize substitution approval and/or course placement.*

*****Requires one elective field in a performance area.*

Teaching and Learning (DMA)

Overview

The DMA in Teaching and Learning consists of the following areas of study: the basic DMA curriculum, course work in the major, an academic field and two elective fields.

The DMA curriculum has been designed to extend beyond the public school setting and prepare students for collegiate teaching in both traditional and alternative settings (such as community-based and on-line programs). Further, the degree offers innovative courses on teaching at the college level. Students have the opportunity to intern with university professors in music education methodology classes. The program also includes core scholarly subjects, such as research, sociology, philosophy, psychology and history of music education. The focus goes beyond the traditional band/orchestra/choir model and extends to additional areas especially relevant to the current diverse and technologically proficient student population.

The professional degree stresses teaching with cutting-edge technological tools while developing core knowledge and expertise in pedagogical skills and scholarship. Students will acquire writing and design skills for a wide range of multimedia publications, while

being able to pursue a choice of research activities or advanced creative work that will enable them to lead our profession to new heights. USC is one of the few universities that equally values students being able to declare elective fields in areas outside of music education, while also achieving rigorous scholarship, writing and multimedia design skills, and gaining pedagogical experience that prepares them for collegiate teaching in a rapidly changing society.

Degree Prerequisites

DMA applicants must complete the appropriate master of music degree program or its equivalent.

Admission

Admission to Thornton programs is granted through the USC admission process. Applicants are screened by appropriate faculty selection committees. Specific entrance requirements are reviewed on an annual basis and published online at music.usc.edu.

Graduate Record Examinations

Scores from the General Test of the Graduate Record Examinations (GRE) are required for application and admission to the DMA in Teaching and Learning. Detailed requirements are available at the Thornton Website, music.usc.edu. Test scores on the GRE that are more than five years old at the time of application are not accepted.

Grade Point Average Requirements

A minimum grade point average of 3.0 (A = 4.0) is required for all graduate course units in music. A grade of B or higher is required for all courses in the major field. For courses in academic and elective fields, the minimum passing grade is C.

Transfer Credit

The Degree Progress Department in the Office of Academic Records and Registrar determines whether course work taken elsewhere is available for transfer credit. A maximum of 30 units of transfer credit may be applied toward a doctoral degree in music. Whether such credit is applicable toward a specific requirement in a major or minor field is determined by the Thornton School department in which the subject is taught, pending approval by the dean of the Thornton School. Transfer credit petitions must be filed with the Thornton doctoral adviser during the first semester in residence. Transfer work must have been completed within 10 years of admission to the DMA program to be applied toward that degree.

Residence Requirement

A minimum of two years of full-time study beyond the Master of Music degree is required for the Doctor of Musical Arts. At least one year of full-time study beyond the master's degree (6 units or more per semester) must be in residence at USC.

Time Schedule

The time limit for completing the Doctor of Musical Arts degree is eight years. For students who earned an applicable master's degree within five years prior to admission to the doctoral program, the time limit for completing the Doctor of Musical Arts degree is six years. Progress is measured from the beginning of the first course at USC applied toward the degree. Extensions will be granted by petition to the Thornton School for only the most compelling reasons.

Music Graduate Entrance Exams

All students entering a graduate-level degree program (MA, MM, DMA and PhD) at USC Thornton, who have not previously completed a degree at USC Thornton, must take a series of entrance exams in core music subjects. These exams are called Music Graduate Entrance Exams (MGEEs). Information regarding which exams are required for specific majors is available from the Thornton Student Affairs office. Also see the Thornton School of Music *Admission to Graduate Standing* section of this catalogue for specific policies relating to these exams.

Foreign Language

An academic reading knowledge of French, German, Italian or Spanish is required of all students, either by taking a course approved by the Thornton School or by written examination approved by the Thornton School. Departments within the Thornton School may require additional language skills. All language requirements must be fulfilled one semester before entering the third semester in the program. Students with an academic reading knowledge of a language other than English, French, German, Italian or Spanish, may make a written request to the Thornton doctoral adviser to meet this requirement with a different language. In these cases, students must propose and gain the permission of a member of the USC faculty who will agree to create and grade the examination that would ultimately determine fulfillment of the requirement.

Course Requirements

Each student is required to complete four areas of concentration: the major field, an academic field and two elective fields.

Required courses for each major curriculum are listed in the description of major programs below. Required courses for any academic or elective field are determined for their respective fields by the faculty advisers on a student's DMA guidance committee.

A minimum of 65 graduate units beyond the bachelor's degree are required to complete a DMA degree. Fifty-five or more units must be in music, 12 of these beyond the master's level must be in the major. At least 40 of these must be at the 500 level or higher. All course work earned under these requirements for a doctoral degree is considered to be obsolete after 10 years from the date of completion of such work and may not be used to fulfill degree requirements.

Academic and Elective Fields

For the academic field students must choose one from Musicology, Theory and Analysis, Music Teaching and Learning, Choral Music or Sacred Music. For the elective fields students will choose two fields from among 50 possible areas, including Composition, Performance, Early Music, Jazz Studies, Music Teaching and Learning, Choral Music, Sacred Music, Conducting, Pedagogy, Electroacoustic Media, Music Industry, as well as areas outside of music. The fields comprise courses that are determined by the department in which they are administered. Eight to 10 units are taken in the academic field. Six to 8 units are taken in each elective field. The academic field may not duplicate a major or an elective field. No more than two of the four fields of concentration may be under the guidance of the same department within the Thornton School of Music, and at least one of the elective fields must culminate in a substantial written paper or examination. Students must apply to their chosen fields. Admission to academic and elective fields is determined by the appropriate department, prior to the Graduate Committee Interview. Individualized programs of study will be created in each field in consultation with a faculty advisor in each area.

Graduate Committee Interview

Before the completion of 16 units beyond the master's degree and before permission to present the second doctoral recital is requested, doctoral students must meet with the Graduate Advisory Committee of the Thornton School of Music to discuss their progress in the program and their goals for the future. In preparation for this interview, students must prepare a dossier according to specific instructions available from the Thornton doctoral adviser. The committee determines the student's continuation in the program, and approves both the student's individualized curriculum (including all fields of concentration) and the members of his or her DMA guidance committee.

DMA Guidance Committee

The DMA guidance committee is composed of at least five members: two faculty members from the major department, one of whom will serve as chair, and a faculty member from each of the three other areas of concentration. At least three members of a committee must be full-time faculty of rank in the Thornton School. The composition of the DMA Guidance Committee is proposed and approved as part of the Graduate Committee Interview.

The guidance committee administers the written and oral parts of the comprehensive examination. The committee continues to serve until the comprehensive examination has been passed, the

dissertation topic approved (if applicable) and the student is admitted to candidacy (if applicable). For students in curricula that require recitals, the two major field advisers serve as the recital committee and are responsible for determining the approved format, content, scheduling, and presentation of these performances for credit toward the requirements of the degree.

Comprehensive Examination

The comprehensive examination for the DMA is administered by the student's guidance committee. This examination consists of written and oral components and is designed to assess the student's mastery of his or her fields of concentration and readiness for professional independence as a performer, composer, teacher, researcher and/or scholar. The student must obtain permission from the guidance committee to take the comprehensive examination and schedule it at least two months in advance to ensure the committee's availability. The examination must be taken after completion of all required course work for all fields of concentration, except (in some cases) a limited number of the required units of Individual Instruction in the major field. In degree programs that require the presentation of four major recitals, at least two major recitals must be presented prior to the administration of the comprehensive examination. Up to two required recitals may be presented after the comprehensive examination. The dissertation (if required) must be written after the comprehensive examination. Comprehensive examinations will not be scheduled during summer sessions except under extraordinary circumstances and only with the written approval of members of the guidance committee. All portions of the examination must be completed within one month.

The comprehensive examination comprises a substantial culminative work for each field of concentration, as well as an oral examination with the student's guidance committee. The culminative work for each field may be a written examination, paper, project or recital, as appropriate for the particular field. For the academic field and at least one elective field, this culminative requirement must be a substantial written examination or paper. Following the successful completion of all culminative requirements and the approval of each by the corresponding faculty adviser, the student will sit for a two-hour oral examination with the guidance committee. This oral examination covers in greater depth the topics discussed in the written examinations and other requirements for the fields of concentration. The oral examination may also cover new material as determined by the guidance committee.

The two major field advisers and the academic field adviser must be present at the oral examination and render a judgment on the acceptability of the comprehensive examinations as a whole. It is highly preferable that the faculty advisers for the two elective fields participate in the oral examination with the other members of the guidance committee. If, however, there are challenges with scheduling or other issues that are reasonably unresolvable, the participation of the faculty advisers for elective fields is not required for the oral examination if they feel that the candidate has demonstrated knowledge and mastery of material that is appropriate for an elective field in their disciplines.

The examinations will be reported as passing if there is no more than one dissenting vote on the committee. A student must pass both the written and oral portions to pass the comprehensive examination. A pass on the examination cannot be made contingent upon any form of additional work.

If a student fails the comprehensive examination, the guidance committee may permit the student to repeat it once at a mutually satisfactory time within a period of not less than six months nor more than one year from the date of the first oral examination. A student may not take the comprehensive examination more than twice. The comprehensive examination serves as the qualifying examination for programs that require a dissertation.

Admission to Candidacy

For the DMA in Teaching and Learning, admission to candidacy occurs after the student has passed the comprehensive examination, upon formal action of the dean of the Thornton School. The dissertation must be completed *after* admission to candidacy.

Doctoral Dissertation

A dissertation based on original investigation and/or creative work is required of candidates in Composition, Music Teaching and Learning and Choral Music. The dissertation must reveal scholarly ability, technical mastery, capacity for independent research and originality in creative thought.

Dissertation Committee

After the guidance committee recommends admission to candidacy and approves the dissertation topic, the committee is reduced to three members. This smaller committee shall be the dissertation committee and will guide the student through the completion of the dissertation. Additional members may be added at the discretion of the chair of the committee if the topic requires special expertise.

Registration for Dissertation

The student must register in 794 Dissertation each semester after admission to candidacy until degree requirements (including the dissertation) are completed. Registration for 794 in no less than two regular semesters following admission to candidacy entitles the candidate to supervision by the dissertation committee. If the dissertation is not completed and accepted within two semesters, the candidate must register for 794 each semester thereafter until the document has been accepted. No more than 8 units of credit in 794 may be accumulated regardless of the number of semesters the candidate may be required to register.

A candidate who must withdraw temporarily from registration in 794 for a semester must report this in writing to the Thornton doctoral adviser before the beginning of that semester. As part of that report, the candidate must also petition for a formal leave of absence. During a leave of absence the candidate will not be entitled to assistance from his or her dissertation committee or to the use of university services and facilities. A leave of absence will be granted only under exceptional circumstances.

Format for Theses and Dissertations

All dissertations submitted for requirements for graduate degrees must conform to university regulations in format and method of preparation. See the USC Graduate School's guidelines for Theses and Dissertations .

Abstract of Dissertation

Since the abstract of the dissertation is published in Dissertation Abstracts International, it should be written with care and be representative of the final draft of the dissertation.

Defense of the Dissertation

After meeting all requirements including the comprehensive examination, the candidate must defend the dissertation. This defense takes place in order for the committee to determine whether the dissertation should be approved or rejected. While this oral defense is open to the general university community, only the members of the dissertation committee have the authority to recommend its acceptance or rejection. The recommendation must be unanimous in order for the dissertation to be approved.

At least seven weeks before the scheduled date of the defense of the dissertation, written approval by all members of the candidate's dissertation committee, along with a typed copy of the dissertation abstract, must be filed with the doctoral advisor of the Thornton School of Music.

A candidate may defend the dissertation on the basis of an approved preliminary copy. If the defense is satisfactory and the committee is satisfied with the manuscript as presented, the committee then signs the Approval to Submit Defended and Final Copy of the Doctoral Work form. If additional work is required, the form is left unsigned until the work has been approved.

The final electronic PDF copy of the dissertation, together with signed signature sheet and approval forms, must be presented to the Thesis Editor in the USC Graduate School by the Graduate School's submission date and times. Approval of format and acceptance by the Graduate School must be presented to the doctoral adviser of the Thornton School of Music at least one week before the end of the semester.

Curriculum Requirements for Teaching and Learning Major

Basic DMA Curriculum (20 units) - Required for All DMA Candidates

- MUCD 441 Choral Conducting II Units: 2
- MUCD 443 Instrumental Conducting II Units: 2
- MUCO 501 Introduction to the Analysis of Tonal Music Units: 2
- MUCO 502 Introduction to the Analysis of Post-Tonal Music Units: 2
- MTAL 505 Teaching and Learning Music Units: 2 *
- MUHL 570 Research Materials and Techniques Units: 2 **
- MUHL electives numbered 500 through 695: 6 units total
- Ensemble Units: 2 units total

Note:

Courses with similar content taken for graduate credit at another accredited institution may be substituted, subject to departmental approval. Master's degree credit for ensemble taken at USC may fulfill this requirement, subject to departmental approval.

Program Intensive Courses (20 units)

- MTAL 500 Research Foundations in Music Teaching and Learning Units: 3
- MTAL 502 Sociological Foundations of Music Teaching and Learning Units: 3
- MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning Units: 3
- MTAL 607 Alternative Models in Music Teaching and Learning Units: 2
- MTAL 615 Assessment and Reflective Practice Units: 2
- MTAL 720 Quantitative Research in Music Teaching and Learning Units: 3
- MTAL 721 Qualitative Research in Music Teaching and Learning Units: 3
- MTAL 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- 1 unit total of MTAL 790

Electives within MTAL Department (6 units)***

Electives to Fulfill the Academic Field and Two Elective Fields (20 units minimum)****

Comprehensive Examinations (0 units)

Examinations include the major area, one academic field and two elective fields.

Capstone Project (4 units)

- MTAL 794a Doctoral Dissertation Units: 2
- MTAL 794b Doctoral Dissertation Units: 2

Total units: 68**

**Music Teaching and Learning students are required to take MTAL 605 instead of MTAL 505 in the basic DMA curriculum.*
***MTAL 500 satisfies the requirement of MUHL 570 in the basic DMA curriculum.*
****Electives within MTAL will be chosen in consultation with the department.*
*****It is possible for Music Teaching and Learning students to elect either the academic field or one of the elective field options from outside of the Thornton School. Possible options might include psychology, sociology, education, social work or statistics. These options must be approved by the Graduate Advisory Committee.*

USC School of Pharmacy

Founded in 1905, the USC School of Pharmacy is the oldest and foremost pharmacy school in Southern California. The school is a national leader known for its progressive curriculum and research excellence. Approximately 50 percent of the practicing pharmacists in Southern California are graduates of USC. The school has an average student body of 738 full-time students in the PharmD program and 250 students pursuing MS, PhD and DRSc degrees in pharmacology and toxicology, pharmaceutical sciences, health economics, regulatory science and healthcare decision analysis. There are 74 full-time faculty and more than 300 part-time and volunteer faculty at the school.

The school occupies state-of-the-art facilities on the USC Health Sciences Campus in metropolitan Los Angeles, adjacent to the Los Angeles County+USC Medical Center (one of the largest teaching hospitals in the country), the USC Norris Cancer Hospital and the Keck Hospital of USC. USC pharmacy students receive clinical training at these facilities and many other affiliated hospitals, health care clinics, skilled nursing facilities, home health care agencies and pharmacies in the Southern California region.

Recognized as one of the most innovative schools of pharmacy, the USC School of Pharmacy serves as a model for other progressive schools. In 1950, USC was the first to establish a Doctor of Pharmacy program. Additional national "firsts" that distinguish the school include: first clinical pharmacy program and first MS in radiopharmacy (both in 1968); first PharmD/MBA dual degree program (1988); first MS and PhD programs in pharmaceutical economics and policy (1994) and first professional doctorate in regulatory science (2008).

Consistently the top private pharmacy school nationwide, the school is a member of the American Association of Colleges of Pharmacy, and the PharmD program is accredited by the Accreditation Council for Pharmacy Education.

Health Sciences Campus
John Stauffer Pharmaceutical Sciences Center
1985 Zonal Avenue
Los Angeles, CA 90089-9121
(323) 442-1369
FAX: (323) 442-1681
Office of Admission and Student Affairs
(323) 442-1466
Email: pharmadm@usc.edu
Email: pharmfa@usc.edu
pharmacyschool.usc.edu
Office of Graduate Affairs (PhD, MS)
(323) 442-1474
FAX: (323) 442-2258
Email: pharmgrd@usc.edu
pharmgradprograms.usc.edu
Healthcare Decision Analysis
635 Downey Way
Verna & Peter Dauterive Hall, VPD 301
Los Angeles, CA 90089-3333
(213) 821-6478
Email: tonm@usc.edu
hcda.usc.edu
Regulatory and Quality Sciences
1540 Alcazar St., CHP 140
Los Angeles, CA 90089
(323) 442-3102
Email: regsci@usc.edu
regulatory.usc.edu

Administration

Vassilios Papadopoulos, DPharm, PhD, *Dean*
Steven Chen, PharmD, *Associate Dean for Clinical Affairs*
Susie H. Park, PharmD, *Associate Dean for Student Affairs*
Irving Steinberg, PharmD, *Associate Dean for Faculty Affairs*
Glen L. Stimmel, PharmD, *Associate Dean for Academic Affairs*
Michael Z. Wincor, PharmD, *Associate Dean for Global Initiatives*
Annie Wong-Beringer, PharmD, *Associate Dean for Research and Graduate Education*
Paul Beringer, PharmD, *Interim Chair, Titus Family Department of Clinical Pharmacy*
Geoffrey Joyce, PhD, *Chair, Pharmaceutical and Health Economics*
Clay C.C. Wang, PhD, *Chair, Department of Pharmacology and Pharmaceutical Sciences*

Faculty

John Stauffer Dean's Chair in Pharmaceutical Sciences: Vassilios Papadopoulos, DPharm, PhD
University Professor and Boyd P. and Elsie D. Welin Professor in Pharmaceutical Sciences: Jean Chen Shih, PhD
Distinguished Professor of Pharmacy, Public Policy, and Economics and Leonard D. Schaeffer Director's Chair: Dana Goldman, PhD
John A. Biles Professor in Pharmaceutical Sciences: Wei-Chiang Shen, PhD
Gavin Herbert Professorship in Pharmaceutical Sciences: Andrew MacKay, PhD
William A. and Josephine A. Heeres, Endowed Chair in Community Pharmacy: Steven Chen, PharmD
Charles Krown/Pharmacy Alumni Professor in Pharmaceutical Sciences: Enrique Cadenas, MD, PhD
Professors: Enrique Cadenas, MD, PhD; Julio A. Camarero, PhD; Sarah F. Hamm-Alvarez, PhD; Wei-Chiang Shen, PhD; Jean C. Shih, PhD; Bangyan Stiles, PhD; Clay C.C. Wang, PhD
Associate Professors: James D. Adams, Jr., PhD; Martine Culty, PhD; Roger F. Duncan, PhD; Ian S. Haworth, PhD; Curtis T. Okamoto, PhD; Kathleen Rodgers, PhD
Assistant Professors: Houda Alachkar, PharmD, PhD; Jianming Xie, PhD; Yong (Tiger) Zhang, PhD
Lecturers: Rebecca Romero, PhD; Angel Tabancay, PhD
Research Assistant Professors: Liana Asatryan, PhD; Julianna Hwang, PharmD, PhD
Professors of Clinical Pharmacy: Melvin F. Baron, PharmD, MPA; Daryl Davies, PhD; Julie A. Dopheide, PharmD; Frances Richmond, PhD; Glen L. Stimmel, PharmD; Bradley R. Williams, PharmD; Annie Wong-Beringer, PharmD
Associate Professors of Clinical Pharmacy: Paul M. Beringer, PharmD; Steven Chen, PharmD; Naomi Florea, PharmD; Kevin L. Forrester, PharmD; William C. Gong, PharmD; Cynthia L.L. Lieu, PharmD; Stanley G. Louie, PharmD; Edith Mirzaian, PharmD; Tien Ng, PharmD; Susie H. Park, PharmD; Irving Steinberg, PharmD; Fred G. Weissman, PharmD, JD; Michael Z. Wincor, PharmD
Assistant Professors of Clinical Pharmacy: Betty Chan, PharmD; Vivian Chow, PharmD; Michelle Chu, PharmD; Marc Cosep, PharmD; Jennifer H. Cupo-Abbott, PharmD; Richard Dang, PharmD; Melissa Durham, PharmD; Emily Han, PharmD; Michael Jamieson, DRSc; C. Benson Kuo, PhD; Kum Ja K. Lee, PharmD; May C. Mak, PharmD; Emi Minejima, PharmD; Rory O'Callaghan-Kim, PharmD; Eunjoo Pacifici, PharmD, PhD; Paula Phongsamran, PharmD; Nancy Pire-Smerkanich, DRSc; Florence H. Wong-Yu, PharmD
Professors of Pharmaceutical and Health Economics: Dana Goldman, PhD; Joel W. Hay, PhD; Darius N. Lakdawalla, PhD; R. Pete Vanderveen, RPh, PhD
Associate Professors: Jason N. Doctor, PhD; Geoffrey Joyce, PhD; Jeffrey S. McCombs, PhD; John Romley, PhD
Associate Professor of Clinical Pharmacy: Grant D. Lawless, MD, RPh
Assistant Professor: Rebecca Myerson, PhD
Research Assistant Professors: Etienne Gaudette, PhD; Steven Fox, MD, PhD
Emeritus Professor and Dean: Timothy M. Chan, PhD
Emeritus Professor: Eric J. Lien, PhD

Programs

The School of Pharmacy offers curricula leading to the Doctor

of Pharmacy (PharmD) and Doctor of Regulatory Science (DRSc) degrees and graduate degrees through the Graduate School including: Master of Science (MS) and Doctor of Philosophy (PhD) in pharmaceutical sciences, Master of Science (MS) and Doctor of Philosophy (PhD) in molecular pharmacology and toxicology, Doctor of Philosophy (PhD) in clinical and experimental therapeutics, Master of Science (MS) in pharmaceutical economics and policy, Doctor of Philosophy (PhD) in health economics, Master of Science (MS) in Healthcare Decision Analysis, Master of Science (MS) in regulatory science, and Master of Science (MS) in management of drug development and Master of Science (MS) in Medical Product Quality. The PhD Programs in Pharmaceutical and Translational Sciences is a new one-year umbrella program after which students select a particular track to complete their degree with a PhD in pharmaceutical sciences, molecular pharmacology and toxicology, or clinical and experimental therapeutics. Seven dual degree programs, one joint program and numerous certificate programs are also offered, including: PharmD/JD, PharmD/MBA, PharmD/MPH, PharmD/MS in regulatory science, PharmD/MS in gerontology, PharmD/MS in global medicine, PharmD/PhD, PharmD/graduate certificate in gerontology, PharmD/MS in healthcare decision analysis, and graduate certificates in clinical research design and management, food safety, preclinical drug development, and patient and product safety.

The USC School of Pharmacy Doctor of Pharmacy program is accredited by Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603-4810, phone: (312) 664-3575, Fax (312) 664-4652 or (312) 664-7008.

Tuition and Fees (Estimated)

Tuition for School of Pharmacy degree programs (PharmD; PhD in clinical and experimental therapeutics; MS and PhD in pharmaceutical sciences; MS and PhD in molecular pharmacology and toxicology; MS and PhD in health economics) is charged at a flat rate (which differs from standard USC tuition). See the Tuition and Fees section for fee information. These fees are subject to change.

Doctor of Pharmacy students must pay a $500 non-refundable acceptance deposit that is applicable toward tuition. For deposit information in other degree programs in the School of Pharmacy, please consult appropriate offices.

Honor Societies

Rho Chi

Theta chapter of Rho Chi, the academic honor society in pharmacy, was established at USC in 1925. Charters for chapters of this organization are granted only to student groups in those colleges that are members in good standing of the American Association of Colleges of Pharmacy. Eligibility for membership is based on high attainment in scholarship, character, personality and leadership. All candidates selected for membership must have completed three semesters of the pharmacy program, and they must be approved by the Dean of the School of Pharmacy.

Phi Lambda Sigma

The Phi Lambda Sigma chapter was established at USC in 1988. This national pharmacy leadership society is devoted to identifying, supporting and recognizing the contribution of pharmacy students to their colleges, their classmates, their campuses, their communities and to their chosen profession.

Student Housing and Service Facility, Health Sciences Campus

There are limited university-managed accommodations on the Health Sciences Campus. The Blanche and Frank R. Seaver Student Residence, adjacent to the John Stauffer Pharmaceutical Sciences Center, provides dining facilities and a bookstore. For residence information, call (323) 442-1576; for bookstore information, call (323) 442-2674. Students may also live in student housing on the University Park Campus, located about eight miles from the Health Sciences Campus.

Student Health Services, Health Sciences Campus

Services of the Student Health Center, covered by the mandatory student health fee, include the ambulatory care health services provided by the Student Health Center nursing staff. The Student Health Center is located in the USC Health Care Consultation Center, 1500 San Pablo Street, Suite 104, adjacent to the USC University Hospital, one block northeast of the School of Pharmacy. The telephone number is (323) 442-5980. In addition to the student health fee, all PharmD students must have major medical insurance coverage from the USC Student Health Plan. A student may request a waiver of the USC Student Health Plan if covered by a personal medical plan that meets criteria established by the Health Insurance Office.

Graduate Degrees

The School of Pharmacy, through the Graduate School, offers curricula leading to the MS and PhD degrees in pharmaceutical sciences, in molecular pharmacology and toxicology, and in health economics, as well as a PhD in clinical and experimental therapeutics and a doctorate in Regulatory Sciences (DRSc). The PhD Programs in Pharmaceutical and Translational Sciences is a one-year umbrella program after which students select a particular track to complete their degree with a PhD in pharmaceutical sciences, molecular pharmacology and toxicology, or clinical and experimental therapeutics. The school also offers interdisciplinary MS degrees in regulatory science, in the management of drug development, in healthcare decision analysis and in medical product quality. The MS degree in pharmaceutical economics and policy is offered jointly with the USC Price School of Public Policy and the Department of Economics. In addition, the school offers dual degrees with the schools of law, business, gerontology and medicine as well as other programs. Instructions given in the Admission section of this catalogue are to be followed. An online application is required. See the Graduate Admission application page. Additional information may be obtained by calling (323) 442-1474 or sending email to pharmgrd@usc.edu.

Admission Requirements for the Master of Science in Molecular Pharmacology and Toxicology and Master of Science in Pharmaceutical Sciences

Applicants should possess a bachelor's or master's degree in pharmacy, chemistry, biology or other related disciplines from an accredited college or university. A minimum grade point average of 3.0 and qualifying scores on the GRE in the verbal and quantitative tests are required. Special attention is given to the grades achieved in science courses relevant to the program (e.g., chemistry, biology, biochemistry, pharmacology and mathematics).

Applicants must have demonstrated proficiency in verbal and written English and in fundamental scientific areas such as organic and physical chemistry, biochemistry, biology, mathematics, statistics and computer science. Three letters from faculty knowledgeable about the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in laboratory research, ability to communicate in verbal and written English, motivation and creativity, and other qualities in the student's academic performance.

Applications for admission are reviewed by the Pharmacology and Pharmaceutical Sciences Graduate Admissions Committee of the School of Pharmacy and are evaluated primarily on the basis of academic excellence.

Admission Requirements for Programs in Pharmaceutical and Translational Sciences: Doctor of Philosophy in Clinical and Experimental Therapeutics, Doctor of Philosophy in Molecular Pharmacology and Toxicology and Doctor of Philosophy in Pharmaceutical Sciences

All prospective students will apply through the single umbrella program Pharmaceutical and Translational Sciences and become enrolled in one of the three participating PhD programs after having

successfully completed the first year's course work and rotations. Application materials will be reviewed by a joint admission committee, with equal representation of faculty from each track, evaluating applications on the basis of academic excellence and scientific research commitment.

Applicants should have a baccalaureate degree in natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science.

For those interested in pursuing PhD training in the Clinical and Experimental Therapeutics track, special emphasis will be given to applicants with an advanced professional degree (e.g. PharmD, MD, DDS). A student currently enrolled in the PharmD program may pursue a PharmD/PhD dual degree by following the admission procedure in the Catalogue.

Applicants should have a strong record of academic achievement and satisfactory performance on the general and advanced portions of the GRE. A minimum grade point average of 3.0 is required and previous research experience is expected.

In addition to the application for admission, three letters of recommendation from faculty knowledgeable of the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in laboratory research, ability to communicate in verbal and written English, motivation, creativity and other qualities in the student's academic performance. The student's research and professional experience should be well described within the application and include a personal statement summarizing career objectives and research interests.

Admission Requirements for the Master of Science in Pharmaceutical Economics and Policy

Applicants for admission must have achieved a minimum 3.0 GPA in an undergraduate or professional school and adequate scores on the GRE. In addition, applicants will be required to have completed upper-division courses in statistical methods, calculus and microeconomics.

Admission Requirements for the Doctor of Philosophy in Health Economics

Candidates with a bachelor's, master's or PharmD degree are invited to apply. Applicants must have demonstrated proficiency in verbal and written English and aptitude in economics, mathematics, statistics and computer science. Deficiencies in economics and statistical background can be addressed through preliminary course work after admission to the program.

A minimum grade point average of at least 3.0 (A = 4.0) is required. Special attention is given to the grades achieved in economics, statistics and mathematics courses relevant to the program. A qualifying score on the GRE in verbal and quantitative areas is required. Students with GRE scores of 1200 or better will be given priority for financial aid support.

Admission Requirements for the Master of Science in Healthcare Decision Analysis

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and qualifying scores on the GRE examination are required. The program encourages the participation of part-time students with work experience. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. Additional requirements for international students are outlined by university regulations under Admission of International Students.

Admission Requirements for the Doctorate of Science in Regulatory Science

The program is designed for individuals with strong professional experience and demonstrated intellectual and leadership capabilities. Applicants are expected to have a GPA of 3.0 on university-level course work and five or more years of professional experience. Admission requirements include university transcripts, a résumé, at least three letters of reference, and a one-page personal statement that outlines the background and goals of the applicant. Students are encouraged even at this early stage to identify areas in which they are interested in conducting research. Additional requirements for international students are outlined by university regulations under Admission of International Students. (See Admission and Orientation.) Students are not required to provide GRE scores unless indicated by the program director.

Students with an appropriate graduate or professional degree may use some previous graduate courses as transfer units toward the overall credit requirements of the Doctor of Regulatory Science program with the approval of the program director and under the normal rules of the university. Students who have graduated from the MS program in Regulatory Science can apply all of the previously taken course work toward the doctoral degree. Students with graduate degrees from outside of the regulatory science program are required to take a minimum of 32 units of course work and 4 units of dissertation research to complete the requirements for graduation. The course work requirements will be determined on an individual basis in consultation with the program director and participant's advisers.

Admission Requirements for the Master of Science in Regulatory Science

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 or qualifying scores on the GRE or equivalent examination are required. The program encourages the participation of part-time students with work experience.

Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential. Students will be selected for admission, whenever possible, after interviews with one or more members of faculty.

Admission Requirements for the Master of Science in Management of Drug Development

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 or equivalent and qualifying scores on the GRE or equivalent examination are required. The program encourages the participation of part-time students with work experience. Acceptance criteria for those individuals will be assessed on a case-by-case basis. English proficiency is essential.

Admission Requirements for the Master of Science in Medical Product Quality

Applicants should possess a bachelor's degree or equivalent from an accredited college or university. Applicants with graduate or professional degrees are encouraged to apply. A minimum grade point average of 3.0 and qualifying scores on the GRE or equivalent examination are normally required. The program encourages the participation of part-time students who are already working in the industry as well as students who have recently completed or are about to complete an undergraduate program.

Acceptance criteria will be assessed on a case-by-case basis. English proficiency is essential. Applicants who do not meet all the specific requirements indicated above, but who show unique potential, may be considered for admission with conditions, which may be fulfilled during the first semester of enrollment.

Admission of International Students to Graduate Degree Programs

All requirements described in this section are also applicable to the admission of international students. In addition, special application and admission procedures are required of international students. Refer to the section on Admission of International Students in this catalogue.

Degree Requirements

These degrees are under the jurisdiction of the School of Pharmacy and/or jointly with the Graduate School. Students should also refer to the Requirements for Graduation section and The Graduate School section of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by the Graduate School.

- Master of Science in Healthcare Decision Analysis
- Master of Science in Management of Drug Development
- Master of Science in Medical Product Quality
- Master of Science in Molecular Pharmacology and Toxicology
- Master of Science in Pharmaceutical Economics and Policy
- Master of Science in Pharmaceutical Sciences
- Master of Science in Regulatory Science
- Doctor of Philosophy in Clinical and Experimental Therapeutics
- Doctor of Philosophy in Health Economics
- Doctor of Philosophy in Molecular Pharmacology and Toxicology
- Doctor of Philosophy in Pharmaceutical Sciences
- Doctor of Philosophy in Pharmaceutical Economics and Policy
- Doctor of Regulatory Science
- PharmD
- PharmD/Juris Doctor
- PharmD/MBA Dual Degree Program
- PharmD/MS, Gerontology
- PharmD/Master of Science, Global Medicine
- PharmD/Master of Science, Healthcare Decision Analysis
- PharmD/Master of Public Health
- PharmD/MS, Regulatory Science
- PharmD/Doctor of Philosophy

Non-Degree Programs

Office of Continuing Professional Development
1985 Zonal Avenue
Los Angeles, CA 90089-9121
(323) 442-2403
FAX: (323) 442-3600
Email: pharmce@usc.edu
pharmacyschool.usc.edu/programs/ce/

Continuing Education

The School of Pharmacy, Office of Continuing Professional Development, is a recognized provider of continuing pharmacy education accredited by the Accreditation Council for Pharmacy Education (ACPE) and recognized by the California State Board of Pharmacy and throughout the United States.

The school serves as a primary educational resource for pharmacists in California and as a supplementary resource for other health professionals and pharmacists, nationally and internationally.

Programs are designed to educate pharmacists about current issues in pharmaceutical care, practice management, therapeutics and other topics of professional interest. Continuing education programs are held at the School of Pharmacy and other locations.

For information concerning continuing education programs contact the Office of Continuing Professional Development.

Bachelor's Degree

Pharmacology and Drug Development (BS)

The Bachelor of Science in Pharmacology and Drug Development requires the completion of a minimum of 128 units that include:

1. General Education Requirements
2. A minimum of six prerequisite courses designed to prepare students for the major
3. A minimum number of 28 units of upper division (300 level and above) courses in Pharmaceutical and Regulatory Science (RXRS)
4. A minimum of 8 units of upper division (300 level and above) courses in Biological Sciences (BISC) unique to the major

The Bachelor of Science in Pharmacology and Drug Development provides a novel path for science and non-science undergraduates at USC to gain significant knowledge in the disciplines of pharmacology and drug development. Pharmacology is the science of drugs including their origin, composition, pharmacokinetics, pharmacodynamics, therapeutic uses and toxicology. Drug development is the discipline that deals with the process of turning a new chemical entity (NCE) into a safe and effective medication for the advancement of human health. Completion of the major will prepare students for advanced clinical training in health-related fields including pharmacy, medicine and dentistry. It will also provide foundational education that can lead to new opportunities for students considering careers in biotech, pharmaceutics and biomedical industries.

The Bachelor of Science in Pharmacology and Drug Development is conferred by the USC School of Pharmacy.

Calculus

Select one course

- MATH 108g Contemporary Precalculus Units: 4
- MATH 118gx Fundamental Principles of Calculus Units: 4
- MATH 125g Calculus I Units: 4
  MATH 108g, MATH 118gx and MATH 125g can be used to satisfy GE-F: Quantitative Reasoning

Statistics

Select one course

- BISC 305 Introduction to Statistics for Biologists Units: 4
- BME 423 Statistical Methods in Biomedical Engineering Units: 4
- HP 340L Health Behavior Statistical Methods Units: 4
- MATH 208x Elementary Probability and Statistics Units: 4
- PSYC 274Lg Statistics Units: 4
  PSYC 274Lg can be used to satisfy GE-F: Quantitative Reasoning

Chemistry

Select two courses

- CHEM 105aLg General Chemistry Units: 4
  and
- CHEM 105bL General Chemistry Units: 4

  or
- CHEM 115aLg Advanced General Chemistry Units: 4
  and
- CHEM 115bL Advanced General Chemistry Units: 4
  Courses must be selected from either the general chemistry or the advanced general chemistry series. CHEM 105aLg and CHEM 115aLg can be used to satisfy GE-E: Physical Sciences.

Biology

Select two courses

- BISC 120Lg General Biology: Organismal Biology and Evolution Units: 4
  and
- BISC 220Lg General Biology: Cell Biology and Physiology Units: 4

  or
- BISC 121Lg Advanced General Biology: Organismal Biology and Evolution Units: 4
  and
- BISC 221Lg Advanced General Biology: Cell Biology and Physiology Units: 4
  Courses must be selected from either the general biology or the advanced general biology series. BISC 120Lg, BISC 220Lg, BISC 121Lg and BISC 221Lg can be used to satisfy GE-D: Life Sciences.

RXRS Core Course Requirement (Part 1)

One course

- RXRS 302 Pharmacology and Drug Development Units: 4

RXRS Core Course Requirement (Part 2)

Select one course

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4
- RXRS 413 Globalization of the Biomedical Industry Units: 4

Course Requirements (RXRS)

Select four courses

- RXRS 304 Mysterious Deaths: Toxicology, Poisons, Literature, History Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 408 Immunology and Immunotherapeutics Units: 4
- RXRS 409 Neuroimmunology: Focus on Disease and Therapy Units: 4
- RXRS 410 Cancer Biology and Pharmacotherapy Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4
- RXRS 420 Organ Physiology, Drug Delivery, and Drug Action Units: 4
- RXRS 411 Innovations in Medical Product Development Units: 4

Course Electives (RXRS)

The remaining units may be selected from the following RXRS courses, including, but not limited to:

- RXRS 405 Pharmacology and Sociology of Drug Abuse Units: 4
- RXRS 406 Clinical Pharmacology and Medication Management Units: 4
- RXRS 412w Twenty-First Century Medical Issues and the Law Units: 4
- RXRS 418 Plant Medicines in Modern Medicine Units: 4
- RXRS 490x Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8
  A maximum of 4 units can be met by taking Directed Research (RXRS 490x)

Course Requirements (BISC)

Select two courses

- BISC 300L Introduction to Microbiology Units: 4
- BISC 307L General Physiology Units: 4
- BISC 320L Molecular Biology Units: 4
- BISC 330L Biochemistry Units: 4

Minor

Science and Management of Biomedical Therapeutics Minor

The minor in Science and Management of Biomedical Therapeutics consists of a minimum of 20 units of course work, 16 of which must be at the 400 level, and which are unique to this minor and do not overlap with the major, another minor or general education requirements of the undergraduate students. A maximum of 4 units can be met by taking Directed Research (RXRS 490). Only students with a declared major are eligible to apply. Students must be in sophomore standing and have completed a minimum of 32 USC units as an entering freshman or 16 units as an entering transfer student. Course work within the minor will focus on domains of pharmacology, pharmaceutical sciences, toxicology, nutritional sciences, medical product development and drug use and abuse. Students will select course work in consultation with an academic adviser.

Required Courses

To gain a solid foundation for the minor, two core courses (selected from the four below) are required:

- RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society Units: 4
- RXRS 403 Neuropharmacology in Health and Disease Units: 4
- RXRS 407 The Discovery, Development and Marketing of Medicines Units: 4
- RXRS 416 Medical Products: From Idea to Market Units: 4

Master's Degree

Healthcare Decision Analysis (MS)

Curriculum Requirements

A Master of Science degree in healthcare decision analysis will be granted upon completion of at least 33 units of formal course work. Students with experience in industry or government can substitute an equivalent amount of formal course work with a research project, subject to the approval from program administrators.

Course requirements normally include a minimum of eight courses (24 units) with emphasis on applied health care policy, business intelligence and technical analysis. Recommended course work and electives include some courses available in other departments of the university and will be selected in consultation with the program advisers according to the areas of intended specialization of the participant in order to meet the credit requirements of the program. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

Grade Point Average

A grade point average of at least 3.0 (A = 4.0) must be achieved on graduate course work at USC.

Management of Drug Development (MS)

A Master of Science degree in the management of drug development will be granted upon completion of at least 32 units of course and research project work. The program is offered on both a full-time and part-time basis, and courses are also available in distance formats. Most students will take six units of directed research as part of this program. Students with appropriate industry or laboratory experience can substitute an equivalent amount of formal course work for the research project with the permission of the program director. Course requirements normally include a minimum of three courses concerned with translational aspects of medical product development. Recommended courses to satisfy this core requirement include RSCI 530, RSCI 531, RSCI 532, PSCI 664 or CXPT 609. The program must also include a minimum of one course in each of: regulatory science, quality assurance, clinical research, business and statistics. Students should develop a specific plan of study in consultation with graduate advisers before beginning the program.

Medical Product Quality (MS)

To keep medical products safe and effective, a strong system of quality management is required. Quality is assured through compliance with strict regulations and is assessed by regulatory agencies through audits and inspections. A Master of Science degree in Medical Product Quality is a specialized program designed to prepare individuals to function effectively as quality specialists in pharmaceutical and medical device sectors. The degree will be granted upon completion of at least 32 units of course work, which can include an optional research project in an internship setting. Students with experience in industry or government can substitute an equivalent amount of formal course work for the research project with the permission of the program director. Course requirements normally include a minimum of four courses concerned with the quality aspects of medical product development and manufacturing and a minimum of one course each in regulatory science, risk management, statistics and project management. The program is offered on both a full-time and part-time basis, and courses are also available in distance formats. Students should develop a specific plan of study in consultation with their graduate adviser before beginning the program.

Molecular Pharmacology and Toxicology (MS)

A Master of Science in molecular pharmacology and toxicology will be granted on the basis of completion of at least 24 units of formal course work and presentation of an acceptable thesis (MPTX 594a, MPTX 594b, 4 units) based on the results of an original investigation.

The 24 units of course work must be at the 500-level or above, exclusive of directed research. At least 16 of the 24 required units must be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences (courses within the department have designations of either PSCI or MPTX). The remaining units can be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences or in various related disciplines outside the department if approved by the Department of Pharmacology and Pharmaceutical Sciences Graduate Affairs Committee.

Pharmaceutical Economics and Policy (MS)

The Department of Pharmaceutical Economics and Policy (School of Pharmacy) offers a program of study leading to the MS degree. Applicants must apply to the Graduate School and meet the admissions requirements of the program. This program requires students to demonstrate skills in the analysis of pharmaceutical and health technology innovations, as well as an understanding of contemporary health policy issues.

A minimum of 36 units of graduate level courses is required.

Grade Point Average

A grade point average of at least 3.0 (A = 4.0) must be achieved on graduate course work at USC.

Recommended Courses

Students must complete all recommended courses for the degree within five years of entry into the program. It is recommended that the student complete the following 36 units of graduate level course work.

- PPD 501a Economics for Policy, Planning and Development Units: 2 and
- PPD 501b Economics for Policy, Planning and Development Units: 2
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- PMEP 509 Research Design Units: 4
- PMEP 525 Pharmacoeconomics I Units: 4 *
- PMEP 526 Pharmacoeconomics II Units: 2 *
- PMEP 527 Pharmacoeconomics III Units: 4 or approved elective
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4 or approved elective
- PMEP 590 Directed Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Note:

* The student must satisfactorily complete the recommended courses in public administration (PPD 501a and PPD 501b) prior to enrolling in PMEP 525 and PMEP 526.

Additional Degree Requirements

The student is also required to complete an empirical research project on a topic relevant to pharmaceutical economics and policy. This paper will be completed under the advisement of a faculty member in the Department of Pharmaceutical and Health Economics and be approved by two additional faculty.

List of Approved Electives

- ECON 401 Mathematical Methods in Economics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 601 Microeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 604 Game Theory Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4
- ECON 615 Applied Econometrics Units: 4
- ECON 688 Empirical Industrial Organization Units: 4
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 536 Program Evaluation and Research Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years
- PM 560 Statistical Programming With R Units: 2
- PSYC 426 Motivated Behaviors and Addiction Units: 4

Pharmaceutical Sciences (MS)

A Master of Science in the pharmaceutical sciences will be granted on the basis of completion of at least 24 units of formal course work and presentation of an acceptable thesis (PSCI 594a PSCI 594b, 4 units) based on the results of an original investigation.

The 24 units of course work must be at the 500-level or above, exclusive of directed research. At least 16 of the 24 required units must be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences (courses within the department have designations of either PSCI or MPTX). The remaining units can be taken from courses offered within the Department of Pharmacology and Pharmaceutical Sciences or in various related disciplines outside the department if approved by the Department of Pharmacology and Pharmaceutical Sciences Graduate Affairs Committee.

Regulatory Science (MS)

Regulatory science relates the regulatory and legal requirements of biomedical product development to the scientific study needed to establish product safety and efficacy. A Master of Science degree in regulatory science will be granted upon completion of at least 36 units of formal course work, which can include an optional research project in an internship setting. Students with experience in industry or government can substitute an equivalent amount of formal course work for the research project with the permission of the program director. Course requirements normally include a minimum of three courses concerned with regulatory aspects of medical product development and a minimum of one course each in quality assurance, clinical research, business, statistics and law. Recommended course work includes some courses available in other departments of the university. Students should develop a specific plan of study in consultation with the graduate advisers before beginning the program.

University Certificate

Clinical Research Design and Management Certificate

The graduate certificate in clinical research design and management is designed to strengthen the statistical, research and project management skills of clinical researchers and their associated clinical team members. Students must complete at least 12 units of course work including at least two courses in clinical design and trial management, one course in ethics and one course in a specialized aspect of design, management or statistics, subject to the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific

course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Requirements

Introduction to Clinical Trials

- MPTX 517 Structure and Management of Clinical Trials Units: 4

Clinical Design/Statistics (choose one)

- PM 510L Principles of Biostatistics Units: 4
- MPTX 522 Introduction to Clinical Trial Design and Statistics Units: 3

Biomedical Ethics

- MPTX 602 Science, Research and Ethics Units: 2

Additional options in specialized aspect of design or management (choose one):

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3
- RSCI 527 Medical Product Safety Units: 3

Food Safety Certificate

The graduate certificate in food safety is a 12-unit program of course work designed to strengthen the knowledge base and functional "toolkit" of individuals who deal with the production and management of food in industry and government. Students are required to take an entry level course that focuses on regulatory requirements for foods and dietary supplements and two additional courses that focus on food science and food/drug toxicology respectively. Final course work will be selected from a small grouping of electives that deal with quality systems or risk management. The program will include course work delivered in nontraditional formats, such as intensive weekend sessions, and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Requirements

- MPTX 514 Regulation of Food and Dietary Supplements Units: 3
- MPTX 524 Introduction to Food Science and Technology Units: 3
- RSCI 525 Introduction to Drug and Food Toxicology Units: 3

Quality/Risk Management Option:

- MPTX 515 Quality Systems and Standards Units: 3
- MPTX 526 Chemistry Manufacturing and Controls Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 529 Application of Risk Management Tools and Techniques Units: 2

Healthcare Decision Analysis Certificate

The Healthcare Decision Analysis (HCDA) Certificate program gives students the tools and knowledge to succeed in the complex world of healthcare data analytics, international access and reimbursement, product pricing and value assessment, insurance operations and design, along with competitive business intelligence. Course work is typically delivered in nontraditional formats such as intensive weekend sessions, Webcast lectures, and distance learning tools. Courses must be taken on-site. Students should confirm their specific course work plan in consultation with the graduate adviser before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the Healthcare Decision Analysis program. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete at least 12 units of specified course work, which normally will include two introductory courses on healthcare insurance and access, and product development and commercialization, along with two additional elective courses. The certificate can be completed on a part-time basis but must be finished within five years.

Required Courses

- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3

Electives (select two):

- HCDA 501 Fundamentals of Healthcare Insurance Design Units: 3
- HCDA 502 Comparative International Healthcare Systems Units: 3
- HCDA 503 Competitive Health Care Intelligence and Pricing Units: 3
- HCDA 510 Business Implications of Health Care Reform Units: 3
- HCDA 515 Medical Decision Analysis and Modeling Units: 3
- HCDA 520 Health Economic and Outcomes Methodology Units: 3
- HCDA 525 Healthcare Literature Analysis and Applications Units: 3
- HCDA 530 Total Product Development: Benchtop to Launch Units: 3
- HCDA 540 Executive Leadership and Healthcare Marketing Units: 3
- HCDA 550 Healthcare Innovation: Creativity to Value Units: 3
- HCDA 553 Advanced Pricing Strategies Units: 3
- HCDA 560 Managing Effective Partnerships and Mergers Units: 3
- HCDA 570 Asia Pacific: Access, Delivery and Reimbursement Units: 3

Medical Product Quality Graduate Certificate

The graduate certificate in Medical Product Quality is a 12-unit program designed for students with a background in biological, pharmaceutical and biomedical sciences and biomedical engineering. Quality assurance and quality control are the two functions in the biomedical industry that are responsible for the testing and oversight required to ensure the safety of the health care products that are manufactured. An essential tenet of regulatory oversight is the assurance of quality through guidelines, audits and inspections. In this program the regulations and guidelines to ensure the quality of drugs, biologics and medical devices, both in the United States and internationally, will be studied to develop an understanding of the basic principles important for the interpretation and implementation of quality practices and quality systems. Course work is typically delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before

beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete 12 units of specified course work (four course minimum), that normally will include an introductory course in the basic principles of quality systems, a course in project management, a course in quality tools and one elective chosen from the quality or regulatory offerings. The certificate can be completed on a part-time basis but must be finished within five years.

Choose at least one Quality Systems course from:

- MPTX 515 Quality Systems and Standards Units: 3
- RSCI 508 Quality Assurance for Drugs and Biologics Units: 3
- RSCI 509 Quality Assurance, Medical Devices and Combination Products Units: 3

Choose at least one Quality Tools course from:

- RSCI 506 Auditing Principles Units: 3
- RSCI 507 Quality Systems and Statistical Process Control Units: 2
- RSCI 535 Methods Development and Validation Units: 3

Project Management

- RSCI 603 Managing Complex Projects Units: 3

Choose an elective from the Quality or Regulatory offerings (minimum 3 units)

Elective course selected in consulation with academic adviser

Patient and Product Safety Certificate

The graduate certificate in patient and product safety is a 12-unit program that educates students in the emerging field of safety and risk management in the health care environment. It is designed to produce graduates who have a particular expertise in the evaluation and mitigation of medical errors and health-care product problems. Course work is typically delivered in nontraditional formats such as intensive weekend sessions and will use distance learning tools, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have bachelor's degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Students must complete 12 units of specified course work, that normally will include an introductory course in the basic principles of risk management, a second course in the use of risk management tools, and two additional courses in patient and product safety respectively as listed below. In addition, a course in medical ethics is recommended. Most students will take the courses that are listed in the sample student program below, but if students have already strong previous experience in risk management or safety, other statistical or quality courses taught in graduate programs at USC may be substituted with the permission of the program director. The certificate can be completed on a part-time basis but must be finished within five years.

Courses may be selected from the following recommended course list.

Recommended Course List

- MPTX 515 Quality Systems and Standards Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- MPTX 602 Science, Research and Ethics Units: 2
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 527 Medical Product Safety Units: 3
- RSCI 529 Application of Risk Management Tools and Techniques Units: 2
- RSCI 603 Managing Complex Projects Units: 3

Preclinical Drug Development Certificate

The graduate certificate in preclinical drug development provides advanced foundational training in preclinical aspects of drug development, translational research and regulatory control. Students must complete at least 12 units of course work including at least three courses in preclinical design and development (typically, RSCI 530 Translational Medicine: An Overview; RSCI 531 Industrial Approaches to Drug Discovery; RSCI 532 Early Stage Drug Development) and one course in a related aspect of research design, regulation or ethics, subject to the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance capabilities, Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with graduate advisers before beginning the program. Students who have baccalaureate degrees from accredited colleges or universities must submit an application for graduate study through the regulatory science program of the School of Pharmacy. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Regulatory and Clinical Affairs Certificate

The graduate certificate in regulatory and clinical affairs is designed to provide specialized education for individuals interested in developing a systematic understanding of the U.S. regulatory system for medical products. Students must complete at least 12 units of course work including an introductory course in regulatory affairs:

Requirements

One introductory course in regulatory affairs

- MPTX 511 Introduction to Medical Product Regulation Units: 3
- RSCI 530 Translational Medicine: An Overview Units: 2
- RSCI 532 Early Stage Drug Development Units: 3

At least one specialized course in regulatory management of a particular product type

- MPTX 512 Regulation of Pharmaceutical and Biological Products Units: 3
- MPTX 513 Regulation of Medical Devices and Diagnostics Units: 3
- MPTX 514 Regulation of Food and Dietary Supplements Units: 3

At least one course in clinical design

- MPTX 517 Structure and Management of Clinical Trials Units: 4
- MPTX 522 Introduction to Clinical Trial Design and Statistics Units: 3

One course in quality systems or risk management

- MPTX 515 Quality Systems and Standards Units: 3
- MPTX 526 Chemistry Manufacturing and Controls Units: 3
- RSCI 520 Introduction to Risk Management for Health Care Products Units: 2
- RSCI 525 Introduction to Drug and Food Toxicology Units: 3

Additional Requirements

Other courses may be substituted with the approval of the program director. The program will include course work delivered in nontraditional formats such as intensive weekend sessions and will use distance capabilities to capture and Webcast lectures and study materials. Courses can be taken on site, by distance or as a blended combination. Students should confirm their specific course work plan in consultation with the graduate advisers before beginning the program. Students who have a baccalaureate degree from an

accredited college or university must submit an application for graduate study through the regulatory science program of the School of Pharmacy. This program is particularly directed at Ph.D. students who wish to take the certificate during their USC studies. GRE scores are not required for admission to the certificate program. Students are expected to enroll each semester until the program is completed.

Dual Degree

Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD)

The Doctor of Pharmacy/Doctor of Philosophy (PharmD/PhD) program is designed to permit qualified PharmD students with a bachelor of science or equivalent degree to pursue research training in the pharmaceutical sciences and toxicology. A student accepted into the joint program must meet all requirements for the PharmD, as well as the requirements for the PhD in the pharmaceutical sciences or toxicology sections listed in this catalogue. A maximum of 20 units from the PharmD program may be credited toward the PhD. Up to 12 units of these PharmD courses may, at the discretion of the student's PhD adviser, be counted toward the required 24 units of core course work.

Admission Procedure

Students applying for the dual degree program must meet the respective admission requirements for each program. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and a minimum GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/PhD degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to one of the PhD programs in the School of Pharmacy during their first two years of enrollment in the PharmD prior to the respective published application deadlines for the PhD programs. Students who elect this approach must apply through the PharmD program. Students admitted to the PhD program using this approach will be offered admission to the dual degree contingent on their having maintained a minimum 3.0 GPA in the PharmD program.

Doctor of Pharmacy/Juris Doctor (PharmD/JD)

Admission Requirements

Admission to the dual Doctor of Pharmacy/Juris Doctor (PharmD/JD) program is competitive, and involves meeting admission requirements and gaining acceptance to both the School of Pharmacy and the USC Gould School of Law. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students who have a baccalaureate degree may apply to the dual PharmD/JD degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both schools. Students who elect this approach must identify themselves on their PharmD applications as potential dual PharmD/JD degree students. Students who are admitted to both schools will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students pursuing the dual PharmD/JD degree must notify the law school in a timely fashion that they will be enrolling in the dual PharmD/JD degree program and will not matriculate at the law school until the following year. Students who are accepted by only one school may choose to attend that school but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the Gould School of Law during their first year of enrollment in the PharmD program prior to the law school's published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students who are admitted to the law school using this approach would be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. See the admissions section of the School of Pharmacy and the Gould School of Law for specific requirements.

PharmD Requirements

Dual degree students must successfully complete 144 units of PharmD and acceptable JD units to receive the PharmD degree. The 144 units must include 132 units of required and elective pharmacy course work plus 12 units of JD course work deemed acceptable to meet PharmD elective requirements. Dual degree students should graduate with their PharmD degrees at the completion of the first semester of the sixth academic year of the dual degree program. Students will be eligible to sit for the Pharmacy Board Exams after completion of the PharmD degree requirements. However, dual degree students will not actually be awarded their PharmD degrees until they complete requirements for both degrees.

Juris Doctor Requirements

Dual degree students must successfully complete 88 units of JD and acceptable PharmD course work during the second to sixth years of the dual degree program to receive the JD degree. The 88 units must be composed of 76 units of JD course work, including satisfaction of the upper-division writing requirement and any other substantive requirements, plus 12 units of PharmD course work deemed acceptable to meet JD elective requirements. No JD credit will be awarded for PharmD course work completed prior to matriculation in the law school. Students cannot receive the JD degree under requirements for the dual degree program without prior or simultaneous completion of the PharmD degree.

Both professions require passing a state board or bar exam to practice the respective professions. Neither of these professional doctoral degrees requires a thesis or comprehensive final exam.

Doctor of Pharmacy/Master of Business Administration (PharmD/MBA)

Responding to the growing demand on pharmacists to be knowledgeable in both science and business administration, the USC School of Pharmacy in 1988 helped pioneer an innovation in pharmaceutical education by offering this unique five-year dual degree program.

The Doctor of Pharmacy/Master of Business Administration (PharmD/MBA) dual degree program is offered cooperatively by the School of Pharmacy and the USC Marshall School of Business. Students must complete concurrently all requirements established by both schools for their respective degrees.

The program involves completion of the first year in the School of Pharmacy, the second in the Marshall School of Business, and then completion of the balance of both degrees during the third through fifth years. A total of 48 units must be completed in the Marshall School of Business.

First Year: Required Pharmacy School courses.

Second Year: Required MBA courses and graduate business electives.

Third to Fifth Years: remaining Pharmacy courses and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. The PharmD and the MBA are awarded simultaneously upon completion of the School of Pharmacy and the Marshall School of Business requirements.

MBA Admission Requirements

Applicants to this program must have a baccalaureate degree from an accredited college or university and should apply during their first year of pharmacy studies. Only students who have successfully

completed one year in the School of Pharmacy will be considered for admission to the Marshall School of Business. See the Marshall School of Business for admission requirements.

Doctor of Pharmacy/Master of Public Health (PharmD/MPH)

The School of Pharmacy and the Master of Public Health program, in recognition of the rapidly changing health care environment, and in response to the growing demand for pharmacists who are knowledgeable in both pharmacy and population-based health care issues, have developed a dual degree program. The joint PharmD/MPH degree will enable graduates to be more responsive to today's health care needs and will provide training for pharmacists who seek to be agents of change within the profession and to assume leadership roles in the pharmacy field and in public health at the local, state and national levels.

Students who are enrolled in the School of Pharmacy must apply to the Master of Public Health program no later than January of their first year. All requirements for admission to the regular MPH program must also be fulfilled by dual degree applicants.

The PharmD/MPH program spans five years (four years of pharmacy school courses and one year of public health courses). Students begin the core MPH courses following the successful completion of the first year of pharmacy school. The last three years of the program are devoted to course work and the clinical rotations of the School of Pharmacy and to the completion of the elective courses and practicum (field experience) of the MPH program.

All students in the PharmD/MPH program must meet course requirements, grade point average requirements and program residency requirements of both programs. Students must have a cumulative GPA of 3.0 in the PharmD curriculum and a 3.0 in the MPH curriculum to meet graduation requirements.

The PharmD and the MPH degrees are awarded simultaneously upon completion of the School of Pharmacy and the Master of Public Health requirements.

Admission Requirements and Procedures

Students applying for the dual degree program must meet the respective admission requirements for each program. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and having acceptable GRE and TOEFL or IELTS scores as applicable. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MPH degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program, but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MPH program during their first year of enrollment in the PharmD prior to the MPH published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MPH program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA.

Doctor of Pharmacy/Master of Science, Gerontology

The emerging impact of the elderly on the health care system has created a need for health care providers who understand the unique needs of the elderly. As drug therapy remains the primary therapeutic option for chronic disease, the demand for prescription drugs will continue to rise. There is a demand for pharmacists who are equipped to meet the pharmaceutical care needs of this population. Geriatric pharmacy is recognized as a specialty, with board certification through the Commission for Certification in Geriatric Pharmacy. The PharmD/MS, Gerontology program will provide extensive education and training in the unique health care needs of older adults. It will allow student pharmacists with a career interest in geriatrics or gerontology to work with health care planning or delivery organizations to develop and implement progressive pharmaceutical care programs for the elderly.

Application and Admission Requirements

Students who intend to pursue the dual PharmD/MSG degree must be accepted by both programs. This includes having completed a baccalaureate degree from an accredited college or university with a minimum GPA of 3.0 and a minimum equivalent GRE score of 1000. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program. Second, students can apply to the dual degree by submitting an application to the MS program during their first year of enrollment in the PharmD prior to the MS published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MS program using this approach will be offered admission to the dual degree contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students accepted to the dual degree program must maintain a minimum 3.0 GPA in their Gerontology and PharmD courses.

Recommended Program

First year: Required Year I PharmD course work
Second year: Required Gerontology course work
Third year: Required Year II PharmD course work
Fourth year: Required Year III PharmD course work
Fifth year: Required Year IV PharmD course work

Graduation Requirements

Students must complete all requirements for the PharmD (see the Professional Degrees page) and MS, Gerontology degrees as listed in the current catalogue with a minimum cumulative 3.0 GPA. The specific MS course requirements for the dual PharmD/MS degree are listed on the School of Gerontology Dual Degree Programs page.

Doctor of Pharmacy/Master of Science, Global Medicine

The dual degree in Pharmacy and Global Medicine is designed for students who are interested in providing pharmaceutical care to underserved populations around the world. Students enrolled in this dual degree program will benefit from an advanced understanding of the role of, and issues surrounding, modern medicine in developing countries.

Requirements

Students must gain admission to and fulfill the degree requirements for both programs, which include 138 units for the Doctor of Pharmacy and 24 units for the MS in Global Medicine. Six units of GM elective units can be used towards the PharmD elective requirement, and PHRD 503 and PHRD 504 substitute for MEDS 503 and MEDS 504 .

Program Adaptation

Because MEDS 503 and MEDS 504, core requirements for the MS in Global Medicine program, cover the same material as PHRD 503 and PHRD 504, the PharmD/Global Medicine dual degree program substitutes PHRD 503 and PHRD 504 for MEDS 503 and MEDS 504 as core requirements for the dual degree.

Doctor of Pharmacy/Master of Science, Regulatory Science

Regulatory science is that branch of knowledge which relates

the regulatory and legal requirements of biomedical product development to the scientific testing and oversight needed to ensure product safety and efficacy. The program provides an opportunity for advanced preparation in the fields of regulatory affairs, quality assurance and clinical research. Students must complete concurrently all of the requirements established for the respective degrees. The program alternates the courses required for the PharmD program during the fall and spring terms with courses required in summer terms for the MS program. Students will typically take courses in the summers of years two-four. Up to 12 appropriate units of course work from the PharmD program can be applied toward the MS degree. The PharmD and the MS, Regulatory Science degrees will be awarded simultaneously upon completion of requirements for the two programs.

Admission Requirements and Procedures

Students applying for the dual degree program must meet the respective admission requirements for each program and must have a baccalaureate degree. Students will not be given special consideration for admission to either program because they are applying for the dual degree. Students may apply to the dual PharmD/MS, Regulatory Science degree program in two ways. First, they may apply at the time they submit their PharmD application by concurrently submitting applications to both programs. Students who elect this approach must identify themselves on both applications as potential dual degree students. Students who are admitted to both programs will be offered admission to the PharmD and will be offered admission to the dual degree program contingent on passing all courses in their first year of the PharmD with a minimum 3.0 GPA. Students who are accepted by only one program may choose to attend that program but will not be eligible for the dual degree. Second, students can apply to the dual degree by submitting an application to the MS in Regulatory Science program during their first or second year of enrollment in the PharmD prior to the MS in Regulatory Science published application deadline. Students who elect this approach must apply through the School of Pharmacy. Students admitted to the MS in Regulatory Science using this approach will be offered admission to the dual degree contingent on passing all courses in their PharmD studies with a minimum 3.0 GPA.

Healthcare Decision Analysis (PharmD/MS)

The Healthcare Decision Analysis (HCDA) program gives students the tools and knowledge to succeed in the complex world of healthcare data analytics, international access and reimbursement, product pricing and value assessment, insurance operations and design, along with competitive business intelligence. A dual degree of Doctor of Pharmacy and Master of Science in Healthcare Decision Analysis will be granted upon the completion of the course work required for the PharmD degree, and the HCDA core and elective units. Dual degree students will be credited up to 9 units of appropriate PharmD course work toward the MS, HCDA. Dual degree students will select from a series of HCDA core courses and required electives to meet the MS, HCDA degree requirements. Electives will be considered from the disciplines: applied healthcare policy, business intelligence, regulatory science, and healthcare economics, along with all required clerkships and rotations offered though the USC School of Pharmacy. Students should develop a specific plan of study in consultation with program administrators before beginning the program.

Doctoral Degree

Clinical and Experimental Therapeutics (PhD)

The goal of the PhD program in Clinical and Experimental Therapeutics is to develop a scientist who is engaged in team science through interdisciplinary education; competent in conducting research across clinical and basic science disciplines; and integrates basic investigations and clinical observations in applied research to better understand disease process, advance drug development and evaluate efficacy and toxicity of therapeutic regimens with the goal of improving the safe, effective and economical use of therapeutic modalities by patients.

The program applies an interdisciplinary approach that focuses the graduate studies directly toward translational, rather than basic science, aiming to educate students with the perspective and skill set to identify important connections between fundamental biomedical research and human disease. This program emphasizes cross-training between clinical and basic sciences focusing on the investigation of disease processes, drug development and the efficacy and toxicity of therapeutic regimens. Course requirements and research opportunities for graduate students enrolled in the program provide both experimental (basic) and disease-focused experiences that complement the graduate's research focus.

Course Requirements

A minimum of 60 units is required. At least 26 of the 60 units are to be formal graduate course work at the 500- level or above, exclusive of seminars and directed research. Students must complete 14 units of course work before they are eligible for the screening procedure. Additional course work relevant to the research interests of the student may be required by the student's advisers or the student's qualifying exam committee, with an emphasis on cross-training and taking into account the amount and level of previous scientific preparation and the nature of the research dissertation that will be the major endpoint of the program. Specifically, recommended course work differs between students who have an advanced professional degree (Track I) and those who do not (Track II). A maximum of 12 units may be transferred from graduate studies elsewhere.

In the first year, all students (Tracks I and II) are recommended to take 14 units of course work in translational medicine (RSCI 530, 2 units), research design (CXPT 609, 4 units), biostatistics (PM 510, 4 units), and clinical trial design (MPTX 517, 4 units). In the second year, Track I students will take the remaining 12 units of course work as electives based on the background of the student and the proposed research focus of the student. Track II students who do not have an advanced professional degree are recommended to select from the following courses as part of their electives: systems physiology and disease (INTD 572 and INTD 573, 4 units each) or pathology (INTD 550, INTD 551, 4 units each). Other electives that can be chosen are INTD 531, INTD 561, PM 533, PM 538, PM 570 and PSCI 665.

The remaining 34 of the 60 units required for the PhD degree may be fulfilled with other courses including ethics, interdisciplinary seminar, directed research and dissertation. Note that to become eligible to take the qualifying exam, Track II students must fulfill the prescribed clinical experiences that match the disease-related topic of the student's thesis work as approved by the student's advisers and advisory committee. Students with a bachelor's degree in a health care subject area (e.g., nursing, pharmacy, medicine) will be evaluated on a case basis and may be required to meet the therapeutic course work or clinical experience component described above, as determined by their background and previous experiences.

Foreign Language Requirement

There is no formal language requirement. However, an individual qualifying exam committee can require competency in a foreign language or a computer language if it is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of the qualifying exam committee composed of at least five members, one of whom must be from outside the department. Because of the centrality of research in the PhD program, the student is encouraged to get acquainted with the participating faculty mentors from the day they enter the program, and have selected a research direction, paired graduate advisers (clinical and basic scientists), and qualifying exam committee no later than the third semester of study. The graduate affairs committee will serve as the qualifying exam committee until one is selected.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not yet selected a qualifying exam committee, by the graduate affairs committee. The committee reviews the student's progress to date in various areas including course work, research interests, and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is determined, specific goals will be established that the student must fulfill to continue in the program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive written and oral examination on the chosen disease-focused area of research emphasis. The examination will encompass basic scientific concepts relevant to the disease under study and the laboratory techniques in that discipline, fundamental principles of clinical research and design, biostatistics, and therapeutics in the chosen disease-focused area of research. The examination is administered by the qualifying exam committee and consists of two parts: a written examination administered to all students at the end of their second year of study and a detailed written proposal and its oral presentation and defense by the student to the qualifying exam committee. The examination process is conducted by the student's advisory committee with oversight by the graduate affairs committee. All course and qualifying examination requirements for the Doctor of Philosophy must be completed within two-and-a-half years after admission. After passing these examinations, the student is admitted to candidacy for the PhD degree.

Dissertation

A dissertation based on original investigation in a relevant scientific area is required for the PhD. The dissertation research must represent a significant contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research. An oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee. (See Theses and Dissertations in the Graduate School section.)

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD degree, each student is required to participate in the teaching program of the School of Pharmacy.

Health Economics (PhD)

The Department of Pharmaceutical and Health Economics (in the School of Pharmacy) offers a program of study leading to the PhD degree in Health Economics. The program focuses on microeconomics; econometrics; health economics and policy; public finance; pharmaceutical economics and policy. The program offers one track in microeconomics and a second track in pharmaceutical economics and policy.

Microeconomics Track

Students in the microeconomics track will complete the microeconomic theory and econometric sequence and course work in health economics. They will receive focused training and mentoring in health economics through collaboration on research projects.

Satisfactory completion of the economic theory sequence with a grade point average of B or higher.

At least one of the econometrics courses must be completed with a grade of B or higher. The courses recommended for fulfilling the requirements for the Microeconomics Track are:

- GSBA 602 Selected Issues in Economic Theory I Units: 3
- PMEP 509 Research Design Units: 4
- ECON 636 Health Economics I Units: 4
- ECON 693 Seminar in Applied Economics and Public Policy Units: 2
- GSBA 612 Selected Issues in Economic Theory II Units: 3

or

- PMEP 525 Pharmacoeconomics I Units: 4

and

- PMEP 526 Pharmacoeconomics II Units: 2
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 544 Health Economics II Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4
- PMEP 553 Advanced Health Econometrics II Units: 4
- PMEP 698 Seminar in Pharmaceutical Economics and Policy Units: 1

Additional Requirements

Students in the microeconomics track will complete the microeconomic theory and econometric sequence and course work in health economics. They will receive focused training and mentoring in health economics through collaboration on research projects.

Foreign Language Requirement

There is no formal foreign language requirement. However, competence in the use of one computer programming language is required for the graduate degree. Such competence can be demonstrated either by course work or examination.

Grade Point Average

A grade point average (GPA) of at least 3.0 and typically considerably higher (on a scale of 4.0) must have been achieved on all graduate work at USC for the passing of the screening procedure. The Graduate School requires a minimum GPA of 3.0 on all course work taken as a graduate student at USC.

Unit Requirements

The PhD in Health Economics requires a minimum of 64 units of graduate-level courses numbered 500 or higher (excluding 794) and a minimum of 4 units of 794. A maximum of two full courses (eight units) or their equivalent may be PMEP 790 (research) since directed research will generally be incorporated into most 500- and 600-level courses. Exceptions will be considered on an individual basis. Normally, a full-time graduate student course load is three full courses or their equivalent per semester, with a four-course maximum. Students may transfer and substitute up to 24 units of graduate course work from other universities to fulfill the required 64 units of graduate credit subject to the approval of the department.

Screening Procedure

The student's progress will be reviewed after each semester and before registration for any additional course work to determine if progress has been satisfactory. The screening procedure will include satisfactory performance on written screening exams covering the major topics covered in the recommended coursework for each track.

Qualifying Exam

Upon successful completion of the first two years of course and grade requirements, and following passing of required screening procedures, the student takes a general written and oral examination on the chosen area of research emphasis after presenting a detailed written dissertation proposal. After passing these examinations, the student is admitted to candidacy for the PhD degree.

The student will select a member of the graduate faculty who will serve as his or her adviser and chair of the student's qualifying exam committee. The student should consult the director of Graduate Studies for the Health Economics program on the selection of his or her adviser and chair of the PhD qualifying exam committee after taking the written screening examinations. The chairman of the student's PhD qualifying exam committee advises the student on matters of curriculum and graduate opportunities. The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have appointments in the student's program. Faculty eligible to serve as committee chairs and members include tenured, tenure-track, and research faculty,

teaching faculty, practitioner faculty or clinical faculty (RTPC) faculty. The committee chair and at least three members must be research active in a field relevant to the research thesis and one member of the committee must be tenured or tenure track; and the committee membership requires approval by the dean of the school. Visiting faculty may not serve on qualifying exam committees. The vice provost for graduate programs is an ex officio member of all qualifying exam committees.

The composition of all PhD qualifying exam committees must be approved by the director of Graduate Studies for the Health Economics program. The student must form his or her qualifying exam committee soon after passing the departmental screening procedure.

Dissertation Proposal Preparation

The student is required to register for two units of PMEP 790 and write a research paper on a topic suitable for a dissertation. Typically, the chair of the student's guidance committee directs this work. The resulting essay becomes part of the student's written dissertation proposal which constitutes the written portion of the qualifying exam. This proposal is presented and critiqued during the oral portion of the qualifying examination.

Dissertation

After admission to candidacy, the student forms a dissertation committee comprising three faculty members, one of whom can be from an outside department. The chair of this committee is the dissertation supervisor. The student must register for PMEP 794a, PMEP 794b, PMEP 794c, PMEP 794d, or PMEP 794z each semester, excluding summer sessions, until the dissertation and all other degree requirements are completed.

The student is expected to complete a dissertation based on an original investigation. The dissertation must represent a significant contribution to knowledge and must be defended in an oral examination administered by the dissertation committee (see the section on Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD, all students are required to undergo training as an educator. This will include participating in seminars on educational techniques and hands-on teaching experiences through participation in didactic and small group teaching in the School of Pharmacy or the USC Price School of Public Policy.

Seminar Requirements

Every student is recommended to take and satisfactorily complete 4 units of research seminars chosen from ECON 693, PMEP 698 or the equivalent. At least one of these seminars must be related to the student's major field, and the same seminar may be taken more than once. Before completing the dissertation, it is recommended that the student present at least one original research paper in a seminar of his or her choice. This paper should typically consist of original results contained in the student's dissertation.

Three electives at the 500 level or higher from the School of Pharmacy's Health Economics Program and from the departments of economics, mathematical statistics, biometry, epidemiology, public administration, computer science or other relevant fields are required.

Pharmaceutical Economics and Policy Track

Students in the pharmaceutical economics and policy track will specialize in areas such as cost-effectiveness, comparative effectiveness, drug therapy outcomes and organization of pharmaceutical markets. They will receive focused training and mentoring in pharmaceutical economics and policy through collaboration on research projects.

Satisfactory completion of the pharmaceutical economics and policy sequence with an average grade of B or higher

- ECON 636 Health Economics I Units: 4
- GSBA 602 Selected Issues in Economic Theory I Units: 3
- PMEP 509 Research Design Units: 4
- PMEP 525 Pharmacoeconomics I Units: 4
- PMEP 526 Pharmacoeconomics II Units: 2
- PMEP 527 Pharmacoeconomics III Units: 4
- PMEP 535 Behavioral Science and Policy in Healthcare Units: 4
- PMEP 539 Economic Assessment of Medical Care Units: 4
- PMEP 547 Programming Methods for Empirical Analysis of Health Data Units: 4
- PMEP 551 Introduction to Health Econometrics Units: 4
- PMEP 552 Advanced Health Econometrics I Units: 4
- PMEP 553 Advanced Health Econometrics II Units: 4
- PMEP 698 Seminar in Pharmaceutical Economics and Policy Units: 1

Additional Requirements

Foreign Language Requirement

There is no formal foreign language requirement. However, competence in the use of one computer programming language is required for the graduate degree. Such competence can be demonstrated either by course work or examination.

Grade Point Average

A grade point average (GPA) of at least 3.0 and typically considerably higher (on a scale of 4.0) must have been achieved on all graduate work at USC for the passing of the screening procedure. The Graduate School requires a minimum GPA of 3.0 on all course work taken as a graduate student at USC.

Unit Requirements

The PhD in Health Economics requires a minimum of 64 units of graduate-level courses numbered 500 or higher (excluding 794) and a minimum of 4 units of 794. A maximum of two full courses (eight units) or their equivalent may be PMEP 790 (research) since directed research will generally be incorporated into most 500- and 600-level courses. Exceptions will be considered on an individual basis. Normally, a full-time graduate student course load is three full courses or their equivalent per semester, with a four-course maximum. Students may transfer and substitute up to 24 units of graduate course work from other universities to fulfill the required 64 units of graduate credit subject to the approval of the department.

Screening Procedure

The student's progress will be reviewed after each semester and before registration for any additional course work to determine if progress has been satisfactory. The screening procedure will include satisfactory performance on written screening exams covering the major topics covered in the recommended coursework for each track.

Qualifying Exam

Upon successful completion of the first two years of course and grade requirements, and following passing of required screening procedures, the student takes a general written and oral examination on the chosen area of research emphasis after presenting a detailed written dissertation proposal. After passing these examinations, the student is admitted to candidacy for the PhD degree.

The student will select a member of the graduate faculty who will serve as his or her adviser and chair of the student's qualifying exam committee. The student should consult the director of Graduate Studies for the Health Economics program on the selection of his or her adviser and chair of the PhD qualifying exam committee after taking the written screening examinations. The chairman of the student's PhD qualifying exam committee advises the student on matters of curriculum and graduate opportunities. The qualifying exam committee is composed of five members. The committee chair and at least two additional members must have appointments in the student's program. Faculty eligible to serve as committee chairs and members include tenured, tenure-track, and research faculty, teaching faculty, practitioner faculty or clinical faculty (RTPC) faculty. The committee chair and at least three members must be research active in a field relevant to the research thesis and one member of the committee must be tenured or tenure track; and the committee membership requires approval by the dean of the school. Visiting faculty may not serve on qualifying exam committees. The vice provost for graduate programs is an ex officio member of all qualifying exam committees.

The composition of all PhD qualifying exam committees must be approved by the director of Graduate Studies for the Health Economics program. The student must form his or her qualifying exam committee soon after passing the departmental screening procedure.

Dissertation Proposal Preparation

The student is required to register for 2 units of PMEP 790 and write a research paper on a topic suitable for a dissertation. Typically, the chair of the student's guidance committee directs this work. The resulting essay becomes part of the student's written dissertation proposal, which constitutes the written portion of the qualifying exam. This proposal is presented and critiqued during the oral portion of the qualifying examination.

Dissertation

After admission to candidacy, the student forms a dissertation committee comprising three faculty members, one of whom can be from an outside department. The chair of this committee is the dissertation supervisor. The student must register for PMEP 794a, PMEP 794b, PMEP 794c, PMEP 794d, or PMEP 794z each semester, excluding summer sessions, until the dissertation and all other degree requirements are completed.

The student is expected to complete a dissertation based on an original investigation. The dissertation must represent a significant contribution to knowledge and must be defended in an oral examination administered by the dissertation committee (see the section on Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD, all students are required to undergo training as an educator. This will include participating in seminars on educational techniques and hands-on teaching experiences through participation in didactic and small group teaching in the School of Pharmacy or the USC Price School of Public Policy.

Seminar Requirements

Every student is recommended to take and satisfactorily complete 4 units of research seminars chosen from PMEP 698 or the equivalent. At least one of these seminars must be related to the student's major field and the same seminar may be taken more than once. Before completing the dissertation, it is recommended that the student present at least one original research paper in a seminar of his or her choice. This paper should typically consist of original results contained in the student's dissertation.

A minimum of three electives at the 500 level or higher from the School of Pharmacy's Pharmaceutical Economics and Policy Program and from the departments of economics, mathematical statistics, biometry, epidemiology, public administration, computer science or other relevant fields are required.

List of Electives

- ECON 401 Mathematical Methods in Economics Units: 4
- ECON 415 Behavioral Economics Units: 4
- ECON 419 Advanced Econometrics Units: 4
- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 601 Microeconomic Theory I Units: 4
- ECON 603 Microeconomic Theory II Units: 4
- ECON 604 Game Theory Units: 4
- ECON 611 Probability and Statistics for Economists Units: 4
- ECON 615 Applied Econometrics Units: 4
- ECON 688 Empirical Industrial Organization Units: 4
- GSBA 612 Selected Issues in Economic Theory II Units: 3
- HCDA 506 Foundations of Insurance and Global Access Units: 3
- HCDA 507 Foundations of Product Development and Commercialization Units: 3
- MEDS 500 Basic Concepts in Global Health Units: 4
- PM 510L Principles of Biostatistics Units: 4
- PM 511aL Data Analysis Units: 4
- PM 511bL Data Analysis Units: 4
- PM 511cL Data Analysis Units: 4
- PM 512 Principles of Epidemiology Units: 4
- PM 523 Design of Clinical Studies Units: 3
- PM 536 Program Evaluation and Research Units: 4
- PM 552 Statistical Methods in Clinical Trials Units: 3, 2 years
- PM 560 Statistical Programming With R Units: 2
- PSYC 426 Motivated Behaviors and Addiction Units: 4

Molecular Pharmacology and Toxicology (PhD)

This program emphasizes basic as well as applied research in various aspects of drug discovery and molecular and behavioral mechanisms of action. Research opportunities span investigations of fundamental molecular and cellular physiological mechanisms, including receptor activity, intracellular signaling and the regulation of gene expression, to the molecular bases of disease and aging, including avenues of pharmacological intervention.

A minimum of 60 units is required for the Doctor of Philosophy degree. At least 24 units of course work are required at the 500-level or above, exclusive of seminar and directed research. The Doctor of Philosophy candidate must select a minimum of 12 units from courses offered in the Department of Pharmacology and Pharmaceutical Sciences (PPSI), eight of which must be selected from the core 4-unit courses. The remainder of the 24 units may be taken from PPSI courses or from courses offered in other departments that are approved by the PPSI graduate affairs committee. The qualifying exam committee may require more than 24 units of course work. A maximum of 12 units can be transferred from graduate studies elsewhere.

Foreign Language Requirement

There is no formal language requirement. However, an individual qualifying exam committee can require competency in a foreign language or a computer language if it is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of a qualifying exam committee composed of at least five members, one of whom must be from outside the department. The student should select a graduate adviser and qualifying exam committee no later than the third semester in residence. The graduate affairs committee will serve as the qualifying exam committee until one is selected.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not yet selected a qualifying exam committee, by the graduate affairs committee. The committee reviews the student's progress to date in various areas including course work, research interests and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is determined, specific goals will be established that the student must fulfill to continue in the program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive qualifying examination in major areas of molecular pharmacology, including fundamental principals of molecular and cellular biology. The examination is administered by the qualifying exam committee and consists of two parts: a written examination administered to all students at the end of their second year of study and a written proposal outlining the dissertation goals, and its oral presentation and defense by the student to the qualifying exam committee. The examination process is conducted by the student's advisory committee with oversight by the graduate affairs committee. The qualifying examination must be completed within three years after

admission, unless an extension is obtained from the qualifying exam committee.

Annual Research Appraisal (ARA)

Beginning in the third year, each graduate student will meet with the qualifying exam committee and present a progress report on his or her research. Prior to the meeting the student will present a short written document describing significant experiments during the past year, problems and projected studies. This document is distributed to the committee members and is included in the student's file. The oral ARA meeting is intended to be a working session between the student and the qualifying exam committee. Experimental results and problems are discussed in this context, as well as a research plan for the next year of work. A satisfactory ARA is required for each year in the graduate program.

Dissertation

A dissertation based on original investigation in a relevant scientific area is required for the PhD The dissertation research should demonstrate the student's ability to undertake independent research through planning, conducting and evaluating experiments. The dissertation research must represent a significant contribution to knowledge. A public oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee, and it is approved by the graduate adviser and dissertation committee. For additional details, see Theses and Dissertations.

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. As part of the general requirements for the PhD degree, each student is required to participate in the teaching program of the School of Pharmacy.

Pharmaceutical Economics and Policy (PhD)

Application deadline: December 1

The Department of Economics and the Department of Pharmaceutical Economics and Policy (USC School of Pharmacy) jointly offer a program of study leading to the PhD degree and to the MA degree in the process of work toward the PhD degree.

Required courses include both core requirements and area requirements. Core requirements include courses in economic theory, econometrics, and research methods. Area requirements include courses in health economics, pharmaceutical economics, welfare theory and applied econometrics.

For a detailed description of this program, see the School of Pharmacy section of this catalogue.

Pharmaceutical Sciences (PhD)

This program emphasizes basic as well as applied research in drug delivery and targeting, utilizing medicinal chemistry, computational chemistry, pharmaceutics, pharmacodynamics, molecular pharmacology, immunology and cell biology.

A minimum of 60 units is required for the Doctor of Philosophy degree. At least 24 units of course work are required at the 500-level or above, exclusive of seminar and directed research. The Doctor of Philosophy candidate must select a minimum of 12 units from courses offered in the Department of Pharmacology and Pharmaceutical Sciences (PPSI), eight of which must be selected from the core 4-unit courses. The remainder of the 24 units may be taken from PPSI courses or from courses offered in other departments that are approved by the PPSI graduate affairs committee. The qualifying exam committee may require more than 24 units of course work. A maximum of 12 units can be transferred from graduate studies elsewhere.

Foreign Language Requirement

There is no formal foreign language requirement. However, an individual qualifying exam committee can require competency in a foreign language or some other research tool such as computer language, if this is relevant for the student's area of research.

Qualifying Exam Committee

Upon admission, the student will be assigned to a member of the graduate faculty who will serve as his or her temporary adviser until a permanent adviser has been identified. The student's program of study will be under the direction of a qualifying exam committee composed of at least five members, one of whom must be from outside the department granting the degree. The student should select a graduate adviser and qualifying exam committee no later than the third semester in residence.

Screening Procedure

The performance of each student will be evaluated no later than the end of the second semester of enrollment in the graduate program. This screening procedure is conducted by the student's qualifying exam committee or, if a student has not selected his or her research adviser at that time, by the Graduate Review Committee of the department. The committee reviews thoroughly the student's progress up to that point in various areas including course work, research interests and laboratory performance on his or her research project or laboratory rotations. If a performance deficiency is detected at that point by the committee, the student will be recommended to either take additional course work or transfer to the Master of Science program. Passing this screening procedure is prerequisite to continuation in the PhD program.

Qualifying Examination

Students will be required to pass a comprehensive qualifying examination in major areas of the pharmaceutical sciences. The examination is administered by the qualifying exam committee and consists of two parts: a written examination and a written proposition outlining a research project, followed by an oral examination based on the proposition and questions dealing with the written examination. All course and qualifying examination requirements for the Doctor of Philosophy must be completed within two and one half years after admission.

Dissertation

A dissertation based on original investigation is required. The research should make a contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research. An oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee (see Theses and Dissertations).

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. Thus, as part of the general requirements for the PhD, each student is required to participate in the teaching program of the School of Pharmacy.

Pharmacy (PharmD)

The USC School of Pharmacy offers a full-time, four-year course of study leading to the Doctor of Pharmacy (PharmD). An undergraduate BA or BS degree is required for admission to the program. A description of the curriculum is listed in the following pages. The degree will be conferred only upon successful completion of all Doctor of Pharmacy degree requirements. The USC School of Pharmacy Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, which is the sole agency providing accreditation for professional degree programs in pharmacy.

Application Procedure

The School of Pharmacy requires applicants to complete both the Pharmacy College Application Service (PharmCAS) and a supplemental application for admission. The supplemental application is available at pharmacyschool.usc.edu.

Both the PharmCAS and the supplemental applications deadlines are November 1. Applicants are encouraged to follow the instructions carefully for both the PharmCAS and supplemental applications. Applications will not be reviewed until both applications have been received by the Office of Admission and

Student Affairs. An on-campus interview is required for admission. Only applicants with complete application files are evaluated for an on-site interview and only highly qualified applicants will be granted interviews. Not all applicants will be invited for an interview. Applicants are encouraged to apply well before the November 1 deadline to allow time for file review.

All documents mailed directly to the School of Pharmacy and received from PharmCAS by the Office of Admission become the property of the university and cannot be returned or duplicated for other than USC's purposes.

Admission Guidelines

The Admission Committee considers several factors in making admissions decisions including: previous academic performance; the on-site interview including a writing component; letters of recommendation; and other components of the completed application. The committee also considers a candidate's motivation to pursue pharmacy, interpersonal skills, oral and written communication skills, and leadership abilities. While the School of Pharmacy gives equal consideration to every qualified applicant, the school cannot accommodate all qualified candidates who apply for admission.

Entrance Requirements

Admission to the School of Pharmacy requires completion of a baccalaureate degree; completion of the specified prerequisite college courses, with a grade of C or better; and a minimum 3.0 (A = 4.0) grade point average, both in the prerequisite courses and cumulative grade point average.

Pre-pharmacy Requirements*

*Courses for science majors are required to meet the Pre-Pharmacy Requirements

To be eligible for admission to the School of Pharmacy, applicants must take required prerequisite college courses, including general biology (one-year course with laboratory, excluding human anatomy and physiology), general chemistry (one-year course with laboratory, including inorganic and qualitative analysis), organic chemistry (one-year course with laboratory), biochemistry (one course upper division), microbiology (one course), calculus (one semester or two quarters), statistics (one course) and human physiology (one course for science majors). The science requirements should be completed at an accredited four-year university.

Prerequisite courses are subject to change, and applicants are encouraged to check with the school prior to submitting an application.

Recommended Courses:

Upper-division molecular biology, physics (thermodynamics and electromagnetism), microeconomics, statistics (non-business), human behavior in either general psychology, introductory sociology, or cultural anthropology

Grades of pass/no pass or credit/no credit will not be accepted (unless a course is only offered on a pass/no pass basis). Online courses are not accepted for science courses with a laboratory requirement.

Mathematics and Sciences

Courses must include calculus, general biology, microbiology, human physiology, general chemistry, biochemistry, and organic chemistry. Only courses for science majors are acceptable. It is highly recommended that math and science courses be completed during the regular academic year and not during a summer term.

Advanced Placement and International Baccalaureate Examinations

Applicants may use AP and IB courses to meet certain USC School of Pharmacy prerequisites with the following provisos. AP results are acceptable only with scores of 4 or 5. Results for IB courses are acceptable with a score of 5. Credit for AP or IB courses is limited to a maximum of two courses (total). In addition, the AP or IB courses taken may be applied to a maximum of one semester/one quarter of general chemistry or general biology; they may not be used to satisfy the laboratory requirement. Note: AP/IB courses used to meet prerequisites will be for course credit only (i.e., they will not count toward the GPA). The Admission Committee recommends that applicants enroll in all of the required pre-pharmacy courses. Please contact the School of Pharmacy Office of Admission for specific information.

Entrance Examination

An in-person interview is required for admission.

Special Admission Program for Entering Freshmen

The Trojan Admission Prepharmacy (TAP) program provides priority consideration for admission to the USC School of Pharmacy's four-year Doctor of Pharmacy (PharmD) program for USC undergraduates who are accepted to the program. The TAP program is designed to attract highly qualified, mature high school seniors applying to USC. Students accepted into the TAP program apply to the Doctor of Pharmacy program during their final year of undergraduate education. Students must meet all regular admission criteria to the School of Pharmacy, including a BA/BS degree from USC, specific academic performance standards (GPA) and complete an on-site interview. Students in the TAP program are required to complete all prerequisite courses at USC and meet regularly with a TAP program adviser. A specific listing of USC courses and a recommended program for TAP participants may be obtained from the School of Pharmacy Office of Admission or online at pharmacyschool.usc.edu/programs/pre/tap.

PharmD Curriculum Requirements

The completion of the four-year professional curriculum is required for the Doctor of Pharmacy (PharmD) degree. The PharmD curriculum is a "block" program, meaning all students enroll for specified courses each semester and progress as a "class" through the curriculum. Students do not have a choice in the course sequence and must remain full-time students throughout the program. Students have a limited number of elective course choices and a list of electives offered is available to students prior to registration each semester. Student progress is permitted only when the prior semester has been successfully completed. Students should view the curriculum outlined here as advisory only and subject to modification. A minimum of 133 units is required for graduation.

Students enrolled in the Doctor of Pharmacy program are required to hold an Intern Pharmacist license in good standing (clear of restrictions) issued by the California Board of Pharmacy as an intern pharmacist for the entire length of the program. Licensure is required because completion of the pharmacy program requires placement in health care settings for experiential learning during each academic year. The School of Pharmacy has developed technical standards to inform students of the non-academic requirements of the program. Placement in health care settings requires the applicants pass criminal background screening and/or drug screening tests.

The pharmacist of tomorrow will provide preventive and therapeutic pharmaceutical care, provide drugs to patients, communicate in health care matters, meet the ethical and legal requirements of the practice of pharmacy and maintain professional expertise.

The curriculum committee of the School of Pharmacy has developed guidelines and patient care competencies consistent with interpretations of this new role. An appropriate and dynamic educational program is needed to develop these competencies. Therefore curriculum changes may be necessary in order to meet scientific advances, population profile changes, increasing health expectations, technological advances, or changes in health services.

Core Curriculum

Foundation courses in the biomedical, pharmaceutical, social-administrative and clinical sciences comprise the first three years of the program. A Pharm.D. Scholarly Project must also be completed by the end of the the thid year.

Students complete Introductory Pharmacy Practice Experiences

(IPPE) along with classroom-based courses. The final (fourth) year of the program includes the Advanced Pharmacy Practice Experiences (APPE), which are set in health care setting throughout the greater Los Angeles area.

Year I (P1) Curriculum

- PHRD 501 Pharmaceutics I Units: 4

Fall

- PHRD 503 Biological Systems I Units: 5
- PHRD 515 Metabolism and Cell Biology Units: 2
- PHRD 517 Pharmacogenetics Units: 2
- PHRD 511 Pharmacy Practice and Profesionalism 1 Units: 2
- PHRD 519 Introduction to Pharmacy Practice Units: 2

Optional Elective: 0-1 unit*

Spring

- PHRD 502 Pharmaceutics II Units: 2
- PHRD 504 Biological Systems II Units: 5
- PHRD 552 Pharmaceutics III Units: 3
- PHRD 516 Non-Prescription Therapies Units: 3
- PHRD 512 Pharmacy Practice and Profesionalism 2 Units: 2
- PHRD 514 Calculations and Compounding Units: 2

Optional Elective: 0-1 unit*

Year II (P2) Curriculum

- PHRD 557 Introduction to Therapeutics Units: 4

Fall

- PHRD 559 Therapeutics: Pharmacokinetics Units: 3
- PHRD 567 Pharmacy Law Units: 2
- PHRD 508 Pharmacy Literature Analysis and Drug Information Units: 3
- PHRD 565 Pharmacy Practice and Professionalism 3 Units: 2
- PHRD 563 Case Conference 2 Units: 2

Optional Elective: 0-2 units*

Spring

- PHRD 570 Therapeutics: Central Nervous System Units: 5
- PHRD 572 Therapeutics: General Medicine and Inflammatory Disorders Units: 5
- PHRD 603 Therapeutics: Endocrine System Units: 3
- PHRD 566 Pharmacy Practice and Professionalism 4 Units: 2
- PHRD 564 Case Conference 3 Units: 2

Optional Elective: 0-1 unit*

Year III (P3) Curriculum

Fall

- PHRD 619 Therapeutics: Cardiovascular System Units: 5
- PHRD 611 Therapeutics: Infectious Diseases Units: 5
- PHRD 634 Scholarly Project 1 Units: 1
- PHRD 620 Pharmacy Practice and Professionalism 5 Units: 2
- PHRD 622 Case Conference 4 Units: 2

Electives: 0-3 units*

Spring

- PHRD 608 Therapeutics: Oncology Units: 2
- PHRD 610 Therapeutics: Special Populations Units: 3
- PHRD 633 Pharmacy Management and Economics Units: 2
- PHRD 635 Scholary Project 2 Units: 1
- PHRD 621 Pharmacy Practice and Professionalism 6 Units: 1
- PHRD 623 Case Conference 5 Units: 1
- PHRD 650 APPE Gateway Units: 2

Electives: 0-6 units*

Note:

*Elective courses: Students choose elective courses from courses approved by the School of Pharmacy Curriculum Committee and available during that semester. Students will be provided a list of courses approved each year. Students MUST complete a minimum of 3 units of elective courses for the degree.

**APPE courses are described below. Students begin their APPE series during the end of the P3 academic year. Students may be assigned to any of APPE listed below during the P3 year.

Required APPE Courses

All APPE courses must be taken.

- PHRD 701 Acute Care Clinical APPE Units: 6
- PHRD 704 Primary Care APPE Units: 6
- PHRD 705 Community Pharmacy APPE Units: 6
- PHRD 718 Hospital Pharmacy Practice APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6
- PHRD 796a Doctor of Pharmacy Capstone Units: 0
- PHRD 796b Doctor of Pharmacy Capstone Units: 0, 3

Elective APPE Course

Students must take one course from list below.

- PHRD 714 Nuclear Pharmacy APPE Units: 6
- PHRD 725 International Pharmacy Practice Experience Units: 3, 6
- PHRD 726 Directed Clinical Project I APPE Units: 6
- PHRD 727 Directed Clinical Clerkship Project II Units: 6
- PHRD 731 Advanced Geriatrics APPE Units: 6
- PHRD 735 Clinical Pharmacy Research APPE Units: 6
- PHRD 738 Pharmaceutical Industry APPE Units: 6
- PHRD 750 Advanced Pharmacy Practice Elective (APPE) Units: 6 (second time)
- PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE) Units: 6

Degree Requirements

All students in the Doctor of Pharmacy degree program must meet course requirements, grade point average requirements, licensure requirements, competency assessment requirements (PCOA, OSCE) and program residency requirements. In addition, all students must successfully complete a required PharmD. Scholarly Project for graduation.

Course requirements (see above for a listing of the required courses): All course requirements must be completed with a grade of "C" or better for letter graded courses and a grade of Credit (defined as A or B quality work) in non-letter graded courses. .

Grade point average requirements: Students must have a cumulative grade point average of 2.5 in the Doctor of Pharmacy curriculum to meet graduation requirements.

Licensure requirements: All students must obtain and maintain a license in good standing (clear of restrictions) as an Intern Pharmacist issued by the California State Board of Pharmacy at all times during the program.

Competency assessment requirements: Students are required to take and demonstrate satisfactory performance on the national PCOA Exam (Pharmacy Curriculum Outcomes Assessment). The PCOA exam is administered by the NABP (National Association of Boards of Pharmacy) and is required by ACPE (Accreditation Council for Pharmacy Education) for a Doctor of Pharmacy degree. The OCSE (Objective Structured Clinical Exam) is administered by the School of Pharmacy to assess the attainment of clinical practice skills prior to entering APPE courses.

Residency requirements: Students must complete all requirements for the degree within 6 years. The degree will not be conferred until the student has successfully completed all Doctor of Pharmacy degree requirements. Students are subject to the degree requirements in the USC Catalogue current for the semester of their admission into the Doctor of Pharmacy program unless progression is delayed.

Registration

Details of the School of Pharmacy registration procedure will be included in the orientation program prior to the first week of classes.

Cancellation of Registration

During the didactic portion of the Doctor of Pharmacy program (P1, P2 and P3), a student may only withdraw from the entire block of courses enrolled in a semester and may not selectively withdraw from a single course or group of courses. During the APPE portion of the curriculum, students may not withdraw from an APPE after the completion of the 4th week of a six-week course and must contact the School of Pharmacy Office of Admission and Student

Affairs. Procedures for readmission into the program or makeup of incomplete courses are included in the school's brochure on academic policies and procedures.

Regulatory Science (DRSc)

The Doctor of Regulatory Science program cultivates research, leadership and inquiry skills for advanced students in the emerging profession of global regulatory science. It is designed to produce graduates with expertise in strategic management, policy development and research assessment who can play leadership roles in the public sector, academia and the medical products industry. Participants in this program will take a set of interdependent courses that extend from a strong core of basic regulatory science course work and additionally focus on three main areas — global product strategy, product lifecycle strategy, and project and personnel management. After students have completed foundational course work, they will participate as a cohort that typically has a two-year cycle of classes and an additional year of dissertation research. The program has been designed to meet the needs of individuals who are already working full-time outside of the university. The doctoral degree will be administered by the School of Pharmacy.

Admission

The program is designed for individuals with strong professional experience and demonstrated intellectual and leadership capabilities. Applicants are expected to have a GPA of 3.0 on university-level course work and five or more years of professional experience. Admission requirements include university transcripts, a resume, at least three letters of reference, and a one-page personal statement that outlines the background and goals of the applicant. Students are encouraged even at this early stage to identify areas in which they are interested in conducting research. Additional requirements for international students are outlined by university regulations under Admission of International Students. Students are not required to provide GRE scores unless indicated by the program director.

Students with an appropriate graduate or professional degree may use some previous graduate courses as transfer units toward the overall credit requirements of the Doctor of Regulatory Science program with the approval of the program director and under the normal rules of the university. Students who have graduated from the MS program in Regulatory Science can apply all of the previously taken course work toward the doctoral degree. Students with graduate degrees from outside of the regulatory science program are required to take a minimum of 32 units of course work and 4 units of dissertation research to complete the requirements for graduation. The course work requirements will be determined on an individual basis in consultation with the program director and participant's advisers.

Curriculum Requirements

The Doctor of Regulatory Science is administered by the School of Pharmacy. It requires participants to complete 64 units that include the following elements:

Requirements

- Foundation courses 15 Units
- Product lifecycle strategy 8 Units
- Global strategy 8 Units
- Project/personnel management 8 Units
- Research methods 4 Units
- Dissertation 4 Units

Additional Requirements

Additional elective course work will be selected in consultation with the program advisers according to the areas of intended specialization of the participant in order to meet the credit requirements of the program. Typically foundational courses and some electives will be taken in the first two years of the program. Advanced courses in product lifecycle strategy, global strategy and project/personnel management will normally be taken by the doctoral cohort of students during the third and fourth years of the program. Dissertation planning and research will typically commence in the third year of the program, and extend until the successful completion of the dissertation.

Foundation Courses

Fifteen or more units of foundation courses may be taken as part of the master's program in regulatory science, or with prior approval, from another graduate program with similar objectives. Required foundational courses normally include: MPTX 511 Introduction to Medical Product Regulation; two from MPTX 512 Regulation of Pharmaceutical and Biological Products, MPTX 513 Regulation of Medical Devices and Diagnostics, MPTX 514 Regulation of Food and Dietary Supplements; MPTX 515 Quality Systems and Standards, MPTX 516 Medical Products and the Law; MPTX 517 Structure and Management of Clinical Trials. Other courses may be substituted after the participant's background preparation has been considered.

Product Lifecycle Strategy

Eight or more units of course work related to product lifecycle management, from discovery to commercialization, will be drawn from a broad list of courses offered in regulatory science or through the Titus Family Department of Clinical Pharmacy and Pharmaceutical Economics and Policy. Included in this list are: PMEP 538 Pharmaceutical Economics ; PMEP 539 Economic Assessment of Medical Care; RSCI 601 Biomedical Commerce. Other courses may also be considered in consultation with the supervisors and program director. Students are also encouraged to take courses outside the School of Pharmacy when more specialized courses fit their professional research or development plans.

Global Regulatory Strategy and Policy

Eight or more units of course work related to global regulatory strategy could include some of the following courses: MPTX 519 Global Regulation of Medical Products; PPD 571 International Public Policy and Management Seminar; RSCI 604 Regulatory Strategy in Asia; RSCI 608 Regulatory Strategy in Europe and the Americas .

Project and Personnel Management

Eight or more units of relevant course work should typically include: MPTX 602 Science, Research and Ethics; RSCI 603 Managing Complex Projects; RSCI 605 Managing Organizations and Human Resources. Graduate courses in other university departments or schools can be substituted with the approval of the program director.

Research Methods

Participants will typically take PMEP 509 Research Design or MPTX 522 Introduction to Clinical Trial Design and Statistics.

Student Progress and Assessments

In the third year, students are expected to identify a pair of advisers including one USC faculty member and one adviser from industry or the private sector. Students are typically placed in study groups of three or four whose dissertation interests are most similar and whose collective supervisors will oversee their academic and research progress. This committee will form the dissertation committee.

At the completion of the foundational course work, students will undergo a competency review that will include considerations of academic progress. Students are expected to maintain a GPA of 3.0 and will be required to pass a written examination designed to assure the professional competence of the student prior to advancing further in the program. Students who do not pass this preliminary review, administered prior to entering the dissertation and advanced course work phase of the program, will be notified of dismissal from the program in writing by the associate dean for graduate studies in the School of Pharmacy.

Doctoral Dissertation

Students must enroll in RSCI 794a, RSCI 794b, RSCI 794c, RSCI 794d, RSCI 794z for at least two terms, during which time they will develop a dissertation proposal and conduct the necessary research and analysis in collaboration with the supervisory team.

The dissertation committee will approve the thesis plan and monitor its progress. Each student will be required to produce and defend an independent dissertation as a requirement for graduation. A maximum of 6 dissertation units can be applied to satisfy the degree requirement, but students should register for the dissertation units in each term subsequent to the completion of their course work requirements. Institutional Review Board approval is required for all human studies.

PhD Programs in Pharmaceutical and Translational Sciences (PHTS)

Graduate Affairs Office
Pharmaceutical Sciences Building
1985 Zonal Avenue
Los Angeles, CA 900899031
(323) 442-1474
FAX: (323) 442-2258
Email: pharmgrd@usc.edu
Website: *pharmgradprograms.usc.edu*
Program Director: Annie Wong-Beringer, PharmD

The USC PhD Programs in Pharmaceutical and Translational Sciences (PHTS) prepare students for careers in academia and advanced scientific research in a broad range of settings. The training encompasses a unique scientific framework from drug discovery, delivery and development to application of genetics and genomics to experimental and clinical/translational research.

The umbrella structure is intended to bring together students during their first year to attend foundation core courses and seminars. The goal of the shared experiences is to introduce them to a broad range of pharmaceutical sciences research methods and build a solid foundation in scientific writing, biostatistics, literature evaluation and ethical conduct in research. Complementing their foundation course work, the students will choose from laboratories across the three PhD program tracks (MPTX, PSCI, CXPT) to do rotations during their first year. This fosters interdisciplinary cross-training among students, collaborations among faculty, and assists students in finding the ideal laboratory and faculty mentor in line with the specialized track of study they want to pursue.

At the end of the spring semester of the first year, students will select a faculty adviser and a specific PhD program track from among the three participating programs listed below. In subsequent years, students will take classes that will differ depending on the PhD program they join. In addition, each student will complete qualifying examinations for the chosen PhD program and will develop and complete an original research project that will serve as the basis for a doctoral dissertation.

PhD Graduate Programs: Three Tracks

Molecular Pharmacology and Toxicology (MPTX)
Pharmaceutical Sciences (PSCI)
Clinical and Experimental Therapeutics (CXPT)

PHTS Admission Requirements

Application Deadline (priority review): December 1

All prospective students will apply through the single umbrella program Pharmaceutical and Translational Sciences (PHTS). Application materials will be reviewed by a joint admission committee, with equal representation of faculty from each track, evaluating applications on the basis of academic excellence and scientific research commitment.

Applicants should have a baccalaureate degree in natural sciences, or sufficient courses in mathematics and the life sciences. This is required to provide a strong background for studies in biomedical and biological research. Appropriate undergraduate degrees include biology, physiology, engineering, chemistry or computer science.

Applicants should have a strong record of academic achievement and satisfactory performance on the general and advanced portions of the GRE. Other requirements for admission include: a detailed statement of purpose as well as three letters of recommendation, one of which should be from a wet laboratory or computational research mentor. Previous research experience is expected. Students are admitted for the academic year in the fall semester. Applicants who are accepted with minor deficiencies are expected to correct these during the first year following enrollment.

Admission Criteria

The Admission Committee will consider applications based on the following factors:

1. Overall Grade Point Average (GPA)

A minimum GPA of 3.0 is required. Special attention is given to grades achieved in science courses relevant to the program (e.g., chemistry, biology, biochemistry, pharmacology and physiology).

2. Graduate Record Examinations (GRE) Score

GRE scores of 153 Quantitative and 144 Verbal (new exam) or a combined Verbal and Quantitative GRE score of 1000 (old exam) are required. However, priority for financial support is given to applicants with GRE scores of at least 308 (new exam) or 1200 (old exam).

3. Letters of Recommendation

Three letters from faculty knowledgeable of the student's ability and capability are required. These letters should provide a thorough assessment of the student's experience in laboratory research, ability to communicate in verbal and written English, motivation, creativity and other qualities in the student's academic performance.

4. TOEFL Scores for International Applicants

A minimum TOEFL (computer based) score of 100 is required. A score of 100 is highly competitive for admission and financial support. An IELTS score of 7 is competitive; and an IBT minimum score of 100, with at least 20 in each section, is required.

5. Research and Professional Experience

The student's research and professional experience should be well described within the application. Also, a résumé (if provided), and/or a personal statement summarizing career objectives and research interests, published manuscripts and letters of reference should be included. These documents will help the Admissions Committee in their evaluation of the candidate's background preparation for success in the PhD program. For those interested in pursuing PhD training in the Clinical and Experimental Therapeutics (CXPT) track, special emphasis will be given to applicants with an advanced professional degree (e.g. PharmD, MD, DDS).

Application Deadline

Applications may be submitted anytime between September 1 and January 15 — the deadline for consideration for admission for the following fall semester. Applications will be reviewed as they are received, beginning in the Fall. Early acceptance will be offered to outstanding applicants.

Consideration for certain USC Scholarships and Fellowships begins in December. Applications must be received by December 1 to receive full consideration for these opportunities.

Admission decisions will continue to be made until the class is filled, usually by mid to late spring. Applications are only considered for admission beginning in the fall term, except under exceptional circumstances.

Financial Support

Admitted students are supported by research and teaching assistantships or fellowships during their graduate training. Tuition, health insurance, dental insurance and health center fees are also covered.

Lab Rotations

During the first year, students rotate through the labs of at least two faculty members of the program (potential research advisors). By the first summer of graduate study, but no later than after 12 months in the program, each student is expected to have selected a faculty mentor/research adviser.

Admission Requirements for PhD Programs in PHTS

All prospective students will apply through the single umbrella program Pharmaceutical and Translational Sciences (PHTS) and become enrolled in the MPTX, PSCI or CXPT PhD programs

after having successfully completed the first year's course work and rotations. During the PHTS year, students must complete the foundation core curriculum of 24 units, maintain a 3.0 grade point average with no grade lower than a C on all courses and must complete at least two laboratory rotations in order to continue on to one of the three PhD program tracks below.

Doctor of Philosophy in Molecular Pharmacology and Toxicology (MPTX)

Program Director: Roger Duncan, PhD

This track provides training in molecular mechanisms of disease as well as disease and drug interaction. Course work emphasizes cell biology and molecular pharmacology. Research areas are laboratory based and include molecular and neuro-pharmacology, receptor pharmacology, cancer biology and pharmacology, metabolism and biochemistry, and oxidant toxicology.

MPTX students are recommended to take PSCI 664 (4, Fa) Drug Design and Discovery; MPTX 500 (4, Sp) Cell Signaling; and PSCI 665 (4, Sp) Drug Transport and Delivery.

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d & z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Molecular Pharmacology and Toxicology, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Doctor of Philosophy in Pharmaceutical Sciences (PSCI)

Program Director: Roger Duncan, PhD

This track provides training that emphasizes basic as well as applied research through advanced course work in contemporary pharmaceutical sciences. Independent laboratory research areas include drug design, development, targeting, and delivery, medicinal chemistry, computational chemistry, pharmaceutics, pharmacokinetics, pharmacodynamics, immunology, and molecular and cell biology.

PSCI students are recommended to take MPTX 500 (4, Sp) Cell Signaling and PSCI 665 (4, Sp) Drug Transport and Delivery.

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d & z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Pharmaceutical Sciences students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Doctor of Philosophy in Clinical and Experimental Therapeutics (CXPT)

Program Director: Stan Louie, PharmD

This track provides cross-training between clinical and basic sciences — focusing on the investigation of disease processes, drug development and the efficacy and toxicity of therapeutic regimens. Course requirements and research opportunities for graduate students enrolled in the track provide both experimental (basic) and disease-focused experiences that complement the graduate's respective research focus. The emphasis in this track is clinical translational, rather than basic science research.

CXPT students are recommended to take CXPT 609 (4, Sp) Preclinical Experimental Therapeutic Drug Development, RSCI 530 (2, Fa) Translational Medicine, an Overview, MPTX 517 (4, FaSpSm) Clinical Trial Design, PHRD 664 (3, Sp) Clinical Problem Solving (for students without an advanced professional degree).

PhD students must supplement course work by registering for 790 Research /794 Doctoral Dissertation (a-d & z) during the fall, spring and summer semesters as needed to complete the minimum 60 units required for the PhD program.

As part of the requirements for the PhD degree in Clinical and Experimental Therapeutics, students must adhere to the unit/course requirements, guidance committee and dissertation committee guidelines and must complete the qualifying examination, annual research appraisal, and dissertation and oral defense as outlined in the sections following the descriptions of the PhD programs.

Unit/Course Requirements

A minimum of 60 units of graduate course credits is required for the PhD, including course work, and research and dissertation units. At least 24 units of formal course work are required at the 500 level or above (see Course Offerings below), exclusive of directed research. No more than 8 units of 794 Doctoral Dissertation may be applied toward the PhD degree. Students must complete the first year PHTS foundation curriculum as well as course requirements for their specific PhD program track. Additional course work relevant to the research interests of the student may be required by the student's guidance committee or by the student's faculty adviser. A minimum of 12 of the 24 units is to be taken in courses in the student's chosen track. Of the total 60 units, 36 units may be fullfilled with other courses, directed research and dissertation.

Graduate Seminar

All first-year PhD candidate students are required to attend departmental and other scheduled school-wide seminars. Students in their second year and above are required to present at least one departmental seminar each year.

Individual Development Plan (IDP)

All PhD students regardless of their chosen tracks/PhD programs are required to complete an Individual Development Plan (IDP) annually at the end of each year of matriculation. IDPs are intended to serve as a tool to facilitate communication between trainees and their advisers. The student will meet with his/her adviser and IDP committee to systematically identify training needs and competencies, establish goals and take stock of year-by-year progress during the PhD years; and to plan and prepare for their post-PhD future while they are in graduate school. The IDP committee is composed of the student's primary adviser (or program chair if the student does not yet have an adviser at the end of the first year) along with two other members from the student's qualifying or dissertation committee (see below), with the option of substituting one of the committee members with a professional from the student's career of interest.

Guidance Committee

After 24 units of course work, which includes the PHTS core curriculum and course requirements for one of the three PhD program tracks, the student, in consultation with his/her faculty adviser, will nominate five faculty members to serve on the guidance committee for the qualifying examination. A minimum of three of the faculty must be from the student's PhD program track. The chair of the guidance committee must be a member of the student's PhD program track and the faculty adviser is expected to be on the committee as the chair. These nominations are submitted to the Graduate Affairs Office. The appointment form is signed by the committee members, the chair of the program and the dean or dean designate for formal appointment.

Qualifying Examination

Students will be required to pass a qualifying exam by the end of the first semester of their third academic year. Before permission is granted to sit for the qualifying examination, all students must complete the 24 required units as stated above, with no grades lower than "C" and with an overall GPA of 3.0 or better. Final evaluation of the examination is determined by a consensus of the guidance committee. If a student fails, it is at the discretion of the committee to allow the student to repeat the examination within 60 days. The

program has the option to dismiss the student from the program with or without the option of a terminal master's degree after the first or second failure.

Dissertation Committee

After advancement to candidacy, the student must form a dissertation committee, in consultation with his or her faculty adviser. A minimum of three committee members must be selected, one of which is the faculty adviser, and at least one of which must be a tenured or tenuretrack faculty member of the student's PhD program track. One committee member may be nontenure track. The chair of the dissertation committee is usually the faculty adviser. The dissertation committee is responsible for counseling the student during preparation of the dissertation and conducting the final oral examination during the dissertation defense. Students are expected to meet with the dissertation committee once per year to discuss progress.

Dissertation committee members are expected to read and comment on a dissertation within two weeks from its submission. The student and faculty will coordinate a timeline for the student to present the thesis to the dissertation committee. This timeline must allow all dissertation committee members enough time to fulfill their responsibilities within the four-week deadline.

Dissertation and Oral Defense

A dissertation based on original investigation in a relevant scientific area is required for the PhD. The dissertation research must represent a significant contribution to science and should demonstrate the candidate's scholarly advancement and competence to undertake independent research through planning, conducting and evaluating experiments. Students should have at least one first author publication accepted in a peer-reviewed journal before the defense. A public oral defense of the dissertation will be held after the candidate submits the final draft of the dissertation to the dissertation committee, and it is approved by the graduate adviser and dissertation committee.

All doctoral candidates must be registered in 794 Doctoral Dissertation each semester (excluding summer sessions) from the time of their advancement to candidacy until their dissertation is approved and submitted to the Graduate School.

Student Teaching

Teaching experience is considered an integral part of the training of graduate students. Thus, each PhD student is given the opportunity to participate in the teaching program of the School of Pharmacy.

PHTS Foundation Core Curriculum

- MPTX 502 Pharmacology Units: 4
- MPTX 602 Science, Research and Ethics Units: 2
- PM 510 Principles of Biostatistics Principles of Biostatistics Units: 4
- PSCI 556 Principal Research Approaches and Scientific Writing Units: 4

Additional Core Curriculum for MPTX, PSCI and CXPT Tracks

At least one of the following three courses, from the MPTX, PSCI and CXPT tracks should be selected:

- CXPT 609 Preclinical Experimental Drug Therapeutic Development Units: 4
- MPTX 500 Molecular Pharmacology and Toxicology I Units: 4
- PSCI 665 Drug Transport and Delivery Units: 4

Additional graduate courses offered in the School of Pharmacy

To reach the required 24 units of course work, the student can take more than one of the track courses, and any of the approved courses listed below, as well as other individualized program selected offerings approved by PHTS and the student's adviser.

- CXPT 664 Clinical Problem Solving Units: 3
- MPTX 517 Structure and Management of Clinical Trials Units: 4
- PHTS 654 Computation in Drug Discovery and Development Units: 2
- PSCI 557 Introduction to Tools and Techniques for Chemical Biology Units: 2
- PSCI 599 Special Topics Units: 2, 3, 4
- PSCI 655 Immunopharmaceutics Immunopharmaceutics Units: 2, 2 years
- PSCI 667 Intracellular Drug Delivery and Targeting Units: 2, 2 years
- RSCI 530 Translational Medicine: An Overview Units: 2

Additional campus-wide general courses

To reach the required 24 units of course work, the student can take more than one of the track courses, and any of the approved courses listed below, as well as other individualized program selected offerings approved by PHTS and the student's adviser.

- INTD 531 Cell Biology Units: 4
- INTD 549 Protein Chemistry — Structure and Function Units: 4
- INTD 561 Molecular Biology Units: 4
- INTD 572 Systems Physiology and Disease I Units: 4
- PATH 575 Frontiers of Pathology Units: 2

PhD Programs in Pharmaceutical and Translational Sciences (PHTS)

- Clinical and Experimental Therapeutics (PhD)
- Molecular Pharmacology and Toxicology (PhD)
- Pharmaceutical Sciences (PhD)

USC Price School of Public Policy

The USC Price School of Public Policy provides a dynamic learning environment where interdisciplinary education abounds. At USC Price, students choose a program of study from the independent yet related fields of public administration and leadership, public policy, nonprofits and philanthropy, health management and policy, urban planning, real estate development and executive leadership. Students are supported by a committed faculty who contribute to the strong sense of community present in the school.

The school's mission is to improve the quality of life for people and their communities. Faculty engage in solving some of society's most pressing issues — and challenge students to do the same. USC Price is renowned for its expertise in areas such as: sustainability and the environment, health care policy, nonprofit management, housing and real estate, transportation, infrastructure, urban development and land use, social policy, governance, civic engagement, community development, immigration and risk analysis, among others.

Defining characteristics of USC Price are the depth of its academic classroom experience and connecting classroom theory to professional practice through practicums, internships and laboratory work locally, nationally and around the globe. Students can also participate in international exchange programs and acquire knowledge and skills necessary to become successful leaders in a global market. Students graduate with the knowledge, skills and experiences to lead in their chosen field of practice.

Today's complex challenges call for leaders who are able to work across disciplines and across the public, private and nonprofit sectors to find solutions. It is for this multidisciplinary reality that USC Price prepares its students.

USC Price students go on to hold high-ranking appointments in our nation's capital, analyze and determine public policy, design new transportation systems, and redesign city, county, state and federal governance structures — in the United States and abroad.

Ralph and Goldy Lewis Hall 312
(213) 740-0350
FAX: (213) 740-5379
Email: price@usc.edu
priceschool.usc.edu

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Emeritus Associate Professors: Wesley E. Bjur, PhD; Catherine Burke, PhD
**Recipient of university-wide or school teaching award.*

Degrees Offered

The Price School of Public Policy offers the following degrees:

- Bachelor of Science in Public Policy
- Bachelor of Science in Real Estate Development
- Bachelor of Science in Urban Studies and Planning
- Master of Global Public Policy
- Master of Health Administration
- Executive Master of Health Administration
- Master of Science in Health Systems Management Engineering (with Industrial and Systems Engineering)
- Executive Master of Leadership
- Master of Public Policy and Management
- Master of Planning
- Master of Planning and Development Studies
- Master of Public Administration
- Master of Public Policy
- Master of Nonprofit Leadership and Management
- Master of Real Estate Development
- Doctor of Philosophy in Public Policy and Management
- Doctor of Philosophy in Urban Planning and Development
- Doctor of Policy, Planning, and Development

The Bachelor of Science and the school's master's degrees are also offered jointly as a progressive five-year program and the school participates in the following interdisciplinary minors:

- Construction Planning and Management
- Health Policy and Management
- International Policy and Management
- Law and Public Policy
- Nonprofits, Philanthropy and Volunteerism
- Real Estate Development
- Urban Policy and Planning

The Master of Planning is offered as a dual master's degree with programs in architecture, curatorial practices and the public sphere, landscape architecture, business administration, economics, gerontology, public administration, public health, public policy, real estate development and social work.

The Master of Public Administration is offered as a dual master's degree with programs in planning, gerontology, Jewish nonprofit management, law and social work.

The Master of Real Estate Development is offered as a dual degree with the Master of Business Administration, Juris Doctor and Master of Planning.

The Master of Health Administration is offered as a dual degree with the Master of Science in Gerontology.

The Master of Public Policy is offered as a dual degree with programs in law and planning.

National Honor Societies

Pi Alpha Alpha

Pi Alpha Alpha is the national honor society for public affairs and administration. Graduate students in the Price School of Public Policy who have completed at least 18 semester units and have earned a 3.7 grade point average are eligible for membership.

Pi Sigma Alpha

Pi Sigma Alpha is the national honor society for students in public administration, political science, and international relations. Students who have completed at least three courses from among these fields and have earned at least a 3.5 grade point average are eligible to apply.

Undergraduate Degrees

The Price School of Public Policy offers a suite of degrees that allow undergraduate students to gain the skills and knowledge necessary to understand complex health, environmental and urban issues, as well as to potentially enter the professional fields of health and nonprofit management, public policy, real estate development, and urban planning. Students may enroll in the Bachelor of Science in Public Policy, Bachelor of Science in Urban Studies and Planning or the Bachelor of Science in Real Estate Development. In addition, students can select from a challenging set of minors or possibly the very competitive progressive degrees associated with the Master of Health Administration, Master of Planning and Master of Public Administration.

Admission

Freshman and transfer students may indicate their desire to declare a Price School major on their university application. Students enrolled at USC wishing to declare either Price major or to be admitted into the minors must be in good academic standing. Interested current USC students should contact the Admissions and Recruitment Office in RGL 111 for more information.

Advisement

Students must discuss courses of study with the appropriate undergraduate advisers throughout their college enrollment and need to develop their own individual programs with faculty and staff advisers at the time of first enrollment and throughout their college careers.

Progressive Degrees in the Price School of Public Policy

The Price School of Public Policy offers students who have demonstrated exceptional academic success the opportunity to earn both bachelor's and master's degrees in a progressive degree program. This program allows students to earn both the Bachelor of Science and a master's degree in five years. Further details about progressive degrees can be found on the Requirements for Graduation page.

Admission

Admission is available after the completion of 64 units of course work toward the undergraduate degree. Students must apply for admission to the progressive degree program after completing 64 units of applicable course work to their undergraduate programs, but prior to the completion of 96 units of course work (not including AP, IB or courses taken prior to high school graduation). The application for admission to the progressive degree plan must be accompanied by a course proposal plan and two letters of recommendation with one at least from a Price School faculty member.

Awarding of Degrees

The Bachelor of Science and master's degree may be awarded separately upon completion of all degree requirements, but the master's degree will not be awarded before the bachelor's degree. Students who elect not to complete the master's, must complete 128 units to earn the bachelor's degree, including 32 units of upper-division Price course work (including any graduate Price classes).

Time Limits

All requirements for the progressive degree must be completed within 12 semesters. If not completed within that time, students will no longer be eligible for the master's degree but may still earn the bachelor's.

Transfer of Credits

Graduate courses will not be accepted for transfer credit. Undergraduate classes may be transferred in accordance with university guidelines.

Minor Programs

Minor in Construction Planning and Management

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and political environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Department of Civil Engineering and the Price School of Public Policy.

Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management or allied fields.

See the Department of Civil Engineering for course requirements.

Minor in International Policy and Management

The minor in international policy and management brings together courses from the School of International Relations, dealing with the new global challenges, specific regions of the world, and international organizations and policies, and the Price School of Public Policy, dealing with core management skills and public policy processes. Students will examine the changes and challenges which are transforming the world, and the policy and management skills used to deal with them. To increase their understanding of the context and application of these concepts, students must complete a semester-long internship either in Washington, D.C. (through participation in the Washington, D.C. semester program) or in Los Angeles with an organization that has an international focus.

Students minoring in international policy and management take three courses in international relations, including the gateway course, IR 305w Managing New Global Problems; three courses in public policy and management; and an approved internship through the School of International Relations (IR 491x Field Study). For additional course information, see International Relations.

Graduate Degrees

Admission

Applicants for admission to the Master of Health Administration; Executive Master of Health Administration; Executive Master of Leadership; Master of Nonprofit Management and Leadership; Master of Planning; Master of Planning and Development Studies; Master of Public Administration; Master of Public Policy; Master of Public Policy and Management; Master of Real Estate Development; Doctor of Policy, Planning, and Development; Doctor of Philosophy in Public Policy and Management; and Doctor of Philosophy in Urban Planning and Development must have a bachelor's degree or its equivalent from an accredited educational institution. In recognition of the increasing diversity of capabilities required as the theories and practices of policy, planning, and development evolve, students from a variety of undergraduate and graduate backgrounds are encouraged to apply.

Applicants for admission will be expected to have completed a broad range of undergraduate courses in addition to their academic major or professional concentration. Generally, this will be reflected in completion of courses from the following fields: English; economics (basic theory); political science, history or sociology; physical or natural science; art or philosophy. In addition, mathematics (algebra, calculus, probability theory) and a course in statistics are strongly recommended.

Application for Admission

Admission to graduate programs in the Price School of Public Policy is highly selective and competitive. Preference is given to those with a record of high educational achievement and personal qualities favoring success in the fields of planning or development. Applicants must have achieved superior grades during undergraduate and any graduate education. A grade point average of at least 3.0 (A = 4.0) is normally expected as well as satisfactory scores on the Graduate Record Examinations (GRE). The GRE and GMAT are neither accepted nor required for the DPPD or executive MHA programs. Students applying for admission to the Master of Nonprofit Management and Leadership, Master of Planning, Master of Planning and Development Studies or the Master of Real Estate Development program may submit results from the Graduate Management Administration Test (GMAT). MRED applicants may also submit results from the Law School Admission Test (LSAT). In exceptional cases, an applicant who has not met these scholarship requirements may be admitted with conditions of admission.

For specific information on admission requirements and application procedures, contact the Price School of Public Policy, Office of Recruitment and Admissions, at (213) 740-0550. Certificate in Transportation Systems applicants should apply to the USC Viterbi School of Engineering. For additional information, contact the school at (213) 740-0587.

Transfer Credit

The Degree Progress Department determines whether work done elsewhere is available for consideration for credit toward the USC degree. That office requires official transcripts of all course work done before entering USC. A Graduate Transfer Credit Statement of these official transcripts, done after a student has been admitted

to regular status at USC, will indicate which units are available for transfer. These courses do not apply toward the degree unless, and until, the student's major department approves and submits transfer credit to the Degree Progress Department in the Office of Academic Records and Registrar.

Application of any available transfer credits toward a graduate degree will be determined by the director of the particular degree program, based on the semester units available for transfer as shown on the Transfer Credit Statement.

These general guidelines are followed by the admissions evaluator and by faculty members: (1) the work must be completed at an accredited graduate school; (2) the grade must be B or better; (3) the work must be a fair and reasonable equivalent to current USC course work at the graduate level which fits into the logical program for the degree; (4) the units are not more than seven years old at the time of admission to their master's program (or 10 years old for a doctoral program); (5) the units must reflect current knowledge in the field; and (6) the work must be completed prior to admission to the USC program.

USC does not give transfer credit for life experience, credit by examination, noncredit extension courses or thesis course supervision.

Please consult with your degree director before enrolling in courses outside of USC. In many of the Price School's master's degree programs, only courses taken outside of USC prior to admission may be applied to your degree.

Waiver of Course Content

The school recognizes that some applicants may have covered the material contained in core courses or courses required for a particular specialization. Under these circumstances, one particular course requirement may be waived, allowing the student to complete a more advanced course in the same area. Students who have a background in a particular area of study may be allowed to substitute other courses. In these situations students do not receive unit credit but are permitted to take course work, which does not repeat earlier academic experiences.

Waiver of content is usually given only in the case of previous academic study of the subject, not in the case of experiential background in the area.

Students who believe they are eligible for content waiver decisions must petition the faculty of the school, providing evidence of the previous work through transcripts, syllabi and other pertinent material. Contact the school's Student Affairs Office for information.

Master of Science in Health Systems Management Engineering

This program is jointly sponsored by the Epstein Industrial and Systems Engineering Department and the Price School of Public Policy, and administered by the Epstein Industrial and Systems Engineering Department. This degree is designed for students with sufficiently quantitative bachelor's degrees in engineering, the sciences or applied social science who are interested in operations management and health care applications, and whose career objectives lead to increasing technical management responsibilities in large health care organizations, particularly hospitals. Students with less quantitative social science or other non-technical backgrounds interested in health administration objectives may also want to consider the Master of Health Administration program in the Price School of Public Policy. For information, see Industrial and Systems Engineering.

Graduate Professional Labs

USC's Price School of Public Policy offers professional consulting-like experience for graduate students in its core master's degree programs. Participants are presented with a challenging professional assignment and a well-defined client and terms of reference. Students typically work in teams to produce a professional report and related materials that are presented to the client at the close of the assignment. The terms of reference for the lab vary each year depending upon the client, the instructor and the setting, among other considerations.

In principle, these professional labs may be held anywhere, either in Los Angeles, elsewhere in the United States or abroad.

The Price School professional laboratory teaches students to integrate scholarly knowledge with professional practice. Likewise, it helps participants make the transition from the classroom back to a "real world" setting. In the case of international labs, participants also gain a deeper and more direct understanding of how the culture of professional practice can vary from one setting to the next. Through the Price School professional laboratory students build their credentials and experience while also extending their network of professional contacts.

These professional labs are intended primarily for graduate students in public administration, planning, real estate development, public policy and health administration. A distinctive feature of the professional laboratory is that it is intended as an integrative professional experience across the school, so that students from any of these programs may participate fully.

Each summer the Price School offers one or more international labs/workshops. Recent international labs have been held in China, Brazil, Germany, Morocco, Italy and Vietnam. All students are encouraged to take at least one international lab course.

Exchange Program

The Price School International Exchange Programs are one-semester exchange programs with a host institution in Germany or South Korea during either the fall or spring semester. These programs provide opportunities for students to acquire knowledge and skills necessary to become successful leaders in a global market. Students complete a maximum of 12 units at the host institution. All instruction is in English; proficiency in a foreign language is not required. Courses completed are graded credit/no credit on the student's USC transcript. The courses are selected from a list approved by the Price School of Public Policy. Students must work with their program administrator to understand how the courses will return to their degree.

Graduate Certificate Programs

Certificate in Health Systems Operations

This 17-unit graduate certificate is jointly sponsored by the Epstein Industrial and Systems Engineering Department and the Price School of Public Policy (Master of Health Administration program), and administered by the Epstein Industrial and Systems Engineering Department. See the Industrial and Systems Engineering Department for course requirements.

Non-Credit Programs Offered by the Center for International Training and Development

Management Effectiveness Program

This is a four-week intensive training program in the art and science of management. The program is designed to enhance leadership effectiveness and the development of a management generalist perspective.

International Executive Development Laboratory

This five-week laboratory focuses on issues in executive leadership, strategic management, environmental analysis, international finance and economics, computer-based project planning, and implementation of planned change strategies.

Dual Degree Programs

A dual degree program is an academic option that allows a student to enroll in two graduate programs simultaneously. Application must be made to both schools, and if accepted to both, the student pursues a specially designed program which combines selected courses from the two academic units. Students are required to seek advisement from both schools. The student will have the opportunity to acquire the knowledge and skills from two fields of study.

The dual degree program enables the student to integrate a closely related field with planning or development. The purpose of the dual program is to provide an enriched educational experience; accordingly, concurrent course work in the two fields is required.

Since the unit requirements of dual degrees depend upon the

mutual transfer of units between the two academic units, no other transfer of credits will be allowed.

Students who decide, at any point, to earn only one of the two degrees must meet all the regular requirements for earning that degree alone.

Students in Master of Planning dual degree programs must fulfill the comprehensive examination and appropriate internship requirements except where noted otherwise.

Master of Heritage Conservation/Master of Planning

See the School of Architecture for degree requirements.

Master of Planning/Master of Advanced Architectural Studies

The Master of Planning/Master of Advanced Architectural Studies dual degree program facilitates highly related cross-disciplinary studies in architecture and in planning at the master's level. This program offers students interested in developing a career in urban design an opportunity to make more substantial commitments in both disciplines and to achieve a more coherent and extensive knowledge in the design of built environments and public policy. This dual degree program normally requires five semesters in residence.

Qualified students who are admitted to the graduate programs in both the School of Architecture and the USC Price School of Public Policy may complete both degrees in a highly integrated five-semester program. Such students must already possess a five-year professional degree in architecture.

Requirements

Requirements for completion of the dual degree program are 72 units, including 36 units in architecture and 36 units in planning. See the USC School of Architecture for course requirements.

Master of Planning/Master of Business Administration

See the Marshall School of Business for degree requirements.

Master of Planning/Master of Arts, Curatorial Practices and the Public Sphere

See the Roski School of Art and Design for degree requirements.

Master of Planning/Master of Landscape Architecture

The dual degree option in planning and landscape architecture (in the USC School of Architecture) trains professionals in policy and design, and to be competent with design problems at different scales, but with a distinctly urban focus. Candidates must be independently admitted to the Master of Planning and Master of Landscape Architecture programs. The dual degree program normally requires between five and seven semesters in residence.

Requirements

Completion of the dual degree requires 24 units of courses in urban planning, 10 units of thesis option I or II and either 32 units of landscape architecture (for those students admitted with advanced standing); 48 units of landscape architecture (for those students admitted with advanced placement); or 74 units of landscape architecture (for those students admitted to the three-year curriculum). See USC School of Architecture for course requirements.

Juris Doctor/Master of Real Estate Development

See the USC Gould School of Law for degree requirements.

Master of Real Estate Development/Master of Business Administration

See the Marshall School of Business for degree requirements.

Regulations Concerning a Second Master's Degree

For rules governing a second master's degree, see the Requirements for Graduation page. In accordance with these policies, transfer credits will be granted only on the basis of a written petition to the MPA program coordinator and on the basis of credits recognized by USC in a Transfer Credit Statement.

Teaching Opportunities

Students may want to prepare for teaching as well as for public service. By careful planning in the upper division of the undergraduate degree and during the graduate years, requirements for a bachelor's degree, a master's degree and the university recommendation for a community college instructorship may be met without unnecessary duplication of effort and waste of time. Those interested in teaching should consult advisers in both the USC Price School of Public Policy and the USC Rossier School of Education before beginning upper-division and graduate work.

Public Administration Professional Sequence with the Viterbi School of Engineering

Regulations governing the Master of Science in Civil Engineering permit some candidates for this degree to take 12 units outside the School of Engineering. Those who wish to do so may take 12 units in public administration. Two courses in this sequence must be selected from among PPD 500, PPD 501a, PPD 501b, PPD 540, PPD 541, PPD 545, PPD 546. One course in this sequence must be selected from among PPD 542, PPD 557, PPD 666. PPD 541 requires PPD 502x and statistics as prerequisites. PPD 546 should be taken last if elected.

Joint Degree Programs

Master of Long Term Care Administration

This program is designed to prepare competent individuals to administer the long term care needs of America's elderly population. It is jointly offered by the Davis School of Gerontology, the Marshall School of Business, and the Price School of Public Policy. For information see the USC Davis School of Gerontology.

Master of Science in Health Systems Management Engineering

For information, see Industrial and Systems Engineering.

Doctoral Degrees

The USC Price School of Public Policy offers the Doctor of Philosophy in Public Policy and Management (PhD), the Doctor of Philosophy in Urban Planning and Development (PhD) and the Doctor of Policy, Planning, and Development (DPPD). The PhD degrees are designed to prepare individuals for university level teaching and research. The DPPD degree is intended to develop a high level of conceptual and research competence for professional leadership in planning and development. The DPPD is administered by the Price School of Public Policy; the PhD programs are administered by the Graduate School and the faculty of the Price School of Public Policy. PhD students must consult the Graduate School section of this catalogue for regulations and requirements pertaining to its degrees. Students should also consult the Academic Policies section of this catalogue.

Completion of the requirements for all these degrees is assumed to take a minimum of three years of approved graduate study and research beyond the bachelor's degree. For the PhD student, a minimum of 24 graduate units completed in residence on the University Park Campus in Los Angeles is required. DPPD students are required to complete a minimum of 24 units at the University Park Campus. Full-time study is represented by enrollment in 6 units during the semester. Usually the school and the student's qualifying exam committee insist on a clear and mutually understood commitment of time and energy by the student to ensure significant involvement in the doctoral learning experience. For university policies regarding continuous enrollment, leave of absence and readmission, see the Requirements for Graduation page.

Application and Admission

Admission to graduate standing for the PhD or DPPD is recommended by the school's admissions committee acting under guidelines established by the Graduate School as outlined in the Graduate School section and the Graduate Admission section. In addition to those guidelines, DPPD students are expected to have a minimum of five years of substantial relevant experience. Students

intending to apply should direct questions about the program and all materials for the admission application to Doctoral Programs, Office of Student Affairs, RGL 111, Price School of Public Policy, University of Southern California, University Park, Los Angeles, CA 90089-0626.

The deadline for applications for admission to the PhD and DPPD programs is December 1. Applications for admission are made once each year for fall semester admission.

The admission decision for PhD students is made using criteria which include verification that the applicant has a bachelor's degree from an accredited college or university, has maintained a high grade point average in the last 60 units of undergraduate work, and has earned a competitive score on the verbal and quantitative portions of the Graduate Record Examinations (GRE). Other elements of the applicant's educational and experiential background are also evaluated, including performance in other advanced degrees. DPPD applicants must also provide evidence of at least five years of practical administrative or other relevant experience. The GRE and GMAT scores are neither accepted nor required for the DPPD program.

Each applicant should submit the following: (1) one copy of official transcripts of all previous college and university work (be sure that these official transcripts show an awarded degree where appropriate); (2) copies of GRE scores; (3) a 1,000-word essay discussing the applicant's background and reasons for wanting to pursue a PhD degree and identifying his or her personal, educational and professional goals; (4) an up-to-date resume, including academic and professional accomplishments; (5) three letters of recommendation, two from previous instructors, the other from an instructor or from a professional supervisor or colleague. The letters should indicate the applicant's academic and professional accomplishments and potential; (6) a completed USC Graduate Admission Application, along with the nonrefundable application fee; (7) a writing sample of approximately 1,000 words (in addition to the applicant essay); and (8) a completed Price School of Public Policy Supplemental Graduate Application. International applicants are asked to submit additional information. Applicants should carefully choose, and clearly state, the degree objective (PhD or DPPD) for which they are applying, since different sets of admissions criteria exist for each of them.

Transfer Credits

The application of any available transfer credits toward a graduate degree at USC will be determined by the faculty and the dean of the Price School of Public Policy, based on the semester units available for transfer as shown in the Transfer Credit Statement (determined by the USC Office of Academic Records and Registrar). Refer to Admission with Advanced Standing for more information.

Deferral of Enrollment

Admission to the university is granted for a specified semester, and it is expected that students will begin their programs during that semester. The school will normally allow students to defer their enrollment up to one year from the admission semester. Students who wish to defer enrollment should notify the school in writing no more than 30 days after the beginning of the semester of admission. Students who do not inform the school in a timely manner of their intent to defer enrollment may be required to reapply for admission.

Please note that more stringent regulations apply to international students. See the Admission and Orientation section of this catalogue.

Admission to Candidacy

Acceptance to graduate standing does not in itself imply that the student is admitted or will be admitted to candidacy for an advanced degree. Application for admission as a candidate for an advanced degree is a separate and subsequent step. See the The Graduate School section of this catalogue.

Admission of International Students

All international applicants for admission to doctoral programs should submit materials to Doctoral Programs, Recruitment and Admissions Office, RGL 111, Price School of Public Policy, University of Southern California, University Park, Los Angeles, CA 90089-0626. See the Admission of International Students section of this catalogue.

Screening

PhD students are required to have a 3.3 overall GPA in first-year courses to continue in the program. DPPD students are required to pass a screening procedure after 16 units of course work. The procedure is designed to ensure that only those students who have demonstrated intellectual and scholarly potential continue in the program.

There are differences between the screening process for PhD and DPPD students. Students should consult the relevant faculty director of the doctoral program in which they are enrolled.

Qualifying Exam Committee (for the PhD programs)

A qualifying exam committee assists the student in outlining an academic program leading toward the degree. Students will form an initial qualifying exam committee by the end of the first fall semester. The committee might not yet include the Graduate School representative from outside the Price School, but must include at least three tenure track the Price School faculty members, one of whom is identified as the chair. This committee bears responsibility for counseling the doctoral student, for approving a course schedule and preliminary and qualifying examinations, and for recommending the student for admission to candidacy. After approval of the student's program and proposed time schedule, the program is submitted in writing to the relevant director. This should be accomplished by the beginning of the second year, following successful screening.

The complete qualifying exam committee must be in place no later than the third semester. The chair should have recognized expertise in the qualifying area and should be a regular participant in the qualifying examination committee for that area. The majority of the members of the qualifying exam committee (typically at least three out of five) should be experts in the area in which the student is qualifying and should be regular participants in the qualifying examination committee. The remaining members should have a clear interest in this area with the exception of the outside member whose primary responsibility is to serve as the representative of the Graduate School, ensuring the university's commitment to the equitable treatment of all students and that the highest quality education standards are upheld.

Students will formalize their relationship with their committees through the development of a work plan which specifies all courses, degree progress, seminar attendance and what was learned from these sessions as well as a research plan that articulates major research questions being explored. At the end of the first year of study, the qualifying exam committee chair reviews and approves the work plan. At the end of the second year, the full qualifying exam committee reviews the work plan and the second year paper.

Bachelor's Degree

Public Policy (BS)

The Bachelor of Science in Public Policy is an interdisciplinary major that prepares students for graduate study and/or professional careers by engaging them in the analysis of society's political, social and economic issues. The major introduces students to theoretical foundations and practical applications through a set of cross-cutting introductory courses and specialized courses in one of four tracks: health policy and management, public policy and law, philanthropy, nonprofits and social innovation, or advanced policy analysis. Students will be introduced to analytical and research tools relevant for and connected to professional practice, as exemplified by consultative class projects and the mandatory internship.

Pre-Major Requirements

Students must complete the pre-major requirements. A minimum grade of C, 2.0 (A = 4.0), must be earned in each of the pre-major courses. All pre-major requirements must be taken for a letter grade.

- ECON 203g Principles of Microeconomics Units: 4

- MATH 117g Introduction to Mathematics for Business and Economics Units: 4

Core Curriculum (30 Units)

- PPD 225 Public Policy and Management Units: 4
- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 245g The Urban Context for Policy and Planning Units: 4
- PPD 300 Social Justice Issues in Public Policy and Urban Planning Units: 4
- PPD 301 PPD Practices: Internship Seminar Units: 2
- PPD 303 Statistics for Policy, Planning, and Development Units: 4
- PPD 373 Public Policy and Planning Analysis Units: 4
- PPD 431 Undergraduate Policy, Planning, and Development Studio Units: 4

Tracks

Students select one track for degree emphasis; they take 28 units from the track selected. Each track includes five required courses and two elective courses with the exception of the Advanced Policy Analysis track, which has four required courses and three elective courses. During advisement, students will be given a list of recommended elective courses particularly appropriate for the chosen track. Students may work with their adviser for approval to take track electives outside of the courses listed to meet their academic needs. The required courses for each track are listed below followed by track elective options.

Health Policy and Management Track

Required Track Courses (28 units; 20 required, 8 electives)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 357 Government and Business Units: 4

(a) Health Policy Focus

- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 415 Health Policy Units: 4

(b) Health Management Focus

- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 413 Administration of Health Care Organizations Units: 4

Track Electives (select two from within a concentration)

(a) Health Policy Focus

- GERO 416 Health Issues in Adulthood Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- LAW 403 Mental Health Law Units: 4
- PPD 314 Public Policy and Law Units: 4

(b) Health Management Focus

- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 403 Management Analysis I Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 478 Social Innovation Units: 4

Philanthropy, Nonprofits and Social Innovation Track

Required Track Courses (28 units; 20 required, 8 electives)

- PPD 353 Philanthropy and Social Change Units: 4
- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 402 Management of Public and Nonprofit Organizations Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 478 Social Innovation Units: 4

Track Electives (Select 2)

- BUCO 485 Business Communication Management for Nonprofits Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4
- PPD 382 International Development Units: 4

Public Policy and Law Track

Required Track Courses (28 units; 20 required, 8 electives)

- POSC 340 Constitutional Law Units: 4
- PPD 313 Finance of the Public Sector Units: 4
- PPD 314 Public Policy and Law Units: 4

Choose two:

- LAW 200w Law and Society Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 342 Crime and Public Policy Units: 4

Track Electives (Select 2)

- ECON 434 Economic Analysis of Law Units: 4
- LAW 300 Concepts in American Law Units: 4
- LAW 403 Mental Health Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- PPD 357 Government and Business Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 382 International Development Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 439 Housing and Community Development Units: 4
- PPD 478 Social Innovation Units: 4
- PPD 485m U.S. Immigration Policy Units: 4

Advanced Policy Analysis Track

Required Track Courses (28 units; 16 required, 12 electives)

- ECON 205g Principles of Macroeconomics Units: 4
- ECON 303 Intermediate Microeconomic Theory Units: 4
- PPD 313 Finance of the Public Sector Units: 4
- PPD 404 Empirical Methods for Public Policy Units: 4

Track Electives (Select three from within a concentration)

a) Environmental and Energy Policy

- ECON 487 Resource and Environmental Economics Units: 4
- PPD 344 Environmental Policy and Sustainable Development Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4

b) International Development and Policy

- POSC 456 Women in International Development Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 380a International Perspectives on Urban Problem Solving Units: 4
- PPD 380b International Perspectives on Urban Problem Solving Units: 4
- PPD 421 Land Use, Environment, and Housing in Developing Countries Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4
- PPD 439 Housing and Community Development Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

c) Health Policy

- GERO 416 Health Issues in Adulthood Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 413 Administration of Health Care Organizations Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 415 Health Policy Units: 4

Additional Requirements

Cross-cutting Topics Courses

Students will be required to take 4 units of cross-cutting topics courses (PPD 400), preferably in junior year after they have completed the core curriculum.

Capstone

All students will take 4 units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in PPD courses and an overall 3.5 GPA.

Internships

Public Policy majors are required to complete 140 hours of internship by enrolling in PPD 301 PPD Practices: Internship Seminar or the Washington, D.C., Semester internship. Internships are matched as closely as possible to the student's interests and skills.

PPD 301 and the internship in a position provide numerous opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified PPD majors and result in a special designation of departmental honors on a student's transcript. Achievement of PPD honors requires a 3.7 GPA in PPD major courses and a 3.5 overall GPA as well as nomination by the professor in the capstone experience. In addition, students must earn an A in their capstone course (PPD 497a, PPD 497b or PPD 431).

Washington, D.C., Semester

The Washington, D.C., Semester program provides an intensive semester of confrontation with the political center of the nation and its complex components. The program offers opportunities for behind-the-scenes work in national government agencies and related organizations, combined with an academic environment and the chance to explore, share and learn with a group of fellow students.

Real Estate Development (BS)

Price School students are trained to look at the interaction between people and place and the consequences for our communities. The Bachelor of Science in Real Estate Development explores the broader context of real estate allowing students to launch their careers by grasping the full structure of the industry and its role in society. The pre-major courses integrate the many disciplines that are the foundation for real estate education, including accounting, economics and business finance. The real estate core classes taken through the Price School focus on real estate principles, financial analysis, market analysis, land use policy, urban design and the history of cities. Students also select electives to complement their interests from either the Price School or closely related disciplines. Throughout, the students' education will be connected to professional practice, as exemplified by the mandatory internship. Finally, the major is structured to provide students with sufficient elective credits to explore minors or other programs at USC so they can broaden their education to better prepare themselves for the next stage of their lives.

Admission

Freshman and transfer students may indicate their desire to declare a Price School major on their university application. Students enrolled at USC wishing to declare either Price major or to be admitted into the minors must be in good academic standing.

Students who have taken Foundation Prerequisites or Real Estate Core classes out of sequence (including enrollment in PPD/RED 435 or PPD/RED 437 prior to RED 375) before declaring the major are not eligible for admission into the Bachelor of Science in Real Estate Development program.

Students who wish to pursue the Bachelor of Science in Real Estate Development as a second bachelor's must satisfy all university requirements for a second bachelor's and complete 32 units unique to the Real Estate Development major.

General Education Requirements

The university's general education program provides a coherent, integrated introduction to the breadth of knowledge you will need to consider yourself (and to be considered by other people) a generally well-educated person. This program requires eight courses in six Core Literacies, plus two courses in Global Perspectives (which may double-count with courses in the Core Literacies) and two courses in writing. See the General Education program and the Requirements for Graduation pages for more information.

Foundation Prerequisites (28 units)

- ACCT 410x Foundations of Accounting Units: 4
- BUAD 215x Foundations of Business Finance Units: 4
- ECON 203g Principles of Microeconomics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4
- PPD 225 Public Policy and Management Units: 4
- PPD 245g The Urban Context for Policy and Planning Units: 4 *
- PPD 303 Statistics for Policy, Planning, and Development Units: 4

Note:

**May double count as general education.*

Real Estate Core (24 units)

- RED 362 Real Estate Development Fundamentals Units: 4
- RED 375 Real Estate Development Analysis Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4
- RED 435 Analyzing Real Estate Markets Units: 4
- RED 437 Advanced Finance and Investment for Real Estate Development Units: 4

Additional Requirements

Real Estate Electives (11-12 units)

Students select 11-12 units of course work from the Price School or in related fields. Elective classes must be approved by the Price School academic adviser.

Capstone (4 units)

Students will complete four units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in Price School courses and an overall 3.5 GPA.

Internships

Students are required to complete 140 hours of internship by enrolling in PPD 301 PPD Practices: Internship Seminar. Internships are matched as closely as possible to the student's interests and skills. PPD 301 and the internship provide opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified students and result in a special designation of departmental honors on a student's transcript. Achievement of Price School honors requires a 3.7 GPA in Price School major courses, a 3.5 overall GPA, as well as nomination by the professor of the capstone experience. In addition, students must earn an A in their capstone course (PPD 431 or PPD 497a, PPD 497b).

Urban Studies and Planning (BS)

The Bachelor of Science in Urban Studies and Planning is an interdisciplinary major that prepares students for graduate study and careers as change agents in the urban world. The major introduces

students to theoretical foundations and practical applications through a set of cross-cutting introductory courses. Students develop expertise in one of three specialized tracks: environmental policy and planning, international development, or urban planning. Students will learn analytical techniques for urban sustainability, methods for stakeholder engagement, approaches for poverty alleviation, and the role of the built environment and geographic data in city problem solving. Environmental analysis and sustainability, Geographic Information Systems, statistics, urban design, applied field research, and the mandatory internship are a sample of the courses and tools used to educate our students and to better prepare them for their professional careers or graduate studies.

Pre-major Requirements

Students must complete the pre-major requirements. A minimum grade of C, 2.0 (A=4.0), must be earned in each of the pre-major couress. All pre-major requirements must be taken for a letter grade.

- ECON 203g Principles of Microeconomics Units: 4
- MATH 117g Introduction to Mathematics for Business and Economics Units: 4

Core Curriculum

- PPD 225 Public Policy and Management Units: 4
- PPD 240g Citizenship and Public Ethics Units: 4
- PPD 245g The Urban Context for Policy and Planning Units: 4
- PPD 300 Social Justice Issues in Public Policy and Urban Planning Units: 4
- PPD 301 PPD Practices: Internship Seminar Units: 2
- PPD 303 Statistics for Policy, Planning, and Development Units: 4
- PPD 373 Public Policy and Planning Analysis Units: 4
- PPD 431 Undergraduate Policy, Planning, and Development Studio Units: 4

Tracks

Students select one track for degree emphasis; they take 28 units from the track selected. Each track includes five required courses and two elective courses. During advisement, students will be given a list of recommended elective courses particularly appropriate for the chosen track. Students may work with their adviser for approval to take track electives outside of the courses listed to meet their academic needs. The required courses for each track are listed below followed by track elective options.

Urban Planning Track

Required Track Courses (28 units; 20 required, 8 electives)

- PPD 227 Urban Planning and Development Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- RED 417 History of Planning and Development Units: 4
- RED 425 Designing Livable Communities Units: 4

Track Electives (select two)

- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 357 Government and Business Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 439 Housing and Community Development Units: 4
- RED 362 Real Estate Development Fundamentals Units: 4

Environmental Policy and Planning Track

Required Track Courses (28 units; 20 required, 8 electives)

- PPD 344 Environmental Policy and Sustainable Development Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 420 Environmental Impact Assessment Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4

Choose one of:

- ECON 487 Resource and Environmental Economics Units: 4
- ENST 387 Economics for Natural Resources and the Environment Units: 4

Track Electives (select two)

- IR 305w Managing New Global Problems Units: 4
- IR 323 Politics of Global Environment Units: 4
- IR 422 Ecological Security and Global Politics Units: 4
- POSC 347 Environmental Law Units: 4
- PPD 306 Visual Methods in Policy, Management, Planning and Development Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4

International Development Track

Required Track Courses (28 units; 20 required, 8 electives)

- PPD 250m Cities in the Developing World Units: 4
- PPD 357 Government and Business Units: 4
- PPD 382 International Development Units: 4
- PPD 410 Comparative Urban Development Units: 4
- PPD 478 Social Innovation Units: 4

Track Electives (select 2)

- POSC 456 Women in International Development Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 380a International Perspectives on Urban Problem Solving Units: 4
- PPD 380b International Perspectives on Urban Problem Solving Units: 4
- PPD 421 Land Use, Environment, and Housing in Developing Countries Units: 4
- PPD 422 Transportation and Technology and the Future of Mobility Units: 4
- PPD 439 Housing and Community Development Units: 4
- SOCI 470 Social Change in Low-Income Countries Units: 4

Additional Requirements

Cross-cutting Topics Courses

Students will be required to take 4 units of cross-cutting topics courses (PPD 400), preferably in junior year after they have completed the core curriculum.

Capstone

All students will take 4 units of a capstone experience during their senior year. This may be fulfilled by taking PPD 431 Undergraduate Policy, Planning, and Development Studio (4) or PPD 497a Senior Thesis, PPD 497b Senior Thesis (2-2). Students wishing to enroll in PPD 497a, PPD 497b must have a 3.7 GPA in PPD courses and an overall 3.5 GPA.

Internships

Urban Studies and Planning majors are required to complete 140 hours of internship by enrolling in PPD 301 PPD Practices: Internship Seminar or the Washington, D.C., Semester internship. Internships are matched as closely as possible to the student's interests and skills.

PPD 301 and the internship in a position provide numerous opportunities to develop and formulate future career goals, as well as to gain personal and professional experience while completing the undergraduate degree.

Honors

Price School honors are available at graduation to qualified PPD majors and result in a special designation of departmental honors on a student's transcript. Achievement of PPD honors requires a

3.7 GPA in PPD major courses and a 3.5 overall GPA as well as nomination by the professor in the capstone experience. In addition, students must earn an A in their capstone course (PPD 497a, PPD 497b or PPD 431).

Washington, D.C., Semester

The Washington, D.C., Semester program provides an intensive semester of confrontation with the political center of the nation and its complex components. The program offers opportunities for behind-the-scenes work in national government agencies and related organizations, combined with an academic environment and the chance to explore, share and learn with a group of fellow students.

Minor

Construction Planning and Management Minor (Public Policy)

This program covers the most current theories and practice of construction planning and management. The program provides a valuable adjunct credential to professional school students pursuing careers in business administration, public administration, environmental studies, and other areas; and a unique opportunity for professional focus to students in the USC Dornsife College of Letters, Arts and Sciences.

Construction activities are complex. In contemporary society, effective planning and management of these activities requires specialized knowledge of the technical, economic and political environment. This program couples the knowledge of how construction activities are organized with a broader understanding of the urban system in which construction projects are embedded. With the exception of statistics, all of the required courses are within the Department of Civil Engineering and the Price School of Public Policy. Any USC undergraduate who has completed the equivalent of two full-time semesters in good standing is eligible to pursue the minor program. This minor program is rigorous enough to serve as an introductory credential for students subsequently electing to pursue advanced studies in development, urban planning, construction management or allied fields.

See the Construction Planning and Management Minor in the Department of Civil Engineering for course requirements.

Health Administration Minor

This 20-unit minor in health administration provides students with a background in administration and management issues in the field of health care and the skills necessary to pursue health-related management opportunities in the for-profit, nonprofit and governmental sectors.

Required Courses (12 Units)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 413 Administration of Health Care Organizations Units: 4

Electives (8 units)

- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 320 Organizational Behavior in Public Administration Units: 4
- PPD 403 Management Analysis I Units: 4
- PPD 407 Financial Management of Public and Nonprofit Organizations Units: 4
- PPD 414 Community Health Policy and Planning Units: 4

Health Policy Minor

This 16-unit minor in health policy provides students with a background in the policy issues and challenges globally, nationally and locally related to quality, cost and access to health care. Students in this minor will acquire an understanding of these issues and the skills required to influence health policy.

Required Courses (12 Units)

- PPD 325 Fundamentals of Health Policy and Management Units: 4
- PPD 330 Introduction to Health Care Systems Units: 4
- PPD 415 Health Policy Units: 4

Electives (4 Units)

- GERO 416 Health Issues in Adulthood Units: 4
- HP 408 Environmental Health in the Community Units: 4
- HP 412 Health Promotion and Prevention Policy Units: 4
- HP 422 AIDS in Society Units: 4
- LAW 403 Mental Health Law Units: 4
- PPD 357 Government and Business Units: 4
- PPD 414 Community Health Policy and Planning Units: 4

Law and Public Policy Minor

The minor in law and public policy draws upon four fields of study: public policy and management, law, economics and political science. It provides students with an understanding of the political and economic contexts in which laws are made as well as how legal institutions shape policy formulation. Students learn to analyze the consequences of policy and alternatives; the roles played by government, business and nonprofit organizations in public decision making; and the legal bases for various areas of public policy.

Students minoring in law and public policy take 20 units, including the gateway class, PPD 225 Public Policy and Management, and one elective. The latter enables the student to focus on a specific area of law.

Required Courses

- POSC 340 Constitutional Law Units: 4
- PPD 225 Public Policy and Management Units: 4
- PPD 314 Public Policy and Law Units: 4
- PPD 315 Analytic Foundations for Public Policy Units: 4

And one of the following:

- ECON 434 Economic Analysis of Law Units: 4
- FBE 403 Introduction to the Legal Environment of Business Units: 4
- LAW 200w Law and Society Units: 4
- LAW 300 Concepts in American Law Units: 4
- LAW 403 Mental Health Law Units: 4
- POSC 345 International Law Units: 4
- POSC 347 Environmental Law Units: 4
- POSC 432 Politics of Local Criminal Justice Units: 4
- POSC 440 Comparative Law and the Judicial Process Units: 4
- POSC 441m Cultural Diversity and the Law Units: 4
- POSC 444 Civil and Political Rights and Liberties Units: 4
- POSC 452 Critical Issues in Law and Public Policy Units: 4

Nonprofits, Philanthropy and Volunteerism Minor

This four-course minor enables students to learn about the nonprofit sector — its organizations, philanthropy and voluntary action. The three-course core provides: (1) an overview of the nonprofit sector and philanthropy and its role in the United States, including its historical and theoretical foundations, its various components and its relation to public policy; (2) a focus on voluntary action and service as one means for social change and problem-solving; and (3) insights into the management of nonprofit organizations. Students select an elective that extends their understanding to the role of nongovernmental organizations in international affairs or to the role of public relations for nonprofits.

This minor is intended for students who plan (1) to work in a nonprofit or charitable organization, whether it is a large organization such as United Way, a small social service agency, an environmental advocacy group, a museum or a religious organization, (2) to participate with nonprofits as a volunteer throughout their lives or (3) pursue further graduate work in a service-related profession.

Required Courses

- PPD 371 The Nonprofit Sector and the Public Interest Units: 4
- PPD 402 Management of Public and Nonprofit Organizations Units: 4
- PPD 478 Social Innovation Units: 4

Electives (select one)

- BUCO 485 Business Communication Management for Nonprofits Units: 4
- IR 371 Global Civil Society: Non-State Actors in World Politics Units: 4
- PPD 318 Financial Accounting in Public and Nonprofit Organizations Units: 4
- PPD 353 Philanthropy and Social Change Units: 4
- PPD 372m Public Service in an Urban Setting Units: 4
- PR 455 Public Relations for Non-Profit Organizations Units: 4

Real Estate Development Minor

This minor provides students with an overview of the field of real estate development - its principles, the urban context and history, finance, as well as the opportunity to select an elective. The minor requires 20 units, including four core courses and 4 units of electives. The minor is intended for any student with an interest in a career in real estate development or other areas that might be related to real estate such as local government, urban planning, public-private partnerships, real estate finance or related entrepreneurial ventures.

Core

- PPD 227 Urban Planning and Development Units: 4
  or
- PPD 245g The Urban Context for Policy and Planning Units: 4
- RED 362 Real Estate Development Fundamentals Units: 4
- RED 417 History of Planning and Development Units: 4
- FBE 400x Introduction to Real Estate Finance and Development Units: 4
  or
- RED 375 Real Estate Development Analysis Units: 4

Electives (4 units):

- PPD 358 Urban and Regional Economics Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 439 Housing and Community Development Units: 4
- RED 425 Designing Livable Communities Units: 4

Total Units: 20

Urban Sustainable Planning Minor

The 20-unit minor in urban sustainable planning focuses on the application of public policy, urban planning and public management to the analysis and solution of urban problems. It draws upon the interdisciplinary faculty and programs of the Price School of Public Policy and includes foundational courses that introduce students to the nature of urban phenomena and the analysis and solution of urban problems. The minor also introduces students to the professional and academic fields of either urban planning and development or public policy and public management. In addition, based on their specific interests, students have the opportunity to explore in greater depth three areas and approaches of urban problem-solving. This minor is appropriate for students interested in expanding their understanding of the fields of urban planning and public policy and management as potential professional careers as well as increasing their comprehension of the analysis and solution of urban problems.

Required Core Courses (12 units)

- PPD 245g The Urban Context for Policy and Planning Units: 4
- PPD 427L Geographic Information Systems and Planning Applications Units: 4
- RED 425 Designing Livable Communities Units: 4

Electives (8 units)

- PPD 227 Urban Planning and Development Units: 4
- PPD 358 Urban and Regional Economics Units: 4
- PPD 360 Urban Transportation Planning and Policy Units: 4
- PPD 361 Sustainable Communities, Policy and Planning Units: 4
- PPD 414 Community Health Policy and Planning Units: 4
- PPD 438 Local Economic Development Units: 4
- PPD 439 Housing and Community Development Units: 4
- RED 417 History of Planning and Development Units: 4

Master's Degree

Dollinger Master in Real Estate Development (MRED)

The Master of Real Estate Development program is a carefully integrated program that brings together the three main elements of real estate development: design, finance and policy. It is a one-year full-time or two-year evening executive program of study designed to provide students with the knowledge and skills they require to compete successfully in the development industry. The curriculum encompasses eight areas of study with which developers must be conversant, including real estate law, economics, finance, market analysis, negotiation, planning, architecture and engineering. Courses are taught by full-time faculty members from the Price School of Public Policy. In addition, practicing developers, lawyers, planners and other professionals make regular contributions to the course of study, helping students link learning to practice.

Curriculum Requirements

The program of graduate study for the professional degree requires successful completion of the core curriculum (36 units), elective courses (8 units) and a comprehensive examination. Students must complete a total of 44 units.

Core Curriculum

The core comprises 13 lecture-seminar courses that combine lectures, projects, case analyses, and exercises which allow students to experience all facets of the developer's tasks and problems. The integrative project, RED 575, provides problem solving exercises and the evaluation of actual development situations. Courses emphasize various design, regulatory and fiscal problems associated with urban development and the developer's role in improving development standards in the industry.

Core Courses

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 562 Legal Issues in Real Estate Development Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4

Additional Requirements

Eight units of elective course work are required for the Master of Real Estate Development. These courses may be taken in the schools of Public Policy, Architecture, Business, Law and the Department of Civil Engineering. Admission to some classes requires advanced prerequisites and is subject to availability and approval of the instructor.

Comprehensive Examination

Successful completion of a comprehensive written and oral examination is required of all students seeking the Master of Real Estate Development degree. The examination explicitly covers the core courses. It is normally administered late in the spring semester by a faculty committee appointed by the dean. Students who fail the examination once may take it again within one year. The examination may not be repeated more than once.

General Requirements

Residence and Course Load

The Master of Real Estate Development may be completed on either a full-time or part-time basis. Both options begin in the summer session in June. The full-time program requires 11 months of study. The evening executive option is completed over a two-year period. Students are also expected to participate fully in all extracurricular activities associated with the Master of Real Estate Development program, including the weekly speaker series.

Students who wish to take a leave of absence for a semester or longer must request it from the dean in writing; such leaves may be granted for up to one year.

Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Time Limit

The time limit within which students in the program must complete the requirements for the Master of Real Estate Development is governed by the following regulations:

All requirements for the Master of Real Estate Development must be completed within five calendar years from the first course at USC applied toward the degree.

University regulations prohibit the acceptance of credits for courses taken toward a Master of Real Estate Development degree more than seven years after the date they were successfully completed.

Grade Point Average Requirement

While enrolled in the program, a student must maintain a grade point average of at least 3.0 for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average of below 3.0 for all courses taken in the program will be placed on academic probation. A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines that the student is deficient in academic achievement or in another qualification required for the attainment of the Master of Real Estate Development degree.

Course Exemptions and Transfer of Credits

Courses taken toward other degree programs, if determined by the dean to be equivalent to courses in the curriculum, may be accepted for subject credit only. All students are required to complete 44 units while enrolled in the Master of Real Estate Development program. The acceptance of previous course work for subject credit will enable the student to take additional elective courses.

Health Administration (Executive MHA)

The Executive MHA Program offers clinical and management professionals an opportunity to advance their careers in health care and to more effectively improve health services within their communities. Mid- to senior-level professionals who have the ambition and potential to serve as industry leaders in the highly dynamic and competitive health care environment are encouraged to consider the Executive MHA degree. The Executive MHA is geared to those who have demonstrated capabilities, yet who will benefit from expanded skills and competencies that will enable them to lead.

Participants sharpen their business acumen by gaining exposure to and in-depth knowledge of the latest theories and the best in contemporary health management practice. A practical, problem-solving approach ensures that skills can immediately be applied on the job.

Requirements for Admission

Applicants for the Executive Master of Health Administration apply directly to the program. A minimum of five years of experience with progressively greater levels of responsibility in health care or a related field is required for entry into the Executive MHA program. Applicants must have earned a bachelor's degree from an accredited college or university. A minimum grade point average of 3.0 in undergraduate course work is required. Allowances may be made when justified by exceptional work experience and letters of recommendation.

Prerequisites

Accounting

A basic competence in accounting is required for the Executive MHA program. The accounting prerequisite must be satisfied before enrolling in HMGT 565 Managing the Organization's Financial Health. This prerequisite may be met in one of three ways: (1) completing the non-credit Executive MHA accounting workshop with a passing score; (2) demonstrating prior work experience or (3) completing prior course work at an accredited academic institution in accounting and finance.

Curriculum

The Executive MHA offers a hybrid online/in-residence executive education program that will prepare the graduate to meet career objectives. The program provides students with the flexibility to meet program requirements while maintaining full-time administrative positions, but also emphasizes the importance of an integrated approach to executive education. In addition to the synchronous and asynchronous learning modules included in each course, students will participate in five-day, in-residence sessions at the University Park Campus twice during the program. The first in-residence session will occur before the midpoint of the program, and the second session will be a capstone experience in the last semester of the program. The Executive MHA degree program does not require a supervised field placement (residency) in a health care organization.

The curriculum of the EMHA is organized around five themes: thriving in transformational times through innovative leadership; delivering cost-effective care in an era of value-based purchasing; providing efficient management and administration; developing and implementing strategies to enhance patient safety and quality of care; and demonstrating organizational and clinical effectiveness through health information technology. These integrated themes and the associated content provide graduates with a comprehensive approach that expands their understanding of the key principles and applications necessary to function in a senior administrative leadership role.

Required Courses (36 Units)

- HMGT 512 Information Technology and Patient Engagement Units: 2
- HMGT 520 Leading People and Health Care Organizations Units: 4
- HMGT 540 Health Economics, Financing and Reimbursement Units: 2
- HMGT 565 Managing the Organization's Financial Health Units: 4
- HMGT 570 Strategic Management Units: 4
- HMGT 575 Managing and Improving Health Units: 4
- HMGT 600 Managing Risk Units: 2
- HMGT 601 Operations Management for Accountability Units: 4
- HMGT 602 Operational Efficiency Processes in Health Care Organizations Units: 2
- HMGT 603 Developing and Monitoring of Quality and Patient Safety Outcomes Units: 2
- PPD 511 Health Information Systems Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 605 Frontline Issues in Health Services Administration and Policy Units: 2

Additional Requirements

Participants in the executive program gain practical skills. Emphasis is given to executive decision-making; development of sound planning, analytical and leadership capabilities; and strong interpersonal communication. More specifically, Executive MHA

graduates will achieve advanced competency in disciplines which include economics and finance, health care regulation, business development, operations, strategic analysis and management, organizational design, quality and outcomes assessment, and information management. Our graduates will model effective leadership and management in a rapidly evolving health care environment.

The core faculty is drawn from the USC Price School of Public Policy and includes senior, experienced faculty, along with nationally renowned academic specialists and health care experts. The opportunity to interact with health care's leading thinkers, policymakers and practitioners is an essential component of the Executive MHA program.

The Executive MHA office is located in Ralph and Goldy Lewis Hall, Room 307, Price School of Public Policy, (213) 740-2984, email emha@usc.edu.

Health Administration (MHA)

The issues surrounding the delivery and financing of health services have an enormous impact on individuals and the communities in which we live. The health care industry now accounts for more than 15 percent of the U.S. economy. Fast-moving developments in technology, economics, ethics, finance, policy, management and globalization are driving changes in the health sector. Effective health leadership requires an understanding of governance systems and the complex interplay between the public, private and nonprofit sectors as well as the dual imperatives of both the clinical and business facets of health care delivery. As the health care system changes, career opportunities abound. The field has a tremendous need for leaders, managers and analysts — in hospitals, health plans, physician practices, health-related enterprises, community health organizations, social advocacy groups, and regulatory and legislative agencies.

The Price School of Public Policy's multidisciplinary nature, with degree programs in public policy, public administration, urban planning, and international policy, adds breadth that distinguishes USC's MHA degree, providing students with an understanding of the larger social context in which the health sector is embedded and how it intersects and interacts with other social policy issues.

The Price School programs in health management and policy offer two degree options — the Master of Health Administration and the Executive Master of Health Administration. These degrees position the student to acquire the knowledge, skills and applied experience to shape health policy and lead health organizations. Requirements for the Executive MHA differ from those of the traditional MHA and are found on the program page.

The Master of Health Administration builds a solid foundation emphasizing managerial, analytical and public policy skills for those entering the health field, while the Executive Master of Health Administration deepens professional skills and permits those already working in the health field to advance to higher levels of leadership.

The MHA curriculum incorporates five major areas of competence: management/operations/leadership; health policy analysis; health finance; health information technology; and, health care quality. Each student will be exposed to these core areas and will specialize in two of them. The program prepares students for management positions in hospitals; managed care systems; physician groups; ambulatory care systems, government agencies concerned with health care policy, planning, quality assurance and regulation; and private firms involved in health care consulting, finance, performance assessment and evaluation.

Requirements for Admission

General

Applicants must have a bachelor's degree from an accredited college or university. Applicants may take courses on limited standing pending formal admission to the master's degree program.

Applicants with bachelor's degrees must have a minimum grade point average of 3.0 in their undergraduate course work and a score of at least 500 on the verbal and at least 500 on the quantitative sections of the GRE. Deviations from these minimums will be allowed when justified by exceptional work experience, letters of recommendation or improvement in academic performance during the third and fourth years of undergraduate study.

Prerequisites

Statistics

A basic competence in descriptive and inferential statistics is also required for the MHA program. The statistics prerequisite must be satisfied within the first 12 units or before enrolling in PPD 557 Modeling and Operations Research. This prerequisite may be met in one of two ways: (1) entering students must have passed an undergraduate inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation, or (2) completing PPD 502 x Statistical Foundations for Public Management and Policy with a grade of "B" or better (this course credit may not count toward the MHA degree).

Limited Status Students (Preadmission)

Students taking courses who have not been admitted to the school are designated limited status students. These students may be waiting for part of their application package materials to arrive; or they may be investigating whether an MHA may be right for them.

To be considered for limited status reenrollment, interested students need to complete the Price School of Public Policy Limited Student Application for Enrollment form and submit official or unofficial copies of their transcripts from their bachelor's degree granting institution. Students with a 3.0 grade point average (A = 4.0) may enroll in up to 8 units of graduate courses in the Price School of Public Policy.

Price School of Public Policy Limited Student Application for Enrollment forms may be obtained from the Admissions Office, USC Price School of Public Policy, University of Southern California, RGL 111, Los Angeles, CA 90089-0626, telephone (213) 740-6842. Limited students may only enroll during the in-person registration period (the week before classes begin).

Limited status students may apply only 8 units of appropriate graduate work toward the MHA after admission. Units beyond these first 8 must be petitioned for through the school. Students on limited status are encouraged to complete the application and admission process before completing those first 8 units.

Certificate Program

Information regarding the Certificate Program in Health Management and Policy Programs can be found on the Graduate Certificates page.

Curriculum

Curriculum for the MHA includes 48 units (40 required units and 8 elective units). In addition, a supervised field placement (residency) in a health service organization is required. The MHA degree is designed to be completed in two years of full-time study, but can be extended for those who work while going to school. Evening classes and classes that meet in an intensive, workshop format of two to four sequential days of training are designed to accommodate working professionals.

Required Core (40 Units)

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4
- PPD 511 Health Information Systems Units: 2
- PPD 512 Health Administration Residency Seminar Units: 2
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2

- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4

Electives

In addition to the 40 required units, students are required to take 8 units of electives. Elective courses will be taken in two of the five specialization areas: management/operations/leadership; health policy analysis; health finance; health information technology; and health care quality. The two specializations will be selected by the student with the advice and written consent of the MHA program director and faculty adviser.

Residency

The MHA student is required to complete a 1,000 hour residency at a health care organization, generally during the second year of study. This residency may be reduced, but must include at least 500 hours, depending on the health care experience of the student. The residency is designed to provide the student with practical administrative experience that complements program course work.

International Public Policy and Management (IPPM)

The International Public Policy and Management (IPPAM) Program offers a Master of International Public Policy and Management (IPPM). The degree is designed for managers, planners and analysts involved in social sector programs who want to strengthen their management skills and further develop their policy analysis capabilities. For professionals working in the social sectors, IPPAM offers an opportunity to deepen their conceptual understanding of the forces driving change in their sectors and to develop an analytical approach for accessing and reshaping social policy. The program is well-suited for mid-career professionals working in the social sectors, such as physicians, nurses and pharmacists in the health professions; educators and administrators in the teaching professions; government regulators, managers and staff; community organizers, aid workers and others working in the NGO sector; and reporters and others in the news professions interested in covering social issues.

This program is specifically designed for international students and U.S. students who wish to work in international settings, including the Pacific Rim, Latin America and countries in other regions with evolving social systems.

Students are required to complete a minimum of 32 units. All students must fulfill core requirements (18 units) in fundamental policy analysis and management disciplines and an additional 14 units in an area of concentration chosen by the student. The core requirements include: PPD 501a Economics for Policy, Planning and Development; PPD 542 Policy and Program Evaluation; PPD 569 Applied International Policy Analysis and Management Project; PPD 570 Applied Statistics for Planning, Policy and Management; and PPD 571 International Public Policy and Management Seminar.

Students select an area of concentration in which they complete a set of recommended elective courses. Each concentration allows students to pursue in depth one or more areas of particular relevance to their career goals. The concentration areas enable students in the interdisciplinary IPPAM program to establish a second "home" in one of the school's programs, such as health administration or urban planning. Students are required to consult with IPPAM faculty advisers to choose elective courses from a recommended list of courses relevant to the IPPM degree.

Through the integrated curriculum, participants gain practical skills, which are developed within an appropriate conceptual context. Many of the courses and applied projects integrate examples and data from the student's home countries. Program graduates will have achieved advanced competency in disciplines that include public sector economics, applied methods for public policy analysis, evaluation and management.

Core faculty are drawn from the Price School of Public Policy and include senior, experienced faculty along with leading practitioners and experts in applied fields such as community development, international trade policy, health care policy, and so forth. In addition to the participation of distinguished visiting scholars as guest lecturers in class sessions, the program features an international seminar on public policy and management with guest lectures by policy makers. The opportunity to interact with leading scholars, policy makers, and practitioners from the United States and abroad is an essential component of the program.

The program begins in mid-June with intensive English language workshops and the course in applied statistics. The language workshop can be waived for students with 250+ computer-based TOEFL scores or 600+ paper-based TOEFL scores, or a score of 6.5 on the IELTS exam with no less than a score of 6 on each band score. In the fall semester, international students transition into the regular program consisting of required courses and electives in their chosen concentration area. Some international students may be required to enroll in additional English language workshops depending on how they score on required English exams. Most students can expect to complete the program in 13 months. The intensive nature of the program is designed for full-time students who take a leave from work while enrolled in the program. This approach minimizes the amount of time that professionals must be away from their full-time careers to pursue an advanced degree.

Applicants should have at least a bachelor's degree from an accredited university and three to seven years of significant professional experience. The IPPAM Program office is located in the Price School of Public Policy, Von KleinSmid Center, Room 253, phone (213) 740-0547, fax (213) 821-1331, email ippam@usc.edu.

Leadership (Executive ML)

The Executive Master of Leadership Program offers professionals from a variety of fields including public administration, public policy, planning, law enforcement, transportation and other public, nonprofit and business organizations, with at least five years of professional experience, the opportunity to build leadership skills at five levels: individual, team, organizational, community and institutional. The program design offers participants insight into the mechanisms that facilitate effective personal and organizational networks, as well as collaborative problem-solving strategies and practices.

The program follows a cohort model for the four required core courses. The degree curriculum has three distinguishing features: a design to connect ethics with leading through core values; an interdisciplinary and multidisciplinary problem-solving approach; and transformational leadership that connects the public, private and nonprofit sectors.

Requirements for Admission

Applicants for the Executive Master of Leadership apply directly to the program. A minimum of five years of experience with progressively greater levels of responsibility is required for entry into the program.

Candidates for admission must have earned a bachelor's degree from an accredited college or university with a minimum 3.0 grade point average. Exceptions to the minimum GPA requirement may be made when justified by exceptional work experience and letters of recommendation.

Applicants must submit a standard USC graduate application and fee along with official transcripts from all undergraduate and graduate institutions attended. Letters of recommendation, a current resume, an essay and an interview will also be required.

Degree Requirements

Students are required to complete 28 units of graduate work — 16 units of required core courses and 12 units of electives.

Required Core Courses (16 Units)

- PPD 640 Leadership Foundations: Competencies and Core Values Units: 4
- PPD 641 Leading Individuals, Groups and Teams Units: 4
- PPD 642 Strategic Leadership of Organizations Units: 4
- PPD 643 Leading Transformations Across Sectors: Integrative Seminar Units: 4

Electives

In addition to these 16 required units, students are required to take

12 units of electives.

Elective courses will be selected in consultation with the faculty adviser based on the student's individual learning/development plan. Students will choose these electives in order to concentrate in a particular area of study. The following are examples of concentrations that are available: public management, nonprofit policy and management, urban planning, transportation, public policy and political management. The Price School of Public Policy offers a wide range of electives to students each semester.In addition to these 16 required units, students are required to take 12 units of electives. Elective courses will be selected in consultation with the faculty adviser based on the student's individual learning/development plan. Students will choose these electives in order to concentrate in a particular area of study. The following are examples of concentrations that are available: public management, nonprofit policy and management, urban planning, transportation, public policy and political management. The Price School of Public Policy offers a wide range of electives to students each semester.

Master of Global Public Policy

The Master of Global Public Policy (GLPP) program is an executive program in partnership with USC-HKU designed for professionals in the public, private and nonprofit sectors around the world who have substantial experience in relevant professions and are eager to understand creatively solve complex policy problems that often lay at the intersection of the public, private and nonprofit sectors. The curriculum offers a rigorous and innovative look at increasingly complex policy issues that policy leaders face in today's fast-changing global economy with special attention to issues in Greater China that have global resonance. The GLPP curriculum weaves together a full spectrum of analytical competencies, a set of core orientations that focus on attaining economic and social impact through innovative policy solutions straddling the public-private divides, and a solid body of knowledge of policy themes that are significant in both China and globally. The program is delivered in an executive format with students completing the program in 15 months with a combination of in-person modules in Hong Kong, Los Angeles, and Beijing and online learning.

Requirements for Admission

Candidates for admission must have maintained a minimum B (3.0) average during their undergraduate degree work and 3-5 years professional work experience. International students must submit TOEFL scores. See Price webpage for more specific application information.

Degree Requirements (28 units)

- GPPD 500a Global Policy Challenges and Solutions Units: 2
- GPPD 500b Global Policy Challenges and Solutions Units: 2
- GPPD 510 Economic Foundations for Public Policy Units: 3
- GPPD 520 Leadership in Public-Private Partnerships Units: 2
- GPPD 530 Art and Craft of Public Policy Analysis Units: 1
- GPPD 540 Comparative Institutions and Policy Context Units: 3
- GPPD 550 Quantitative Methods for Public Policy Units: 3
- GPPD 560 Methods for Policy Evaluation Units: 3
- GPPD 570 Institutions and Policy Processes Units: 3
- GPPD 580 Policy Challenges in International Development Units: 3
- GPPD 600a Public Policy Capstone Units: 1
- GPPD 600b Public Policy Capstone Units: 2

Nonprofit Leadership and Management (MNLM)

The Master of Nonprofit Leadership and Management (MNLM) program is designed to prepare students to distinguish themselves as leaders in the nonprofit sector whether managing nonprofits, advocating for social change or developing and implementing innovation solutions to social problems.

Degree Requirements

Students are required to complete 40 units of graduate work, with 30 units of core organized under three areas: theory and context, leadership and management, and analytical skills and 10 elective units based on their interests.

Required Core Courses

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 542 Policy and Program Evaluation Units: 4 *
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4
- PPDE 680 Board Governance and Leadership Units: 2
- PPDE 681 Fund Development for Nonprofit Organizations Units: 4
- PPDE 682 Capstone in Nonprofit Leadership and Management Units: 4

  **PPD 502 is a prerequisite for PPD 542.*

Electives

Students complete 10 units of electives based on their interest and in consultation with their adviser.

Planning (MPl)

The planning of cities is as old as urban civilization. The contemporary planning profession has expanded to include a broad range of applications that draws upon emphases of foresight, common good and interconnections of elements in human settlements. Planners are engaged in evaluating and guiding community and urban development at geographic scales, ranging from the local American neighborhood to the global village utilizing the public, private and nonprofit sectors.

Planners play an increasingly important role in managing the pressing problems and competing demands of change and growth in shaping a better future. The Master of Planning (MPl) curriculum reflects this forward-looking and constantly evolving role.

The MPl curriculum provides a core of knowledge underlying the key forms and applications of planning. This core sets the foundation for a wide choice of specific careers in the field and extends the relevance and value of graduate education over an extended period of time. A goal of the MPl curriculum is to prepare planners to practice anywhere in the world.

The Planning Accreditation Board of the American Planning Association and the Association of Collegiate Schools of Planning accredit the MPl program.

All persons pursuing the MPl will complete core courses which present basic theories, techniques and methods.

Concentrations are available in five broad areas: economic development; preservation and design of the built environment; social and community planning; sustainable land use planning; and transportation and infrastructure planning. After students register, the faculty will suggest specializations that allow students to focus their concentrations even further or span planning more broadly.

A concentration in any of these areas qualifies graduates for a wide range of private, public and nonprofit sector careers with government agencies, consulting firms, corporations, utilities, international technical assistance programs, nonprofit and special interest organizations and joint public-private ventures.

Curriculum Requirements

The program of study for this professional graduate degree requires completion of 48 units, including 16 units of core curriculum, 8 units of planning studios, 4 units of methodology related to the student's concentration, a required concentration gateway course and 16 units of electives, including two additional courses related to a student's concentration. A comprehensive examination and an approved non-credit internship are also required. The degree may be pursued on either a full-time or part-time basis.

Statistics Prerequisite

A basic competence in descriptive and inferential statistics

is required. This prerequisite may be fulfilled by successfully completing PPD 525 or by having completed a previous course (within five years) with a grade of B or higher (A = 4.0).

Core Curriculum (Eight Lecture Seminar Courses):

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Total units: 16

Note:

2-unit courses may be offered in seven-and-ahalf week blocks.

Planning Studios

Planning studios are an integral part of the curriculum of the Price School of Public Policy, providing the essential educational link between academic education and preparation for professional practice. The planning studios require that students learn to work together as a team by applying their respective capabilities and knowledge to a real-world common problem and to produce a professional project. Students must complete 8 units of domestic or international planning studios under PPD 531 (4) to satisfy this requirement. A maximum of 12 units may be taken.

Local agencies, communities and firms often sponsor planning studios to obtain research and analysis. Community groups seek assistance as a means of informing themselves more thoroughly on community problems and issues or for obtaining planning analysis otherwise unavailable to them. The products of planning studios are usually in the form of policy recommendations, a suggested plan or alternative plans, databases, background information, base maps, or any one of many specific contributions.

MPl planning studios can either be situated in the United States or around the world. Past courses have examined the tragedy around Katrina in New Orleans, developed economic development plans for local Southern California cities, and studied changing public spaces in Germany.

Price International Laboratories (PPD 613a, PPD 613b) can be taken as an elective in the MPl program. The program strongly encourages students to enroll in one laboratory during their course of study. In recent years, Price lab courses have been offered in China, Brazil and England.

Concentrations (16 units)

Students must declare their concentration during the fall semester prior to taking the comprehensive examination in the spring semester. Students are required to complete the gateway course and methodology course related to their concentration as part of their preparation for their comprehensive examination. The student's concentration must contain a 4-unit methodology course, a 4-unit gateway course and 8 other units. At least 12 of these units must be selected from Price School curriculum. Courses outside the Price School should be selected by the student with the approval of an academic adviser and must be directly concerned with the subject matter of the concentration.

After students register, the faculty will provide them with a series of specializations they may take in association with the concentrations. These specializations are not required; they are provided as guidance for students interested in these subject areas. The specializations vary. Some suggest ways that students can more deeply study a single area within planning, while others provide a broad overview of planning and policy issues. The specializations draw upon courses within the MPl program, the Price School sister programs and courses from other USC units.

Economic Development

is the basis for prosperous community development. Job creation and the development of service or employment sites are the core of economic development. At a higher geographical scale, development of regional economies provides a focus for planning in an international context.

Suggested courses for students selecting this concentration include

- PPD 622 Seminar in Urban Development Units: 4
- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 625 Planning and Economic Development Finance Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3

Preservation and Design of the Built Environment

addresses the architecture of the city, viewed not as a series of individual buildings, but as a set of visual and functional connections between buildings on a street front or in a district. In contemporary settings, planning and construction do not begin with a blank slate. Rather, new structures are inserted into an existing built environment, which must be respected for its historical heritage and its contributions to the new. Students in this concentration are encouraged to draw from courses related to landscape architecture and historic preservation in the School of Architecture.

Suggested courses for students selecting this concentration include

- PPD 530 Historical Analysis of Urban Form and Planning Practice Units: 2
- PPD 615 Comparative Urbanization, Development, and Inequality Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 623 Community Development and Site Planning Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 692 Transportation and the Environment Units: 4

Social and Community Planning

gives specific attention to the changing needs of neighborhood residents and to the ways in which different planning policies, programs and activities contribute to resident well-being. Community planning is a process of organizational change that links residents and services to produce communities that are safe, healthy and socially connected. Achieving these goals demands that residents actively advocate for their communities.

Suggested courses for students selecting this concentration include

- PPD 606 Urban Health Policy Units: 4
- PPD 617 Urban Demography and Growth Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 620 General Plans Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 686 U.S. Immigration Policy Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4

Sustainable Land Use Planning

centers on community land use planning set in the context of regional growth or decline. The planning process involves forecasting transportation means, population growth and housing needs, together with providing comprehensive planning to accommodate that growth in a way that preserves and enhances local quality of life. Envisioning better futures, livability, environmental

protection accessibility, mobility and affordable housing production are all part of smart growth strategies for sustainable regional growth.

Suggested courses for students selecting this concentration include

- PLUS 611
- PPD 615 Comparative Urbanization, Development, and Inequality Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 620 General Plans Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 627 Design Skills for Urban Planners Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 692 Transportation and the Environment Units: 4
- PPD 694 Coastal Policy and Planning Units: 4

Transportation and Infrastructure Planning

is the combination of vital functions that determine the efficiency and productivity of a city. Issues of access and mobility of urban residents must be addressed. Circulation of workers from home to workplace, and of residents to shopping and services, are fundamental determinants of land use and urban form. Students in this concentration acquire mastery of the basics of transportation analysis, with emphasis on analysis of different policies that serve transportation and infrastructure needs within urban areas.

Suggested courses for students selecting this concentration include

- PPD 557 Modeling and Operations Research Units: 4
- PPD 588 Introduction to Transportation Planning Law Units: 3
- PPD 589 Port Engineering: Planning and Operations Units: 3
- PPD 621 Environmental Impacts Units: 4
- PPD 630 Urban Economic Analysis Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 635 Principles of Transportation Systems Analysis Units: 4
- PPD 692 Transportation and the Environment Units: 4

Concentration Gateway Courses

Students are required to complete their gateway course prior to participating in the comprehensive examination. The following courses are required for their concentration:

Economic Development:

- PPD 639 Introduction to Community and Economic Development Units: 4

Preservation and Design of the Built Environment:

- PPD 644 Shaping the Built Environment Units: 4

Social and Community Planning:

- PPD 628 Urban Planning and Social Policy Units: 4

Sustainable Land Use Planning:

- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4

Transportation and Infrastructure Planning:

- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Concentration Methodology Courses

Students are required to complete one methodology course related to their concentration. Students are encouraged to complete a second methodology course among their electives. The following courses are required for their concentration:

Economic Development:

- PPD 625 Planning and Economic Development Finance Units: 4

Preservation and Design of the Built Environment:

- PPD 627 Design Skills for Urban Planners Units: 4

Social and Community Planning:

- PPD 616 Participatory Methods in Planning and Policy Units: 4

Sustainable Land Use Planning:

- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4

Transportation and Infrastructure Planning:

- PPD 633 Urban Transportation Planning and Management Units: 4, 2 years

Additional Requirements

Comprehensive Examination

Successful completion of a comprehensive examination is required of each student seeking the Master of Planning degree (except for students pursuing the dual degree with either economics or gerontology). Students pursuing the dual degree with real estate development can choose the MPl or MRED examination. The comprehensive examination integrates accumulated lessons of the core courses and planning studios. Students are also expected to utilize material covered in their concentration and electives.

The comprehensive examination is given only in the spring semester of each year. Students usually take the examination in the last semester of their second year. Students must declare their concentration during the fall semester prior to completing the comprehensive examination in the spring semester. They must have completed the gateway and methodology courses in the declared concentration prior to taking the comprehensive examination.

The MPl Program degree committee administers the comprehensive examination. Examinations are graded on a pass/fail basis. Students who fail the examination may take it a second time the next year. The examination may only be repeated once.

Planning Electives

Students are encouraged to select electives related to their course of study. A Price international laboratory course is especially encouraged.

Internship

Students working toward the Master of Planning degree must complete an internship of at least 10 weeks duration and 400 hours in an organization engaged in planning or a closely related activity. Students must submit a report to the director of career services describing and evaluating the internship experience. Arrangements must also be made for an evaluative report of the internship by the student's supervisor submitted directly to the academic adviser. The internship is not for unit credit.

Students often fulfill their internship while working part-time in a planning-related job during their course of study in the program or in the summer between the two academic years. If a student has had equivalent career experience prior to admission to the program, the MPl director may waive the internship requirement on the recommendation of the student's academic adviser.

The Price Office of Career Services actively works with school alumni and area planning organizations to assist students in obtaining appropriate internships. Numerous internship opportunities are available in the greater Los Angeles area. The student is responsible for securing the internship and fulfilling the requirement.

Directed Research

With the advice of the faculty, a student may elect to enroll in directed research as an elective. Working directly with a faculty member, the student pursues an interest or problem appropriate to the student's program of study.

The faculty member supervising the student must approve the final product of directed research. The final product may be a written report, article, graphic formulation, physical model, mathematical-statistical analysis, computer output or film — depending on the most appropriate expression of the research undertaken.

General Requirements

Residence and Course Load

The Master of Planning normally requires two academic years of

full-time study. Courses are also scheduled to allow completion on a part-time basis.

At least 36 units of graduate-level study must be done in residence at USC. The residency requirement may not be interrupted without prior permission from the Price School of Public Policy. Students accepted into the program with academic deficiencies will require a correspondingly longer time to complete their course work. Students seeking the degree on a part-time basis must take at least one course each semester.

Students must be enrolled at USC for the fall and spring semesters each year until all degree requirements have been met. Students who find it necessary to be excused from a semester of registration must request a leave of absence from the Academic Programs Office by the last day to drop/add courses of the semester in question; such leaves may be granted for up to one year. For additional information refer to USC policies governing continuous enrollment, readmission, and leaves of absence in the Academic Policies section of this catalogue.

Time Limits

All requirements for the Master of Planning must be completed within five calendar years from the beginning of the semester in which the student was admitted to the program. University regulations prohibit the acceptance of credits for courses taken toward the Master of Planning degree more than seven years after the date they were successfully completed.

Grade Point Average Requirement

While enrolled in the program a student must maintain a grade point average of at least a 3.0 for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average below 3.0 for all courses taken in the program will be placed on academic probation. A student whose semester grade point average is below 3.0, but whose cumulative grade point average is 3.0 or higher, will be placed on academic warning.

A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines that the student is deficient in academic achievement or in another qualification required for the attainment of the Master of Planning degree.

Course Exemptions and Transfer of Credits

Graduate work by transfer may be accepted from approved graduate schools as determined by the USC Articulation Office upon recommendation of the dean of the school. Not more than 12 units of graduate work, with grades of B or better may be transferred for credit to the Master of Planning degree.

The following courses, or their equivalents, cannot normally be transferred for unit credit from other institutions: PPD 500, PPD 501a , PPD 524, PPD 525, PPD 526, PPD 527, PPD 529 , PPD 531, PPD 533, PPD 590, PPD 594a, PPD 594b. Undergraduate work will not be credited for advanced or graduate standing. Students may petition to receive subject credit for these courses; but unit requirements must be met through the completion of additional electives.

Some applicants for admission to the school have been engaged in work in planning, development or closely related activities. Although this experience may have been beneficial to the students involved and may satisfy the internship requirement, it may not be considered equivalent to academic education.

Planning and Development Studies (MPDS)

The Master of Planning and Development Studies degree is designed for mid-career professionals in planning, development or related disciplines who desire to update and/or redirect their professional skills and careers. The program is very flexible, allowing students to pursue areas of expertise that they find valuable in their present or future careers. Entering students must have a minimum of five years of planning, development or related professional work experience.

Curriculum Requirements

The Master of Planning and Development Studies program requires completion of 28 units. Basic degree requirements consist of two core courses; 16 units in a concentration area approved by an adviser; and an integrative seminar course during which the student completes a written and oral comprehensive examination.

Required Courses

- PPD 611 Policy Issues in Planning and Development Units: 4
- PPD 612 Research and Analytical Techniques Units: 4
- PPD 638 Integrative Seminar Units: 4 (normally in the last semester in conjunction with the comprehensive examination)

Concentration Area(s)

Students elect a concentration area from one of three already defined or, with prior approval by an adviser, design a concentration from Price School of Public Policy courses and USC graduate courses. A minimum of eight units must be Price School of Public Policy courses. The three defined concentration areas are:

Community Economic Development

Select 16 units from the following courses:

- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 623 Community Development and Site Planning Units: 4
- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 625 Planning and Economic Development Finance Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3

Environmental Policy and Planning

Select 16 units from the following courses:

- PLUS 600 Environmental Goods in Planning and Development Units: 4
- PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs Units: 4
- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 617 Urban Demography and Growth Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 620 General Plans Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 622 Seminar in Urban Development Units: 4
- PPD 631 Geographic Information Systems for Policy, Planning, and Development Units: 2
- PPD 634 Institutional and Policy Issues in Transportation Units: 4
- PPD 712 Seminar in Public Policy Units: 4

International Planning and Development

Select 16 units from the following courses:

- PLUS 631 Seminar in Physical Planning and Design in Developing Countries Units: 4
- PLUS 632 National Urban Policy in Developing Countries Units: 4
- PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs Units: 4
- PLUS 635 Urban Finance Units: 4
- PLUS 640 International Urban Development Units: 4
- PPD 626 Public/Private and Mixed Enterprises Planning Units: 2, 4
- RED 583 International Development Opportunities Units: 2

- RED 585 Comparative International Development Workshop Units: 2, 3, 4

Integrative Seminar and Comprehensive Examination

Successful completion of a comprehensive examination is required of all students seeking the Master of Planning and Development Studies degree. The integrative seminar course (PPD 638) and comprehensive exam should be taken during the semester of intended graduation. During the seminar class, students identify a practice-oriented problem covering the core courses and concentration area, which ideally is sponsored by a planning and/or development office or firm. The student will: (1) prepare a professional-quality document; (2) present the solution to a faculty committee with invited sponsor guests; and (3) have an oral defense. Students who fail the examination may take it again within one year, but it may only be repeated once.

General Requirements

Residence and Course Load

The Master of Planning and Development Studies may be completed in one academic year of 12 units in the fall and spring semesters and the four-unit integrative seminar/comprehensive examination the following summer semester.

At least 18 units of graduate study must be done in residence at the University Park Campus, the USC State Capital Center or at an approved off-campus study center.

Time Limit

Students in the program must complete all requirements for the Master of Planning and Development Studies within five calendar years from the beginning of the semester in which the student was admitted to the program.

Grade Point Average Requirement

While enrolled in the program, a student must maintain a grade point average of at least 3.0 (A = 4.0) for all courses taken toward the degree.

Probation and Disqualification

Any student with a cumulative grade point average below 3.0 for all courses taken in the program will be placed on academic probation. A student whose semester grade point average is below 3.0, but whose cumulative grade point average is 3.0 or higher, will be placed on warning.

A student may be disqualified to continue toward a graduate degree if the student has been on academic probation for two consecutive semesters. Whether or not on academic probation or warning, a student may be disqualified at any time from continuing in the program if the dean of the school, after consultation with the faculty, determines the student is deficient in any degree requirement.

Course Exemption and Transfer of Credits

Credit for graduate work may be transferred from approved graduate schools as determined by the USC Degree Progress Department in the Office of Academic Records and Register on recommendation of the dean of the school. Not more than four units of graduate work, with grades of B or better, can be transferred for credit toward the Master of Planning and Development Studies degree.

The following courses, or their equivalents, may not normally be transferred for unit credit from other institutions: PPD 611, PPD 612 and PPD 638. Undergraduate work may not be transferred into the degree program for unit credit.

Some applicants for admission to the school will have been engaged in work in planning, development or closely related activities. Although this experience should be beneficial to the students involved, it may not be considered equivalent to academic education.

Public Administration (MPA)

Admission

The Master of Public Administration programs are under the jurisdiction of the Price School of Public Policy. All admissions decisions are made by the school, following guidelines set by the university. See the Admission section of this catalogue.

All questions about the programs and all materials required for admission should be submitted to: MPA Programs, Admissions Office, RGL 111, University Park, University of Southern California, Los Angeles, CA 90089-0626.

Admission to each of these programs is determined by the faculty and admissions committees connected with those areas. Application packages should be sent directly to the program office.

Applications

The admission decision is made using criteria which include verification that the applicant has completed a bachelor's degree from an accredited college, has maintained a B average in undergraduate course work and has earned an acceptable score on the verbal and quantitative portions of the Graduate Record Examinations (GRE) or the Graduate Management Admissions Test (GMAT). Other elements of the applicant's educational and experiential background are also evaluated. International students whose native language is not English must also submit a Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) score.

Each candidate should submit the following to the school: (1) official transcripts of all previous college and university work, showing an awarded degree where appropriate; (2) copies of GRE or GMAT scores; (3) an essay answering questions on the admission questionnaire provided by the school; (4) an up-to-date resume which includes academic and professional accomplishments; (5) three or more letters of evaluation from previous instructors and from professional associates who can attest to the applicant's potential; (6) completed USC Graduate Admission Application, along with the nonrefundable processing fee; and (7) completed Price School of Public Policy Supplemental Graduate Application.

International applicants may be asked to supply additional information. See the Graduate Admission section of this catalogue.

Deadlines

Applications for admission are evaluated monthly. Those students who are also applying for financial aid, or who must meet other deadlines for admission, should submit application materials early enough to allow the admissions decision to be made in advance of those other deadlines.

The admissions process generally takes about four to six weeks after all necessary materials have been submitted.

Pre-Service/In-Service Designation

Most MPA students are classified as pre-service or in-service students at the time of admission. Pre-service students are those who enter the program with less than two years of professional work experience. In addition to course work, pre-service students complete an internship. Students pursuing the Intergovernmental Management specialization or one of the dual degree programs are not classified as pre-service or in-service. Appeals for reclassification of this designation must be submitted during the first semester of enrollment.

Prerequisites

Social Science

Any undergraduate major is acceptable as preprofessional background, provided the applicant has had at least 12 semester units (16 quarter units) of undergraduate course work in cultural anthropology, economics, ethnic studies, social and human geography, political science, sociology or related social science area courses; no more than two of these courses may be in the same field.

Deficiencies in the social science prerequisite may be met while in residence by taking appropriate courses in other departments,

but such course work may not be counted toward the course requirements for the master's degree.

Statistics

A basic competence in descriptive and inferential statistics is also required for the MPA programs. This prerequisite may be met in one of two ways:

1. Entering students must have passed an undergraduate inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation.
2. If students do not satisfy this prerequisite, they will be required to take PPD 502 x Statistical Foundations for Public Management and Policy, a two-unit graduate level inferential statistics course. They must complete the course with a grade of "B" or better. The units associated with this class may not be used toward the MPA degree.

All prerequisites must be fulfilled within the first 12 units of graduate course work. The statistics prerequisite must also be met before enrolling in PPD 542, PPD 557, PPD 638 or PPD 666 .

International Students

Students applying for graduate programs should send applications and appropriate documents to the MPA Programs Admissions Office, which processes all such applications.

Admission

A student is accepted for admission only for the semester indicated on the letter of admission. If the student desires to enter at another time, or if the student cannot arrive on campus in time for the semester in which he or she was admitted, the student must contact the MPA Programs Admissions Office in writing. That office will contact the Office of International Admissions.

Students who do not enroll for the semester indicated on the letter of admission cannot be guaranteed admission to a later session. They will need to work with the MPA Programs Admissions Office to determine procedures to follow.

Registration Requirements

International students on student visas must be registered as full-time students as arranged by the Office of International Services. Doctoral students must carry a load of at least 6 units to be considered full-time students. A full-time graduate load is eight units. Such students are not eligible to be considered students without formal registration and may be in violation of immigration laws when not properly registered.

International students who have questions about registration requirements should contact the Office of Recruitment and Student Affairs.

Admission Status

MPA applicants may be permitted to take courses before the admission process is completed or they may be admitted before certain conditions have been met; each student must, however, attain regular status (standing) admission to the school prior to or upon completion of 8 graduate units.

Limited Status Students (Preadmission)

Students taking courses who have not been admitted to the school are designated limited status students. These students may be taking courses to meet prerequisites; they may be waiting for part of their application package materials to arrive; or they may be investigating whether an MPA is the best choice for them.

To be considered for limited status enrollment, interested students need to complete the Price School of Public Policy Limited Student Application for Enrollment form and submit official or unofficial copies of their transcripts from their bachelor's degree granting institution. Students with a 3.0 grade point average (A = 4.0) may enroll in up to 8 units of graduate courses in the Price School of Public Policy.

Price School of Public Policy Limited Student Application for Enrollment forms may be obtained from the Admissions Office, Price School of Public Policy, University of Southern California, RGL 111, Los Angeles, CA 90089-0626; (213) 740-6842. Limited students may only enroll during the in-person registration period (the week before classes begin).

Limited status students may apply only 8 units of appropriate graduate work toward the MPA after admission. Units beyond these first 8 must be petitioned for through the school. Students on limited status are encouraged to complete the application and admission processes before completing those first 8 units.

PhD Candidates

PhD students who pass the qualifying examinations and complete the MPA course requirements or their equivalent during their course work at USC may, with the recommendation of the coordinator of the MPA program, apply for and receive the MPA degree.

MPA Curriculum

The MPA course requirements are designed to address current and future professional competencies for accomplishment; to establish a sequence of basic required courses; and to maximize student choice and depth in specialized studies. The curriculum requires 40 units for completion (41 for pre-service students). Pre-service students, that is, those who have less than 25 months' employment experience in a professional level position, are also required to take an internship that includes a one-unit seminar.

Core Courses

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4
- PPD 546 Capstone in Public Administration Units: 4

Note:

Three of the required core courses (PPD 500, PPD 501a, PPD 501b and PPD 540) provide the foundation to the field and the fourth (PPD 546) serves as a capstone course. PPD 540 must be taken in the first semester or within the first 12 units and PPD 546 must be taken in the final semester or last 12 units of the student's program.

Management Competencies

MPA students are expected to develop managerial competencies in three areas by taking at least one course in each of the following areas:

Management Competencies

Analytic Methods

- PPD 542 Policy and Program Evaluation Units: 4 * or
- PPD 557 Modeling and Operations Research Units: 4 *

Organizational Behavior

- PPD 545 Human Behavior in Public Organizations Units: 4

Note:

(With the approval of the MPA or center director, the student may choose a human resource management elective to fulfill this requirement.)

Finance

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Note:

(With the approval of the MPA or center director, the student may choose a financial management elective to fulfill this requirement.)

**The statistics requirement must be met before enrolling in* PPD 542, PPD 557 *or* PPD 666.

Additional Requirements

Area Cluster Electives

Students may elect to devote their elective courses (14 units) to gain depth in a designated area cluster. These areas include the following: community and economic development, environmental

management and land-use policy, financial management, health administration, human resources management, information technology management, intergovernmental management, international policy and management, local government, nonprofit management, planning, public policy, real estate development, transportation, and urban form and design.

Students may elect to follow a more generalist perspective and take their elective courses from the array of elective offerings.

Thesis Option

Thesis option, PPD 594a Master's Thesis, PPD 594b Master's Thesis (4 units), may be taken as part of the elective category. Information regarding the thesis contract is available from the MPA director. All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to form and method of preparation.

Internships

Pre-service students — that is, those with fewer than 25 months' employment in a professional level position —are required to complete at least 300 hours of an internship and an internship seminar (PPD 543). MPA students may enroll in the internship seminar during their first semester. Students complete internships in conjunction with the internship seminar.

Specialization in Intergovernmental Management

In addition to the substantive area cluster, MPA students may choose the specialization in intergovernmental management.
Students enroll in courses and serve in internships in at least two levels of governance. A student may take courses toward this specialization at either the Los Angeles or USC State Capital Center. Internships may be taken through either of these centers. Students electing this specialization meet with the intergovernmental management coordinator at either the Los Angeles or the USC State Capital Center to design their program.
To complete this specialization, students complete three courses from the following lists (with at least two drawn from the first list):

List 1.

- PPD 661 Intergovernmental Management: Local Perspective Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 663 Intergovernmental Management: Federal Perspective Units: 4
- PPD 669 Federal Management Systems Units: 4
- PPD 670 Management of Intergovernmental Programs Units: 4

List 2.

- PPD 688 Business and Public Policy Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4

Public Policy (MPP)

The Master of Public Policy (MPP) program is designed to prepare students for careers as professional policy analysts. Through an interdisciplinary curriculum and real world experience, students gain an understanding of the policy process, and develop the capacity to formulate, analyze and implement public policy.

The MPP degree is offered at the University Park Campus only.

Requirements for Admission

Candidates for admission must have maintained a minimum B (3.0) average during their undergraduate degree work and attain a score of at least 500 on the verbal and at least 500 on the quantitative sections of the GRE. Exceptions to these requirements are allowed if justified by outstanding work experience, letters of recommendation, or demonstrated improvement in academic performance during undergraduate studies.

Applicants must have a bachelor's degree from an accredited institution and have a basic competence in descriptive and inferential statistics. This prerequisite may be met in one of two ways: (1) entering students must have passed an undergraduate inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation, and must pass the MPP lab associated with PPD 554 Foundations of Policy Analysis, or (2) take PPD 502 x Statistical Foundations for Public Management and Policy and complete with a grade of "B" or better. If students select to take PPD 502, the units associated with this class may not be used toward the MPP degree.

Degree Requirements

Students are required to complete 48 units of graduate work, with 24 units of core and 24 elective units divided between management, analytic and specialization areas.

Required Core Courses

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPD 561a Policy Analysis Practicum Units: 1, 3
- PPD 561b Policy Analysis Practicum Units: 1, 3

Note:

**During a student's final semester of the program, the Policy Analysis Practicum is required as a component of the program's 48 units of course work. The practicum is an opportunity for students to apply their analytic skills to a current problem for an actual client. Admission to the practicum is granted on the approval of the MPP director, and normally requires prior completion of most required courses.*

Electives

Students complete 4 units of management elective, 8 units of analytic elective and 12 units of specialization elective. These electives typically are selected to support specialization in a substantive policy area (e.g., environment or community economic development).

Management Elective (Choose 4 Units)

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Analytic Elective (Choose 6-8* Units)

- COMM 650 Survey Construction and Validation Units: 4
- PM 542 Social Network Analysis Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 557 Modeling and Operations Research Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 617 Urban Demography and Growth Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 660 Environmental Policy Design and Analysis Units: 2
- PPDE 661 Methods for Equity Analysis Units: 4
- SOCI 621L Quantitative Methods and Statistics II Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Note:

**Students who select* PPDE 660 *to meet their analytic requirement will add the remaining 2 units to the 12 specialization units in consultation with their academic adviser.*

Additional Requirements

In addition, students take 12-14 units of additional electives selected by the students with the advice of the academic adviser or director of the MPP program. These electives typically are taken in an area of policy specialization, such as: community economic development, education policy, environmental policy, health, infrastructure, international policy and development, media and communications, philanthropy and nonprofit, and transportation.
Students may not take more than 12 units outside of the Price School of Public Policy without written consent of the director of the MPP program.

University Certificate

City/County Management Certificate

The graduate Certificate in City/County Management is for students interested in acquiring the foundational training needed to pursue a career in public service leadership and provides students with the necessary knowledge, training and skills development that will ensure their professional success as a future city/county manager.

The Certificate in City/County Management consists of 16 units of graduate course work.

Required Courses (16 Units)

- PPD 500 Intersectoral Leadership Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 651 Seminar in the Administration of Local Government Units: 4
- PPD 685 Human Resources Management in Public and Non-Profit Sectors Units: 2

Additional Requirements

Admission Requirements and Application Procedures

Applicants for the Certificate in City/County Management who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the program administrator.

Applicants for the Certificate in City/County Management who have not matriculated at USC must make a formal application for admission to the certificate program; provide transcripts of all college work, a resume and one letter of recommendation.

Please contact the USC Price Office of Admissions at uscprice@usc.edu for more information.

Health Management and Policy Programs Certificate

The Health Management and Policy Programs of the Price School of Public Policy offers certificate programs in specialized areas of health care administration. The certificates are designed to provide practitioners with means for improving or updating their knowledge and experience in a challenging and professionally relevant course of study. Certificates are offered in Administration of Long Term Care Programs and Management of Ambulatory Care Systems. Applicants for the certificate programs must make formal application for admission to the certificate program, provide transcripts of all college work, supplemented by three letters of recommendation, including one from a former instructor, a resume and a personal statement describing their career goals and the relationship of the certificate to those ends.

It is expected that applicants to the certificate programs should have graduated from a recognized college with an approximate grade point average of B in the last 60 units of college work. Non-graduates may be admitted if the director believes that there is evidence to suggest that the applicant is capable of graduate level work.

Successful completion of the certificate will not be a deciding factor in the admission decision for the degrees offered by the Health Management and Policy Programs or the Price School of Public Policy.

Ambulatory Care

The Ambulatory Care program requires 20 units of graduate credit including a 16-unit core and a four-unit specialized seminar in the area of the certificate concentration.

Core courses (16 units) are:

- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4 or
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4
- one elective

One specialized seminar as follows (four units):

- PPD 600 Management of Managed Care Organizations Units: 2
- PPD 601 Management of Long-Term Care Organizations Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4

Certificate in Administration of Long Term Care Programs

The Certificate in Administration of Long Term Care Programs requires 16 units of course work

The required courses are

- GERO 500 Perspectives on a Changing Society: An Introduction to Aging Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 601 Management of Long-Term Care Organizations Units: 4
- PPD 510a Financial Management of Health Services Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Note:

The program can be completed via distance learning.

Additional Requirements

Completing a certificate program does not constitute completion of or admission to the Master of Health Administration (MHA) or Executive Master of Health Administration (EMHA) degree programs nor will it be a deciding factor in the admission decision to those programs. Students in the MHA program, however, may qualify for award of these certificates if they complete the applicable course requirements.

Homeland Security and Public Policy Certificate

This graduate certificate program provides students with a foundation in homeland security and public policy. It is designed to provide expertise to individuals working in the field with an interest in refining their risk and security analysis skills as well as others with interest in the field. The certificate develops risk analysis skills and provides students with the knowledge needed to understand the issues surrounding the increasingly important issues of homeland security and public policy.

Applicants for the Certificate in Homeland Security and Public Policy who are currently enrolled in a graduate program at USC in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program which may be obtained from the student services adviser.

Applicants for the Certificate in Homeland Security and

Public Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The certificate in homeland security and public policy consists of 15–16 units of graduate course work depending on the course selected.

Required Core Course (4 units)

- PPD 683 Homeland Security and Public Policy Units: 4

Choose three of the following (11–12 units):

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2

- PPD 557 Modeling and Operations Research Units: 4 or
- ISE 530 Optimization Methods for Analytics Units: 3 or
- ISE 562 Value and Decision Theory Units: 3

- PPD 587 Risk Analysis Units: 4

International Policy and Planning Certificate

The Graduate Certificate in International Policy and Planning strengthens students' understanding of global policy, planning and public management issues underscoring comparative differences in policy approaches and governance institutions across countries, builds a core foundation of knowledge about the governing institutions and agreements that operate on a global level, and prepares students for working in international organizations. The professions of graduate students in the Price School (public administration, public policy, urban planning, health policy and management, and real estate development) are globalizing. To analyze and understand the impact of globalization on their chosen field and to be competitive in a global context, emerging leaders in these professions should be conversant in thinking and operating on a global scale. Earning this certificate better prepares students for the professional demands of the globalized era.

The Certificate in International Policy and Planning consists of 14 units of graduate course work.

Required Courses (8 units)

Core Courses (8 units)

- PPD 677 International Development Administration Units: 4

Plus one of the following (4 units):

- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 532L International Planning and Development Laboratory Workshop Units: 4, 5, 6, 7, 8
- PPD 613a Policy, Planning, and Development International Laboratory Units: 1
- PPD 613b Policy, Planning, and Development International Laboratory Units: 3

Note:

**If students select PPD 613a and PPD 613b, both must be completed.*

Elective Courses (6 units)

Students select at least 6 units of elective courses. The elective courses may be taken from within the Price School of Public Policy course offerings or other USC units. The electives will be selected from three topic areas: international development; urbanization, policy issues and sustainability; and global health. The electives will be selected in consultation with and approved by the faculty advisor for the certificate program. The electives should be chosen such that the combination of core classes and electives produces a well-rounded and rigorous preparation for professional practice in a globalized context.

Additional Requirements

Admission Requirements and Application Procedures

Applicants for the Certificate in International Policy and Planning who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the program administrator.

Applicants for the Certificate in International Policy and Planning who have not matriculated at USC must make a formal application for admission to the certificate program; provide transcripts of all college work, a resume and one letter of recommendation.

Please contact the USC Price Office of Admissions at uscprice@usc.edu for more information.

Nonprofit Management and Policy Certificate

This graduate certificate program provides students with a foundation in nonprofit management and policy. The certificate develops nonprofit management skills and provides students the knowledge needed to understand the increasing importance of nonprofits in society and their role in forming and influencing public policy.

Applicants for the Certificate in Nonprofit Management and Policy who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program, which may be obtained from the student services adviser.

Applicants for the Certificate in Nonprofit Management and Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The certificate in nonprofit management and policy consists of 16 units of graduate course work.

Core Courses (12 Units)

- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 687 Strategic Management in the Nonprofit Sector Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4

Additional Requirements

Elective Course

Students select 4 elective units. The elective course(s) may be taken from within the Price School of Public Policy course offerings or other USC units. The elective selection must be approved by the faculty adviser for the certificate program.

Up to 10 units of the certificate may be applied to both the certificate and the core requirements or electives in the Master of Public Administration program. Up to 12 units may be applied toward both the certificate and the core or electives in the Master of Public Policy program.

The Master of Public Administration director will provide advisement.

Public Management Certificate

This program provides students with a solid foundation of training and skills in management. Individuals who need training in public administration but who are unable to enroll for the Master of Public Administration (MPA) degree may find this certificate program of particular interest. Key to the program's success is the close integration of the academic curriculum and the application of skills and theory to managerial work assignments. Students may enroll at any time throughout the year.

The program consists of four courses:

- PPD 540 Public Administration and Society Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4

- and one elective selected from any 500-level offering in the Price curriculum.

Real Estate Development Certificate

This graduate certificate program provides students with a foundation of the key elements of real estate development. It is designed to provide these foundations for non-Master of Real Estate Development students who wish to obtain this knowledge to complement their graduate program of study as well as their careers. For admissions information, visit the Price School Website.

The certificate in real estate development consists of 12 units of graduate course work: RED 510, RED 511, and RED 512.

Social Justice Certificate

The graduate certificate in Social Justice is for students interested in understanding the set of factors that contribute to a broad range of disparities (or inequities) and the challenges that exist when managing, planning and policy making among diverse populations. The course work in this certificate focuses on the theories and analytic tools that are needed to assess issues in social justice.

The certificate in Social Justice consists of 12 units of graduate course work.

Core Courses (8 units)

Students will take two core courses.

- PPDE 664 Seminar in Social Justice and Public Policy Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4 or
- PPDE 661 Methods for Equity Analysis Units: 4

Elective Course

Students select one 4-unit elective course from the following:

- AMST 560 Readings on Race and Ethnicity Units: 4
- AMST 580 Readings in Cultural Studies Units: 4
- COMM 653 Research, Practice and Social Change Units: 4
- PPD 606 Urban Health Policy Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4 *
- PPD 617 Urban Demography and Growth Units: 4
- PPD 618 Housing Facilities and Community Development Units: 4
- PPD 628 Urban Planning and Social Policy Units: 4
- PPD 686 U.S. Immigration Policy Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 636 Urban Spatial Ethnography and Critical Cartography Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4 *
- PPDE 663 Media for Policy Change Units: 4
- SOCI 642 Sex and Gender in Society Units: 4

Note:

* Students will take PPD 616 or PPDE 661 as their methodology course for the certificate. They may select the alternate course to satisfy the elective requirement but can not double count either course for this program.

Sustainable Policy and Planning Certificate

This graduate certificate program provides students with a foundation in policy and planning issues in sustainability and the environment. The certificate develops analytic and methodological skills and provides students the knowledge to understand the increasing importance of issues surrounding the environment and sustainability in policy and planning.

For admissions information, please visit the Price Website. The Master of Planning director will provide advisement.

The Certificate in Sustainable Policy and Planning consists of 12-14* units of graduate course work:

Required Courses (6 units)

- PPD 568 Environmental Governance and Sustainability Units: 2
- PPDE 634 Methodology, Methods and Tools for Urban Sustainability Units: 2, 3, 4 *
- PPDE 660 Environmental Policy Design and Analysis Units: 2

Note:

**Students in the certificate program will take the 2-unit version of* PPDE 634.

Elective Courses (6-8 units)

Students select 6 to 8* units of electives.

- ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings Units: 3 *
- ENE 502 Environmental and Regulatory Compliance Units: 3 *
- ENE 505 Energy and the Environment Units: 3 *
- GEOL 525 The Science of Climate Change Units: 4
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3 *
- PPD 587 Risk Analysis Units: 4
- PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions Units: 4
- PPD 621 Environmental Impacts Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPD 692 Transportation and the Environment Units: 4
- PPD 694 Coastal Policy and Planning Units: 4
- PPDE 632 Sustainable Cities Units: 4
- PPDE 644 Land Use and Transportation Planning Units: 4

Note:

**If students select 3-unit courses, they will take 6-7 units of electives. Others will take 8.*

Transportation Systems Certificate

The graduate Certificate in Transportation Systems is an interdisciplinary program administered by the Department of Civil Engineering. The certificate program allows students to specialize in transportation applications, while simultaneously receiving a degree in their home department. The certificate in transportation systems combines elements of transportation engineering with transportation policy, planning and project management. The program is especially appropriate for students intending to pursue careers as developers of transportation technologies or as implementors of technologies within government agencies.

Students electing the certificate program apply to the Department of Civil Engineering.

Course prerequisites for the program are:

1. one course in statistics or uncertainty, equivalent to CE 408, ISE 225 or PPD 404x;
2. one course in engineering economy, equivalent to ISE 460;
3. one course in microeconomics, equivalent to ECON 203; and
4. one course in a high level programming language, such as C or Fortran.

These prerequisites may be satisfied after enrollment in the certificate program by taking the indicated courses or their equivalent. Graduate students cannot receive credit for courses numbered below 400. Detailed admissions requirements are published by the Department of Civil Engineering.

Requirements for Completion

The curriculum consists of five graduate courses for a total of 17 units.

Required Courses

- CE 471 Principles of Transportation Engineering Units: 3 or
- CE 519 Transportation Engineering Units: 3

- CE 583 Design of Transportation Facilities Units: 3 or
- CE 585 Traffic Engineering and Control Units: 3

- ISE 515 Engineering Project Management Units: 3
- PPD 633 Urban Transportation Planning and Management Units: 4, 2 years
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Note:

Qualified students holding a bachelor's degree also have the option of enrolling in the certificate program without receiving a separate graduate degree.

Graduate Certificate

For Business

Political Management Certificate

This graduate certificate program provides students with a foundation in political management. It is designed to provide expertise for students who wish to work in public policy advocacy, in political relations, with elected officials and with the public, nonprofit or private sectors.

Applicants who are currently enrolled in a graduate program at USC and are in good standing with a 3.0 GPA only need to submit the appropriate paperwork for adding the certificate program which may be obtained from the student services adviser.

Applicants who have not matriculated at USC must make a formal application for admission to the certificate program, as well as provide transcripts of all college work, a resume and one letter of recommendation.

The Certificate in Political Management consists of 14–16 units of graduate course work depending on the courses selected.

Core Course (4 Units)

- PPD 658 Advocacy in Public Administration Units: 4

Foundation Course

Select one: 2 or 4 units

- PPD 500 Intersectoral Leadership Units: 2
- PPD 540 Public Administration and Society Units: 4
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 684 Leadership Development in the Public and Nonprofit Sectors Units: 2

Choose Two of the Following (8 Units)

- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 657 Political Leadership in Public Organizations Units: 4
- PPD 693 Communicating Public Policy Units: 4

Note:

Up to 10 units of the certificate may be applied toward both the certificate and to the core requirements or electives in the Master of Public Administration. Up to 12 units may be applied toward both the certificate and toward core or electives in the Master of Public Policy or Master of Planning.

The director of the graduate programs in public policy and management will provide advisement.

Public Financial Management Certificate

Complex social and economic climates - at the national, state, and local level - make sound public financial management essential to the fiscal sustainability and growth of communities everywhere. This graduate certificate program provides students with the skills to analyze financial information, assess public sector finance systems, prepare and manage budgets, and ensure the financial accountability of public organizations.

Required Courses

Complete each of the following courses (12 units):

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 647 Finance of the Public Sector Units: 4

Elective Courses

Complete one of the following (4 units):

- PPD 624 Local Economic Development: Theory and Finance Units: 4
- PPD 625 Planning and Economic Development Finance Units: 4
- PPD 652 Financial Administration in Local Government Units: 4

Note

Course substitutions are permitted with advanced approval of the program director. Any of the above courses taken to satisfy normal degree requirements count also toward this certificate requirements up to the university's maximum double counting rules.

Public Policy Certificate

This graduate certificate program provides students with a foundation in public policy analysis. It is designed to provide expertise in public policy to individuals who do not want to pursue the Master of Public Policy degree. Potential students include those who are pursuing another degree and want to complement that work with a specialization in public policy, as well as qualified students holding a bachelor's degree who have not matriculated at USC. The certificate develops policy analytic skills and their integration with a policy issue area of interest to the student.

Applicants for the Certificate in Public Policy who have not matriculated at USC must make a formal application for admission to the certificate program, provide transcripts of all college work, a resume and one letter of recommendation.

The program consists of 16 units of graduate course work.

Core Courses (8 Units)

- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4

Choose 4 units from:

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 557 Modeling and Operations Research Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4

Additional Requirements

Choose one course from a policy area (4 Units)

There are many policy issues courses from which to choose (e.g., health, nonprofit, transportation, environment, housing).

The Master of Public Policy director will provide advisement.

Social Innovation Certificate

Persistent social problems such as concentrated poverty, environmental degradation, and income inequality demand innovative new solutions to addressing these issues and improving the quality of life for all members of society. This certificate prepares future social innovators to design innovative policy solutions, create social enterprises and develop new financial tools to speed the pace of social innovation.

Students will take 13-15* units of course work depending on the electives chosen. There are two required courses (7 units) and students select two elective courses.

*Total unit value depends on elective courses selected.

Required Courses

- BAEP 591 Social Entrepreneurship Units: 2, 3
- PPDE 580 Social Innovation Units: 4

Electives (Student Select Two)

*Students select two electives. Price courses are 4 units. Marshall courses are 3 units. Therefore, the total unit value completed for the certificate will vary depending on the courses selected.

- BAEP 564 Investing in Impact Ventures Units: 3
- MOR 555 Designing High Performance Organizations Units: 3
- MOR 566 Environmental Sustainability and Competitive Advantage Units: 1.5, 3
- PPD 665 Contemporary Issues in Philanthropy Units: 4

- PPD 688 Business and Public Policy Units: 4
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 683 Social Finance and Development Units: 4

Dual Degree

Juris Doctor/Master of Public Administration (JD/MPA)

The dual degree program with the USC Gould School of Law and the USC Price School of Public Policy enables qualified students to earn a Juris Doctor/Master of Public Administration (JD/MPA) in approximately four years of study.

Some of the topics covered in the law school are also covered in the program of the Price School of Public Policy, so some credit toward the law degree may appropriately be given for specified graduate work taken in the Price School of Public Policy. Similarly, some credit toward the master's degree may appropriately be awarded for certain work completed in the law school. The goal of the program is to encourage law students to gain a recognized competence in administration, which has a direct relevance for the roles lawyers are asked to play in society.

Students must apply to, and be accepted by, both schools. They may be accepted to a dual degree program at the time of their acceptance to the law school or at the beginning of their second year of law school. The program requires the completion of the required first year of law school and the fulfillment of a statistics prerequisite, which can be met by passing an undergraduate inferential statistics class with a grade of B or better at an approved university within three years of matriculation or taking PPD 502 x Statistical Foundations for Public Management and Policy and completing with a grade of "B" or better. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs.

Credit toward the law degree may not be given for graduate work completed prior to the completion of the first year of law school. The Price School of Public Policy, on the other hand, may allow some credit toward the MPA for approved work completed prior to the first year of law school.

Students are required to complete 97 units of course work.

Curriculum Requirements

First Year

Required law school courses

Second and Third Year

The remaining 39 units of law school courses, 32 additional units of public administration courses.

MPA Core

These courses are from the MPA core

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4
- PPD 546 Capstone in Public Administration Units: 4

Management Competencies

- PPD 542 Policy and Program Evaluation Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

- PPD 545 Human Behavior in Public Organizations Units: 4

6 units of PPD electives.

Master of Health Administration/Master of Science in Gerontology (MHA/MS)

Gerontology and health administration students can specialize in health care administration (profit and nonprofit) through the dual degree with the USC Davis School of Gerontology and the USC Price School of Public Policy's Health Administration Program. Students in the dual degree program must be admitted by both academic units and complete 78 units of post-graduate academic work.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4

Total units: 36

Health Administration Requirements

- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 509 Problems and Issues in the Health Field Units: 4
- PPD 510a Financial Management of Health Services Units: 4
- PPD 513 Legal Issues in Health Care Delivery Units: 2
- PPD 514 Economic Concepts Applied to Health Units: 4
- PPD 515 Strategic Management of Health Organizations Units: 4
- PPD 516 Financial Accounting for Health Care Organizations Units: 4
- PPD 517 Concepts and Practices in Managing Health Care Organizations Units: 2
- PPD 518 Quality of Care Concepts Units: 2
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 601 Management of Long-Term Care Organizations Units: 4
- PPD 512 Health Administration Residency Seminar Units: 2

Total units: 42

Additional Requirements

Statistics: The statistics requirement for dual degree students is the same as those that apply to the Master of Health Administration.

Program Adaptation: The USC Davis School of Gerontology will waive GERO 589 because students enrolled in this program will have a primary professional focus in health administration.

Students enrolled in the dual degree are not required to take PPD 511 (as opposed to the stand alone MHA degree students) because they develop the necessary proficiencies related to their career goals in long term care administration through other courses such as GERO 550, GERO 591 and GERO 593. In addition, PPD 601 is required for the dual degree (and not the stand alone MHA program) because most of these students will work in long-term care facilities and this course is critical for success in that market.

Students in the MHA stand alone program are required to complete a 1,000 hour residency at a health care organization, generally during the second year of study. Students in the dual degree program may be waived from this requirement with enrollment in GERO 591 which is a supervised experiential learning experience. Student in this situation may then waive PPD 512 and will take 2 units of Price electives for this dual degree.

Any course substitutions are done by petition on an individual basis and should be part of a carefully developed course of study. The USC Price School of Public Policy should be consulted concerning this program of study.

Master of Planning/Master of Arts, Economics (MPl/MA)

The USC Price School of Public Policy and the Department of Economics jointly offer a two-year program leading to the MPl and MA degrees. Applicants must apply to the Price School of Public Policy and the USC Graduate School and meet the admission requirements of both.

Requirements

Requirements for completion of the dual degree program are 58 units, including 24 units in economics and 34 units in planning.

Economics

- ECON 500 Microeconomic Analysis and Policy Units: 4
- ECON 501 Macroeconomic Analysis and Policy Units: 4
- ECON 513 Practice of Econometrics Units: 4
- ECON 594a Master's Thesis Units: 2
- ECON 594b Master's Thesis Units: 2
- ECON 594z Master's Thesis Units: 0
- Electives Economics Units: 8

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Planning Studios: PPD 531 (4, 4) to total 8 units.
Electives: 14 units of elective courses taken within the Price School of Public Policy.
Thesis: A thesis is required on a subject interrelating economics and urban planning and development. Students must register in a minimum of 4 units of ECON 594a, ECON 594b, ECON 594z (2-2-0) and maintain continuous registration until completion of the thesis.
Internship: Dual degree students in this program must fulfill the internship requirement.
During the summer after the first year of graduate study, the student normally serves an internship in a planning organization. The student must complete a thesis acceptable to both faculties.

Master of Planning/Master of Public Administration (MPl/MPA)

The Master of Planning/Master of Public Administration dual degree program is designed for the study of the relationships between planning and public administration. Administrative skills, budgeting and fiscal analysis, a knowledge of operations services of local governments, and formulation and conduct of planning operations within the context of municipal management are required. This dual degree program normally requires five semesters in residence.

Requirements

Requirements for completion of the dual degree program are 60 units, including 26 units in public administration, 20 units in planning and 14 units of electives (8 in planning), as follows:

Prerequisites: 12 undergraduate course credit units of social science, not more than 8 units in any one field, are required. Students must also satisfy the MPA statistics prerequisite and other prerequisites. PPD 525 satisfies the Price School of Public Policy prerequisite in descriptive and inferential statistics for students in the Master of Planning/Master of Public Administration dual degree program. Dual degree students completing PPD 525 with a grade of B or higher (A = 4.0) need not take PPD 502 x Statistical Foundations for Public Management and Policy.

Public Administration

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

- PPD 542 Policy and Program Evaluation Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4

- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 546 Capstone in Public Administration Units: 4

Planning

- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Planning Studios: PPD 531 (4, 4) to total 8 units.
Electives: 14 units of elective courses taken within the Price School of Public Policy. Eight of these elective units must be taken in the planning program. Dual degree students who complete PPD 502 with a grade of C or higher need not take PPD 525. Instead, they should take 2 additional elective units for a total of 16.
Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Master of Planning/Master of Public Health (MPl/MPH)

The Master of Planning/Master of Public Health (MPl/MPH) dual degree is designed for individuals who envision a career that combines urban planning and public health disciplines. This dual degree combines the knowledge of urban planning with an understanding of health from a population perspective. It will provide training for planning, evaluating and guiding healthy community and urban development, and will enable graduates who seek to be agents of change within the profession to assume leadership roles in planning and in public health at the local, state and national levels. A total of 79 units are required for the dual degree. For further information about dual degree requirements, see the Master of Public Health/Master of Planning (MPH/MPl).

Master of Planning/Master of Real Estate Development (MPl/MRED)

The Master of Planning/Master of Real Estate Development dual degree program enables students to expand their skills in planning, land development, market analysis, finance and economics. Exposure to both fields becomes an educational as well as a professional asset for careers in either real estate development or planning. This dual degree program normally requires five semesters, including one summer, in residence.

Requirements

A total of 74 units is required for the dual degree, all from within the Price School of Public Policy.

Required Courses

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2

Planning Core

- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 531L Planning Studio Units: 4, 8, 12
- PPD 533 Planning History and Urban Form Units: 2

Real Estate Core

- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 562 Legal Issues in Real Estate Development Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Electives: 12 units of PPD courses and 12 additional units of elective courses taken within the Price School of Public Policy. Students are also required to complete a comprehensive examination. Students have the option of selecting either the existing MPl or existing MRED examination.

The internship requirement is waived for students who enter the program with professional experience in either planning, real estate or a related field.

Master of Planning/Master of Science, Gerontology (MPl/MS)

The MS/MPl dual degree is one of a few in the nation which combines the knowledge of the older population with the skills needed to plan services for older people. The MPl prepares the graduate for the responsibilities involved in development of public and private institutions and programs. The MS indicates a special focus on the older person and the skills to analyze and design programs for this growing population. The MS is offered through the USC Davis School of Gerontology.

Requirements

Requirements for completion of the dual degree program are 66 units including 26 units in gerontology, 36 units in planning and a minimum of 4 units of thesis in either gerontology or planning, as follows:

Gerontology

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 591 Field Practicum Units: 1-12
- Gerontology elective Units: 4

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Concentration Methodology: A 4-unit course selected from the concentration list shown in MPl program.

Planning Studios: PPD 531 (4, 4) to total 8 units.

Electives: 8 units of elective courses taken within the Price School of Public Policy.

Thesis: A thesis is required on a subject interrelating gerontology and planning. Students must register in a minimum of 4 units of PPD 594a, PPD 594b, PPD 594z (2,2,0) or GERO 594a, GERO 594b, GERO 594z (2,2,0). Students must maintain continuous registration until completion of the thesis.

Program Adaptation: The USC Davis School of Gerontology waives GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program will have a primary professional focus in planning.

Master of Planning/Master of Social Work (MPl/MSW)

The dual degree program between the USC Suzanne Dworak-Peck School of Social Work and the USC Price School of Public Policy offers unique opportunities for students who want to devote their professional careers to social policy, social planning or social services delivery. Students with a dual degree will have broader employment options beyond those in traditional planning or social work.

The schedule of courses allows students to experience direct service in the first year so that course work planning is supplemented by a knowledge of consumers, service delivery, etc. Courses for both schools are taken simultaneously, intermingling social work and planning content. Two years of field practicums in social work provide in-depth exposure to social service issues from both planning and direct service perspectives, thus satisfying some of the planning laboratory/workshop requirements and eliminating the need for a separate planning internship requirement.

Requirements

Requirements for completion of the MSW/MPl degree are 83 units including 51 units in social work and 32 units in planning. Students must select a community organization, planning and administration concentration in the second year of their social work program.

Social Work

Contact the USC Suzanne Dworak-Peck School of Social Work for Social Work requirements.

Note:

**Students who have taken a leadership course in PPD are not required to take* SOWK 611.

Planning

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- PPD 628 Urban Planning and Social Policy Units: 4

Note:

2-unit courses may be offered in seven-and-a-half week blocks.

Additional Requirements

Planning Studios: PPD 531 (4) for 4 units.

Electives: 8 units of elective courses taken within the Price School of Public Policy.

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Master of Public Administration with Seoul National University

This graduate program offers students a unique opportunity to develop skills and expertise in the field of public administration from a U.S. and Korean perspective. The program is designed and offered in partnership with Seoul National University (SNU). Students spend a year at USC Price and a year at Seoul National University and earn the MPA degree.

Admissions

Students wishing to pursue the dual MPA degree will have to apply to both SNU GSPA and USC Price separately and fulfill both institutions' admissions criteria independently. Please see the Price Website for further information.

Sample Program - Price Students

Year One - USC (24 Units)

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2 and
- PPD 501b Economics for Policy, Planning and Development Units: 2
  or
- PPD 540 Public Administration and Society Units: 4
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
  Electives

Year Two - SNU (19 Units)

M2856.000100* Theories of Global Public Administration, or
M2856.000600 Economics and Public Administration Units: 3
Electives Units: 6
PPD 546 ** Capstone in Public Administration Units: 4

**Price students would take either PPD 540 or PPD 501a and PPD 501b in their first year, and then would take the equivalent SNU GSPA course for the other one in their second year.*

***The capstone course is taken in the last semester at Price.*

Sample Program - SNU Students

Year One - SNU (18 Units)

M2856.000100 Theories of Global Public Administration Units: 3
M2856.000300 Social Research Methods of Public Administration Units: 3
Electives Units: 6
Independent study (thesis preparation) Units: 6

Year Two - USC (24 Units)

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
  Electives

Variations from the above:

Price students could take both the PPD 540 and PPD 501a and PPD 501b courses in either their first year or their second year, instead of one of the two in each year.
GSPA students could take Economics and Public Administration in their first year rather than in their second year at Price, and they could take PPD 540 in their second year at Price rather than in their first year.
Price students could take Social Research Methods of Public Administration at GSPA in their second year instead of Policy and Program Evaluation (PPD 542) in their first year, and GSPA students could take Policy and Program Evaluation (PPD 542) at Price in their second year instead of Social Research Methods of Public Administration in their first year.

Master of Public Administration/Master of Arts, Jewish Nonprofit Management (MPA/MA)

The Master of Public Administration/Master of Arts in Jewish Nonprofit Management (MPA/MA) has been developed, in cooperation between the USC Price School of Public Policy and the HUC-JIR School of Jewish Nonprofit Management, to prepare those students who want to make a career in Jewish nonprofit management. Students receive a solid academic and experiential foundation in the American Jewish expe-rience — its history, culture and structure — combined with the theory and practice of community organization and administration.

Students must complete 88 units of course work, 36 in public administration, and must serve two academic years in supervised fieldwork. There is an opportunity to spend either 12 months in Sacramento, California, or Washington, D.C. At these sites, students attend classes while serving internships in the offices of politicians, lobbyists or other advocates.

Students must meet admission requirements and be admitted by both the Price School of Public Policy and HUCJIR's School of Jewish Nonprofit Management (formerly the HUC-JIR School of Jewish Communal Service).

Curriculum Requirements

The program begins in June of each year and continues for the next 24 months. Students are expected to work out individual course plans with advisers from each school.

In addition to applying to the Price School of Public Policy, those interested in the program should contact the Office of Admissions, Hebrew Union College — Jewish Institute of Religion, 3077 University Avenue, Los Angeles, CA 90007-3796, for comprehensive information about its requirements.

Public administration course work may be taken in Los Angeles or Sacramento. In Sacramento, a student will complete the Price core and elective courses, will take independent study with an HUC professor, and will serve in an internship while enrolled in HUC fieldwork classes.

Public Administration Requirements

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- PPD electives Units: 14 *

An Elective is Defined as One of the Following Courses (Select 14 Units)

- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 684 Leadership Development in the Public and Nonprofit Sectors Units: 2
- PPD 685 Human Resources Management in Public and Non-Profit Sectors Units: 2
- PPD 689 The Nonprofit Sector and Philanthropy Units: 4
- PPDE 646 Grant Writing Practicum Units: 2
- PPDE 649 International Development NGOs: Theory, Policy and Management Issues Units: 4

Note:

Select 14 units from the list above. Substitutions may be requested by petition to the graduate adviser in the Price School of Public Policy.

Additional Requirements

Fieldwork Requirement

Throughout the program, students are expected to serve in supervised internships. Fieldwork is administered cooperatively by the faculties of HUC-JIR School of Jewish Nonprofit Management and the Price School of Public Policy.

Program Adaptation

Students enrolled in the dual degree are not required to take a research methods course (PPD 542, PPD 557 or PPD 666) in the MPA program (as opposed to the stand alone MPA degree students) because they develop the necessary proficiencies in research methods in the course offered in the HUC-JIR School of Jewish Nonprofit Management (CS 562 Jewish Social Research: Trends and Analysis). Students in the dual degree may elect an alternative four units within the Price School.

Master of Public Administration/Master of Science in Gerontology (MPA/MS)

The Master of Public Administration/Master of Science in Gerontology (MPA/MS) dual degree offers students interested in management of agencies and institutions the opportunity to gain in-depth knowledge of the administrative and organizational processes and management skills necessary for the effective delivery of services to older persons.

In the MPA/MS dual degree, students spend their first year taking the required courses in the USC Davis School of Gerontology. The research course, GERO 593 Research Methods and the capstone course GERO 555 Integrating Gerontology: A Multidisciplinary Approach, are taken in the USC Davis School of Gerontology. The student begins courses in the Price School of Public Policy during the second semester of the first year.

Two versions of this dual degree are available, one with a general orientation and one with an emphasis on health services administration. Students must apply to both schools and, if accepted to both, participate in a specially designed program combining course work from both schools.

Curriculum requirements for the general focus dual degree are detailed in the USC Davis School of Gerontology section of this catalogue. Students are encouraged to seek advisement as they plan their actual programs, since curriculum changes may occur.

Gerontology Requirements

- GERO 510 Physiology of Development and Aging Units: 4
- GERO 520 Life Span Developmental Psychology Units: 2 or 4
- GERO 530 Life Span Developmental Sociology Units: 4
- GERO 540 Social Policy and Aging Units: 4
- GERO 550 Administration and System Management in Programs for Older Adults Units: 4
- GERO 555 Integrating Gerontology: A Multidisciplinary Approach Units: 4
- GERO 591 Field Practicum Units: 1-12
- GERO 593 Research Methods Units: 4
- Gerontology elective Units: 4

Total units: 40

Public Administration Requirements

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

- PPD 542 Policy and Program Evaluation Units: 4 or
- PPD 557 Modeling and Operations Research Units: 4

- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 546 Capstone in Public Administration Units: 4
- Elective Units: 2

Total units: 28

Additional Requirements

Program Adaptation

For the MS in Gerontology, 12 units of electives are waived as well as GERO 589 Case Studies in Leadership and Change Management because students enrolled in this program have a primary professional focus in public administration. For the Master of Public Administration, 12 units of gerontology courses are used as the substantive specialization.

Master of Public Administration/Master of Social Work (MPA/MSW)

The Master of Public Administration/Master of Social Work (MPA/MSW) dual degree offers students interested in careers as administrators of social agencies the opportunity to prepare for social work while developing the administrative capabilities necessary in the public sector.

The MPA/MSW requires two calendar years of full-time study. The first academic year is devoted to the standard social work first year curriculum. During the second year, the curriculum combines social work and public administration course work. The curriculum for both summers will be in public administration.

Students can enter this program only with the written consent of both schools. Students who apply initially to the USC Suzanne Dworak-Peck School of Social Work must declare their intention to pursue the MPA/MSW dual degree at the time of their application. If admission is approved, such students will be admitted to the dual degree program. Social work students selecting this program are required to select the Community Organization, Planning and Administration concentration in their second year program. Students must complete 82 units (54 in social work and 28 in public administration).

Social Work (54 Units)

Contact the USC Suzanne Dworak-Peck School of Social Work for Social Work requirements.

Note:

**Students who have taken a Price leadership course are not required to take* SOWK 611.

Public Administration (28 Units)

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 540 Public Administration and Society Units: 4

- PPD 541 Public Financial Management and Budgeting Units: 4 or
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

- PPD 546 Capstone in Public Administration Units: 4
- PPD electives Units: 10 **

Note:

***Electives in public administration need to be approved by the graduate adviser in the Price School of Public Policy.*

Master of Public Policy/Juris Doctor (MPP/JD)

The Price School of Public Policy and the USC Gould School of Law offer a dual degree that enables qualified students to earn both a Juris Doctor and a Master of Public Policy in approximately four years of study.

The dual degree allows students to acquire a blend of the analytic skills of public policy and an understanding of legal institutions and processes. This combination of knowledge is well suited for law students who want to affect the policy-making process and craft legislation to aid in the achievement of public policy goals. It is equally appropriate for prospective policy analysts who are interested in law and public policy.

Students must apply to, and be accepted by, both schools. They may be accepted to the dual degree at the time of their acceptance to the law school or at the beginning of their second year of law school. Dual degree students spend the first year of the program completing the required first year of law school. The remaining units of law school courses and the required 36 units of core MPP courses are taken by students in the second through fourth years.

Students are required to complete 114 units of course work, 78 units in the law school and 36 units in the Price School of Public Policy. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honor programs. In addition, the MPP program has a statistics prerequisite. Please see the MPP degree in the Price School of Public Policy section of the catalogue for the requirements.

Required MPP Courses

The required MPP courses are

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- PPD 561a Policy Analysis Practicum Units: 1, 3
- PPD 561b Policy Analysis Practicum Units: 1, 3

Management Elective

4 units of a management elective

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Analytic Elective

and 8 units of an analytic elective

- COMM 650 Survey Construction and Validation Units: 4
- PM 542 Social Network Analysis Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 557 Modeling and Operations Research Units: 4
- PPD 587 Risk Analysis Units: 4
- PPD 617 Urban Demography and Growth Units: 4
- PPD 647 Finance of the Public Sector Units: 4
- PPDE 661 Methods for Equity Analysis Units: 4
- SOCI 621L Quantitative Methods and Statistics II Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Master of Public Policy/Master of Planning (MPP/MPl)

The Master of Public Policy/Master of Planning dual degree program gives students the opportunity to develop a depth of analytic and design skills with which to effectively address the problems of urban communities. The dual degree program normally requires six semesters in residence.

Requirements

Completion of the dual degree requires 72 units.

Prerequisites

Applicants must have a basic competence in descriptive and inferential statistics. This prerequisite may be met in one of two ways: (1) entering students must have passed an undergraduate inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation, and must pass the MPP lab associated with PPD 554 Foundations of Policy Analysis, or (2) take PPD 502 x Statistical Foundations for Public Management and Policy and complete with a grade of "B" or better. If students select to take PPD 502, the units associated with this class may not be used for graduate credit.

Required Courses

- PPD 501a Economics for Policy, Planning and Development Units: 2

Public Policy Courses

- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 554 Foundations of Policy Analysis Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4
- PPD 558 Multivariate Statistical Analysis Units: 4
- PPD 560 Methods for Policy Analysis Units: 4
- Public policy elective Units: 4

Analytic Electives

Units: 6-8*

- COMM 650 Survey Construction and Validation Units: 4
- PM 542 Social Network Analysis Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 557 Modeling and Operations Research Units: 4
- PPD 587 Risk Analysis Units: 4

- PPD 617 Urban Demography and Growth Units: 4 or
- PPD 647 Finance of the Public Sector Units: 4

- PPDE 660 Environmental Policy Design and Analysis Units: 2 *
- PPDE 661 Methods for Equity Analysis Units: 4
- SOCI 621L Quantitative Methods and Statistics II Units: 4
- SSCI 581 Concepts for Spatial Thinking Units: 4

Note:

Students who select PPDE 660 will take an additional 2 units of electives in consultation with the adviser.

One management elective from the following list:

- PPD 541 Public Financial Management and Budgeting Units: 4
- PPD 545 Human Behavior in Public Organizations Units: 4
- PPD 654 Information Technology Management in the Public Sector Units: 4
- PPD 656 Political Management: Theory and Applied Techniques Units: 4
- PPD 662 Intergovernmental Management: State Perspective Units: 4
- PPD 673 Strategic Planning in the Public Sector Units: 4
- PPD 675 Nonprofit Management and Leadership Units: 4
- PPD 690 Alternative Dispute Resolution Units: 4
- PPDE 645 Financial Management of Nonprofit Organizations Units: 4

Planning

- PPD 524 Planning Theory Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 529 Legal Environment of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2

Concentration electives in planning from the Price School

(includes 4 units of methodology to be selected with adviser from the following list)

- PPD 612 Research and Analytical Techniques Units: 4
- PPD 616 Participatory Methods in Planning and Policy Units: 4
- PPD 617 Urban Demography and Growth Units: 4
- PPD 627 Design Skills for Urban Planners Units: 4
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Total units: 12

Total units: 22

Additional Requirements

Electives

Students are required to take 6-8* units of electives from the curriculum offered by the university. Non-Price School courses may be selected by the students with the approval of an academic adviser.

Practicum/Planning Studios

After finishing the core courses of both programs, students are required to take 8 units in practicum/planning studios: 4 units from the public policy program (PPD 561a, PPD 561b) and 4 units from the planning program (PPD 531).

Comprehensive Exam and Internship

Dual degree students, like all other MPl students, must take a comprehensive examination and fulfill the internship requirement.

Master of Real Estate Development/Juris Doctor (MRED/JD)

The Juris Doctor/Master of Real Estate Development dual degree program provides the opportunity for in-depth study of legal issues and real estate development. The increasingly regulatory environment developers work within demands that professionals in the real estate industry have a strong understanding of the legal system. Lawyers who plan to specialize in real estate law will benefit from a thorough understanding of the development process, including financial, planning, marketing and design issues. Application must be made to both the USC Gould School of Law and the USC Price School of Public Policy. This program normally requires three years (including one summer) of full-time study in residence to complete.

Requirements for completion of the dual degree program are 112 units, including 78 units in law and 34 units in planning and development. To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs.

Law School

- LAW 502 Procedure I Units: 4
- LAW 503 Contracts Units: 2, 3, 4
- LAW 504 Criminal Law Units: 3
- LAW 505 Legal Profession Units: 2, 3, 4
- LAW 507 Property Units: 4
- LAW 508 Constitutional Law: Structure Units: 2, 3, 4, 5
- LAW 509 Torts I Units: 4
- LAW 512 Law, Language and Values Units: 2, 3, 4
- LAW 515 Legal Research, Writing and Advocacy I Units: 2, 3
- LAW 516 Legal Research, Writing and Advocacy II Units: 2
- LAW electives including fulfillment of the upper division writing requirement and skills course Units: 45

Real Estate Development

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4
- Elective from the Price School of Public Policy Units: 2

Additional Requirements

Students are required to complete a comprehensive examination administered by faculty members from both the law school and the Price School of Public Policy.

Students are required to complete a comprehensive examination administered by faculty members from both the law school and the Price School of Public Policy.

Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Master of Real Estate Development/Master of Business Administration (MRED/MBA)

The Master of Real Estate Development/Master of Business Administration dual degree program enables students to expand their skills in planning, land development, marketing, decision sciences, accounting, management, finance and economics. The program is targeted for students who have a clear career goal of becoming real estate developers but who lack formal training in business. The program normally requires two years (including summers) of full-time study in residence to complete.

Requirements

A total of 82 units is required. Required courses include: all required courses in an MBA program; FBE 565 Economics of Urban Land Use: Feasibility Studies (3 units); FBE 588 Advanced Real Estate Law (3 units); graduate business electives sufficient to bring the total units completed in the USC Marshall School of Business to at least 48; and Policy, Planning, and Development courses (34 units). Dual degree students may not count courses taken outside the USC Marshall School of Business toward the 48 units. Students must have an approved laptop computer as required by instructors and must demonstrate calculator and spreadsheet skills.

Real Estate Development

- PPD 500 Intersectoral Leadership Units: 2
- RED 509 Market Analysis for Real Estate Units: 4
- RED 542 Finance of Real Estate Development Units: 3
- RED 544 Real Estate Capital Markets Units: 2
- RED 546 Applications of Real Estate Finance to Problems of Development Units: 3
- RED 547 Project Management and Construction Units: 2
- RED 551 The Approval Process Units: 4
- RED 573 Design History and Criticism Units: 2
- RED 574 Building Typologies Units: 2
- RED 575L Community Design and Site Planning Units: 2, 3, 4
- RED 598 Real Estate Product Development Units: 2, 3, 4
- Elective from the Price School of Public Policy Units: 4

Additional Requirements

Comprehensive Examination: Students are required to complete a comprehensive examination administered by faculty members from both the Marshall School of Business and the Price School of Public Policy.

Doctoral Degree

Policy, Planning, and Development (DPPD)

The USC Price Doctor of Policy, Planning, and Development offers established professionals in the public, private and nonprofit sectors a high level academic experience to enhance their leadership capabilities, to develop their capacities in social change and innovation, and to extend their knowledge of policy, administration, planning and development. Through their interaction with Price faculty and advanced practitioners, including members of their cohort, participants in the program will become more adaptive agents of change as they address the most complex and challenging governance problems of our times.

The goals of the DPPD are: to create a unique educational environment that will forge advanced professionals into a cadre for effective social, political and economic change; to develop professionals who can apply new policy, planning and administrative tools to design and implement new and integrative public policies; to establish and impart a new set of problem-solving paradigms for examining and altering decision making; and to equip professionals with sophisticated analytical tools and a sharper global and cultural awareness.

The DPPD offers a rigorous curriculum, an applied approach and an interdisciplinary course of study that provides knowledge, practice-based skills, and research capabilities for today's leaders. Moreover, the program prepares advanced professionals to provide change leadership in social innovation, particularly in urban communities. Doctoral candidates will specialize in a particular domain, one often cutting across disciplinary boundaries, that enables students to align their research and doctoral thesis with their professional and intellectual interests.

Applicants are expected to hold a master's degree in planning, public policy, public administration, leadership, real estate development or a closely related field. Applicants without master's degrees in other fields will be expected to complete foundation courses prior to entering the degree core courses in consultation with the appropriate degree director. Those admitted without advanced standing complete a total of 60 units.

Prerequisite

Applicants are required to have a basic competence in descriptive and inferential statistics. This prerequisite may be met in one of two ways: (1) entering students must have passed a college level inferential statistics class, with a grade of "B" or better, at an approved university within three years of matriculation or (2) take PPD 502 Statistical Foundations for Public Management and Policy and complete with a grade of "B" or better. If students select to take PPD 502, the units associated with this class may not be used toward the DPPD degree.

Professional Advisory Committee

By the end of the second year of study, the student will form a three-member Professional Advisory Committee consisting of three persons. The chair of the committee will be a full-time USC Price faculty member (tenured, tenure-track or full-time teaching or research faculty member). However, other committee members may include either faculty or professionals in the field of the student's area of interest. This committee will oversee the student's program to its conclusion. One member of the committee needs to be a tenure-track or tenured professor at USC.

Curriculum Requirements

The DPPD program is administered by the Price School of Public Policy. A minimum of 60 units of course work beyond the baccalaureate is required for a doctoral degree including research courses and 4 units of doctoral dissertation. A minimum of 36 units of course work beyond the first graduate degree, exclusive of dissertation units, is required for doctoral degree students admitted with Advanced Standing. If a student enters with a related master's degree, he or she may be admitted with advanced standing and complete a minimum of 40 units.

Foundation Courses (20 units)

Up to 20 units of foundation courses are required for students admitted without advanced standing. These courses may be taken from the school's master's degree programs or, with prior approval, from other USC graduate programs.

Required Courses

Students are required to complete 16 units of required core courses, 4 units of methodology, 16 units of field coursework, and 4 units of professional dissertation (PLUS 694a PLUS 694b PLUS 694c PLUS 694d PLUS 694z).

Core Courses (16 units)

- PLUS 650 Public Policy and Globalization Units: 4
- PLUS 651 Applied Research Design and Inquiry Units: 4
- PLUS 652 Place, Institutions, and Governance Units: 4
- PLUS 653 Leading Change and Innovation in Urban Communities Units: 4

Methodology Course (4 units)

Students select one 4-unit methods course, to be determined and approved by the student's professional advisory committee.

Field of Study (16 units)

In consultation with their faculty advisor and Professional Advisory Committee, students will craft the field of study and identify associated courses related to their professional area of interest. The field may or may not reflect standard academic boundaries and we expect most fields would cut across traditional disciplinary boundaries. Students should take advantage of USC's resources in developing the field, especially taking into consideration the relationship of practice to theory. The field of study should be seen as providing the tools for effective practice in the student's area of interest. Sixteen units of course work are required for the field of study, of which 8 may be taken outside the Price School of Public Policy. Four units of the 16 units of field courses should be directed research with the student's Professional Advisory Committee Chair, to prepare for writing the professional dissertation.

Qualifying Exam

Students will hold a formal defense of their dissertation topic at the end of year three as the qualifying examination. Upon successful completion, students advance to doctoral candidacy and enroll in PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z.

Dissertation (4 units)

The professional dissertation is a research-based study of a policy issue, an administrative process, or other element of professional practice. Students are expected to enroll in PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z in fall and spring semesters for a minimum of four units, typically with their cohort, once they have defended a professional dissertation proposal. PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z will be taken in year four to satisfy this requirement.

Each professional dissertation should be designed to present an innovative or original contribution to the world of practice, and is expected to be a substantial work that satisfies the rigorous standards of academic research and creativity. It is likely that dissertations will cut across various fields and disciplines. The parameters of the professional dissertation are intentionally left open, allowing the project to be produced as solely text, or text in conjunction with film, computer program, design or other multimedia format.

The dissertation is supervised by the student's Professional Advisory Committee. Students must then maintain continuous registration in the PLUS 694a, PLUS 694b, PLUS 694c, PLUS 694d and PLUS 694z series until completion of the professional dissertation. Upon completion of an approved draft of the dissertation, students will present their findings in an open session but the Professional Advisory Committee will be the sole evaluator.

General Requirements

The DPPD is administered by the Price School of Public Policy. At least 24 units must be fulfilled in residence at USC. The total length of study must not exceed six academic years. Policies regarding time limits, leaves of absence, scholarship standing, academic warning

and other issues not directly addressed here are consistent with those of the Graduate School.

Public Policy and Management (PhD)

Doctoral Degrees

The Price School offers two PhD programs. Both the Doctor of Philosophy (PhD) in Public Policy and Management and the Doctor of Philosophy (PhD) in Urban Planning and Development degree programs are under the jurisdiction of the Graduate School. Students should also refer to Graduate and Professional Education and The Graduate School sections of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by The Graduate School.

The PhD programs in the Price School both emphasize rigorous programs of advanced study and research, stressing qualitative or quantitative analysis and the theoretical foundations of their field of study. The programs are designed to provide students with the opportunity to develop their own specialization and expertise in either major field — public policy and management or urban planning and development — while also offering them a breadth of knowledge in an especially rich intellectual environment.

Curriculum Requirements

The Doctor of Philosophy in Public Policy and Management and the Doctor of Philosophy in Urban Planning and Development are administered by the doctoral committee of the school. The PhD program in Public Policy and Management requires the completion of 64 units of course work, comprising the following elements: master's core in a substantive field (15–17 units), theoretical core (11–12 units), methodology (10–12 units), field/specialization courses (12 units), directed research (4 units), teaching seminar (2 units), research seminar (4 units) and dissertation (4 units minimum). The PhD program in Urban Planning and Development requires the completion of 64 units of course work, comprising the following elements: master's core (14–16 units), doctoral core (8 units), methodology (10–12 units), field/specialization courses (16 units), directed research (4 units), teaching seminar (2 units), research seminar (4 units) and dissertation (4 units minimum).

PhD, Public Policy and Management

Core Curriculum

Theoretical Core (11-12 Units)*

- PPD 711 Theoretical Foundation of Public Management Units: 4
- PPD 712 Seminar in Public Policy Units: 4
- PPD 715 Political Economy and Institutional Analysis Units: 4 *

Note:

**Students may petition to substitute PPD 715 with a different theory course derived from a discipline. Examples include MOR 602, ECON 500, etc.*

Methodology (10-12 Units)

- PPD 706 Paradigms of Research and the Design of Inquiry Units: 4

- PPD 558 Multivariate Statistical Analysis Units: 4 or
- ECON 513 Practice of Econometrics Units: 4

- One additional methods course selected with qualifying exam committee approval Units: 2-4

Field Courses (12 units)

Students select 12 units of field courses which can be used to develop disciplinary expertise related to specialization interest or additional methodological expertise. Fields are developed with qualifying exam committee approval, can include any combination of the Price School and outside courses and are unique to each student.

Directed Research (2, 2; 4 units total)

Students will enroll in four units of directed research during their first year (2 units fall and 2 units spring). This will ensure they get involved in a research experience during their first year with faculty mentors.

- PPD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Research Seminar (4 units)

Students will take PPD 710a, PPD 710b (2 units each, 4 total units), the Price School research seminar course.

- PPD 710a Research Seminar Units: 2
- PPD 710b Research Seminar Units: 2

Teaching Seminar (2 units)

Students will take two semesters of the teaching seminar, PPD 700 (2 units).

Students entering the doctoral program without a relevant master's degree in public administration or public policy or a related field will be required to complete prerequisites (15–17 units) relevant to their program.

- PPD 700 Teaching Seminar Units: 2

For the PhD in Public Policy and Management, possible courses include:

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 540 Public Administration and Society Units: 4
- PPD 542 Policy and Program Evaluation Units: 4
- PPD 555 Public Policy Formulation and Implementation Units: 4

Additional Requirements

Admission with Advanced Standing

Students entering the doctoral program with a master's degree from an accredited institution in public management/administration, public policy, planning, or urban development or related field may be admitted with advanced standing to either PhD program. In the Public Policy and Management program, students must complete a minimum of 39–41 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 43–45 semester units. In the Urban Planning and Development program, students must complete a minimum of 40–42 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 44–46 semester units. Additional course work may be required if deemed necessary by the student's faculty following the screening examination.

A maximum of 6 units of transfer credit may be applied toward a doctoral degree with advanced standing. Only course work not used to complete the master's degree described above is available for transfer credit. No exceptions are allowed.

Qualifying Exam Committee

Students will form an initial qualifying exam committee by the end of the first fall semester, which officially oversees the development of the student's academic program through the qualifying examination. Five tenure or tenure track committee members are designated to provide guidance in the field developed by the student. A minimum of three members, including at least one tenured member, must be from among the faculty participating in this Doctor of Philosophy program, and at least one member must be from outside the Price School of Public Policy. Students should refer to the Graduate School section regarding the qualifying exam committee and the outside member. The complete qualifying exam committee must be in place no later than the third semester.

Screening Procedures

Students must have a 3.3 overall GPA in first-year courses to continue in the program.

Work Plans

At the end of each spring semester, the student submits an academic work plan for the coming year to his or her qualifying exam committee chair. The plan should include courses, degree progress, seminar attendance and what was learned from those, and a research plan that articulates the major research questions being explored. At the conclusion of year one, the chair reviews and approves the work plan and at the end of year two, the chair reviews the work plan and the second year paper.

Qualifying Examination

The qualifying exam committee prepares a comprehensive written examination covering the fields of study. Following completion of the written portion, the entire committee conducts an oral examination of the student, focusing on material both complementary and supplementary to the written examination but relevant to the field and overall program selected by the student. Upon passing both portions of the qualifying examination, the student becomes a candidate for the Doctor of Philosophy degree. The qualifying exam will occur in the fall of year three.

Proposal Defense

Students are expected to have a proposal defense within one year of passing the qualifying exam.

Doctoral Dissertation

The dissertation is based on original research. The research is supervised by a dissertation committee of three or more regular USC faculty, at least one of whom must be from outside the Price School of Public Policy. A two-semester minimum registration in PPD 794a, PPD 794b, PPD 794c, PPD 794d, PPD 794z is required of all candidates. Students must maintain continuous registration until completion of the dissertation.

Defense of the Dissertation

Oral defense of the dissertation before the dissertation committee is usually made on a preliminary draft.

Format for Theses and Dissertations

All theses and dissertations submitted in fulfillment of requirements for graduate degrees must conform to university regulations with regard to format and method of preparation. Regulations for Format and Presentation of Theses and Dissertations is available from the Graduate School, Grace Ford Salvatori 315, or online at the Graduate School Website.

General Requirements

Refer to the Graduate School section in this catalogue for policies regarding time limits, leave of absence, scholarship standing and probation.

Urban Planning and Development (PhD)

Doctoral Degrees

The Price School offers two PhD programs. Both the Doctor of Philosophy (PhD) in Public Policy and Management and the Doctor of Philosophy (PhD) in Urban Planning and Development degree programs are under the jurisdiction of the Graduate School. Students should also refer to Graduate and Professional Education and The Graduate School sections of this catalogue for general regulations. All courses applied toward the degrees must be courses accepted by The Graduate School.

The PhD programs in the Price School both emphasize rigorous programs of advanced study and research, stressing qualitative or quantitative analysis and the theoretical foundations of their field of study. The programs are designed to provide students with the opportunity to develop their own specialization and expertise in either major field — public policy and management or urban planning and development — while also offering them a breadth of knowledge in an especially rich intellectual environment.

Curriculum Requirements

The Doctor of Philosophy in Public Policy and Management and the Doctor of Philosophy in Urban Planning and Development are administered by the doctoral committee of the school. The PhD program in Public Policy and Management requires the completion of 64 units of course work, comprising the following elements: master's core in a substantive field (15–17 units), theoretical core (11–12 units), methodology (10–12 units), field/specialization courses (12 units), directed research (4 units), teaching seminar (2 units), research seminar (4 units) and dissertation (4 units minimum). The PhD program in Urban Planning and Development requires the completion of 64 units of course work, comprising the following elements: master's core (14–16 units), doctoral core (8 units), methodology (10–12 units), field/specialization courses (16 units), directed research (4 units), teaching seminar (2 units), research seminar (4 units) and dissertation (4 units minimum).

PhD, Urban Planning and Development

Core Curriculum

Theoretical Core (8 Units)

- PPD 713 Advanced Planning Theory Units: 4
- PPD 714 Advanced Urban Development Units: 4

Methodology (10-12 Units)

- PPD 706 Paradigms of Research and the Design of Inquiry Units: 4
- Two additional methods courses selected with qualifying exam committee approval Units: 6-8

Specialized Field Courses (16 units)

Students take a minimum of four courses to develop their specialized area of study. Courses may be taken in the Price School or other USC units. Students, working with their qualifying exam committees, have considerable flexibility in forming specializations.

Directed Research (2, 2; 4 units total)

Students will enroll in four units of directed research during their first year (2 units fall and 2 units spring). This will ensure they get involved in a research experience during their first year with faculty mentors.

- PPD 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Research Seminar (4 units)

Students will take PPD 710a, PPD 710b (2 units each, 4 total units), the Price School research seminar course.

- PPD 710a Research Seminar Units: 2
- PPD 710b Research Seminar Units: 2

Teaching Seminar (2 units)

Students will take two semesters of the teaching seminar, PPD 700 (2 units).

Students entering the doctoral program without a relevant master's degree in urban planning or a related field will be required to complete prerequisites (16–18 units) relevant to their program.

- PPD 700 Teaching Seminar Units: 2

For the PhD in Urban Planning and Development, possible courses include:

- PPD 500 Intersectoral Leadership Units: 2
- PPD 501a Economics for Policy, Planning and Development Units: 2
- PPD 501b Economics for Policy, Planning and Development Units: 2
- PPD 524 Planning Theory Units: 2
- PPD 525 Statistics and Arguing from Data Units: 2
- PPD 526 Comparative International Development Units: 2
- PPD 527 The Social Context of Planning Units: 2
- PPD 533 Planning History and Urban Form Units: 2
- PPD 634 Institutional and Policy Issues in Transportation Units: 4

Additional Requirements

Admission with Advanced Standing

Students entering the doctoral program with a master's degree from an accredited institution in public management/administration, public policy, planning, or urban development or related field may

be admitted with advanced standing to either PhD program. In the Public Policy and Management program, students must complete a minimum of 39–41 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 43–45 semester units. In the Urban Planning and Development program, students must complete a minimum of 40–42 units of doctoral classes beyond that graduate degree, exclusive of PPD 794a Doctoral Dissertation, PPD 794b Doctoral Dissertation, PPD 794c Doctoral Dissertation, PPD 794d Doctoral Dissertation, PPD 794z Doctoral Dissertation units, for a minimum of 44–46 semester units. Additional course work may be required if deemed necessary by the student's faculty following the screening examination.

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Format for Theses and Dissertations

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General Requirements

Refer to the Graduate School section in this catalogue for policies regarding time limits, leave of absence, scholarship standing and probation.

Aerospace Studies

Physical Education Building 112
(213) 740-2670

Administration

Sean C. Marler, MEd, *Lieutenant Colonel, USAF*

Faculty

Professor: Sean C. Marler, MEd, *(Lieutenant Colonel, USAF)*
Assistant Professors: Casey Whitson, BS, *(Captain, USAF)*; Matthew Stewart, BS, *(Captain, USAF)*

The Department of Aerospace Studies offers a three to four-year program of instruction leading directly to commissioning as an officer in the United States Air Force. To obtain a commission, qualified students must pass an aptitude test, physical fitness assessment and a medical examination; complete the aerospace studies program of instruction and concurrently receive an undergraduate or graduate degree. Credits earned in aerospace studies courses may be counted as electives in some degree programs. Those students who qualify for and are selected to enter Air Force pilot training will be given flight instruction upon graduation. Qualified applicants may compete for a variety of Air Force scholarships, some of which pay full tuition, books and associated fees. USC also offers a matching $4,000 scholarship per year for all AFROTC scholarship recipients. See the Tuition and Fees page for additional scholarship information.

Program Requirements

Academic Year Program

This program consists of up to eight semesters of aerospace studies courses (AEST 100a, AEST 100b through AEST 400a, AEST 400b) plus a four-week summer field training course. Students enroll in the first four semesters of aerospace studies (AEST 100a, AEST 100b and AEST 200a, AEST 200b) in the same manner as in any other course of instruction at USC. Students will be considered on a competitive basis to attend the summer field training course and enroll in the final four semesters (AEST 300a, AEST 300b and AEST 400a, AEST 400b). The program can be tailored for students who join after the beginning of their freshman year.

Summer Training Courses

Field training is offered during the summer at Maxwell Air Force Base in Montgomery, Alabama. Students participate in four weeks of intensive training, normally between their sophomore and junior years.

The major areas of study in the field training course include junior officer leadership training, career orientation, survival training, weapons training, physical training, base functions and the Air Force environment.

Additional summer training courses at locations around the world are available to interested students to build leadership and human relations skills, develop cultural and language proficiency, provide a general orientation in Air Force specialties and motivate cadets toward an Air Force career. The training opportunities vary each year but may include cultural and language immersion programs, engineering research and apprenticeships, and orientation programs related to other air, space and cyberspace specialties.

Military Science

Physical Education Building 110
(213) 740-4026

Administration

Justin M. Chezem *(Lieutenant Colonel, U.S. Army)*

Faculty

Professor/Commander: Justin M. Chezem *(Lieutenant Colonel, U.S. Army)*

The Department of Military Science provides professional training for students leading to a commission, upon graduation, in the Active Army, Army Reserve or the Army National Guard. Through the Army Reserve Officers' Training Corps Program (AROTC), scholarship benefits include full tuition, fees and book stipends. Scholarships are also available for Guaranteed Reserve Forces Duty. Military science instruction is focused on hands-on leadership development and the practical application of military skills needed to produce America's future leaders. Additionally, military science courses count as electives in many degree programs. MS 101 and MS 102 are open to students who are not enrolled in the program, but have an interest in leadership, management, military history or military training. Enrollment in the Army ROTC program is open to qualified full-time students.

Scholarship Program

The majority of Army ROTC cadets attend USC on Army scholarships. All Army scholarships are merit-based and are not dependent on individual financial need.

Scholarships are available for both Active Duty and Guaranteed Reserve Forces Duty. Scholarships are awarded on a competitive basis to qualified applicants for two-, three- or four-year periods depending on the applicant's academic level and program of study. Scholarship cadets receive benefits that cover full tuition, fees and a book stipend, and are available to all majors. See the Tuition and Fees page for additional scholarship information.

Enrolled Cadets

Contracted scholarship and non-scholarship cadets can receive a monthly stipend subsistence allowance, based on academic class. Contracted scholarship cadets receive an annual book allowance. All enrolled scholarship and non-scholarship cadets receive uniforms and military science textbooks from the department.

Four-Year Program

The four-year military science curriculum is designed to be part of the student's undergraduate degree program. During the freshman and sophomore years, students receive introductory instruction in the theory of warfare, military history, military leadership and basic military skills. Cadets participate during their junior and senior years in a professional development program with instruction in leadership, management, military justice and advanced military skills.

Three-Year Program

The three-year program is available to qualified sophomore undergraduate students. Students may compress the first two years of the ROTC program by attending two ROTC classes per semester during their sophomore year. Scholarships are available, on a competitive basis, for students with three years remaining toward the completion of their undergraduate degree. Transfer students who meet the same criteria are also eligible for scholarships. Upon acceptance, students then follow the military science program described for the four-year program.

Two-Year Program

The two-year program is available to qualified junior and senior undergraduate students and graduate students who have two years of academic work remaining. Veterans who have achieved junior academic status and meet enrollment criteria are also eligible for this program. Students may receive credit for the first two years of the ROTC program by attending the ROTC Leaders Training Course or by previous junior ROTC participation. Transfer students who meet

the same criteria are also eligible for scholarships. Upon acceptance, students then follow the military science program described for junior and senior cadets in the four-year program.

Field Training

Several military training programs are available to qualified cadets. A five-week paid Leaders Training Course at Fort Knox, Kentucky, qualifies students for the two-year program. All cadets attend a 32-day paid ROTC Leadership Development and Assessment Course at Fort Lewis, Washington, after their junior year. This course provides practical application of advanced military and leadership skills required for commissioning.

Adventure Training

Qualified candidates may also receive training in Airborne school, Air Assault school (rappelling from helicopters), Cadet Troop Leadership Training (training in Army units around the world), Northern Warfare school (Arctic survival) and Mountain Warfare school.

Naval Science

Physical Education Building (PED) 101
(213) 740-2663

Administration

Christopher J. Michelsen BA, MS *(Colonel, U.S. Marine Corps), Commanding Officer*

Faculty

Professor: Christopher J. Michelsen, BA, MS *(Colonel, U.S. Marine Corps)*
Associate Professor: Julito Antolin, BS, MA *(Commander, U.S. Navy)*
Assistant Professors: Evan A. Barnes, BS *(Captain, U.S. Marine Corps)*; Matthew Cox, MS *(Lieutenant, U.S. Navy)*; Grant E. Entsminger, BS *(Lieutenant, U.S. Navy)*; Robert G Schultz, BS *(Lieutenant, U.S. Navy)*

The Department of Naval Science provides professional training for undergraduate students (midshipmen) leading to a commission, upon graduation, in the United States Navy or the United States Marine Corps. Through the Naval Reserve Officers Training Corps Program (NROTC), scholarship students receive full tuition, fees, book stipend and $250–$400 per month subsistence allowance. The university also provides an additional automatic scholarship of $4,000 per year for each NROTC scholarship recipient. Non-scholarship students may apply to participate as members of the midshipman battalion with limited financial assistance, earning a commission upon completion of the baccalaureate degree. Because of the rapid development of highly technical ship systems, aviation and other military equipment, the majority of Navy scholarships are awarded to science and engineering majors; however, limited Navy scholarships and all Marine Corps scholarships are currently available to students pursuing any major offered by the university, as long as they complete basic technical requirements. In addition to university requirements, midshipmen must complete 15–22 units of naval science courses, a physical fitness test and three active duty summer training sessions, each about three to six weeks long.

All naval science courses are open to students who are not in the program but have an interest in the Navy and Marine Corps related fields, such as engineering, navigation, amphibious warfare, naval operations, history and leadership/management.

Program Requirements

Scholarship Program

The majority of naval science students attend the university on Navy or Marine Corps scholarships. Scholarships are awarded primarily on a four-year basis to high school seniors selected in nationwide competition. Two- and three-year scholarship programs are also available with a similar selection process. In addition to tuition and fees, books and uniforms, students receive subsistence allowance of $250–$400 per month. Navy Option midshipmen later will be required upon graduation to serve a minimum of five years of active military service. Additional requirements may be required for specific job assignments. The NROTC program only commissions Naval officers into the following communities: Aviation (pilot or naval flight officer), Submarine Warfare, Surface Warfare, Special Operations (Explosive Ordinance Disposal), Special Warfare (SEALs) or Medical/Dental Corps.

College Program

Students may join NROTC as non-scholarship "College Program" students. These students receive uniforms and participate as regular midshipmen in the program but do not receive scholarship or stipend funds or attend summer training. College Program students must complete and be selected for a two- or three-year scholarship or be placed in an "Advanced Standing" status in order to continue in the program and receive an active duty commission.

Marine Corps Option

The Marine Corps option prepares midshipmen for service as second lieutenants in the United States Marine Corps. Marine Option Midshipmen must successfully complete Officer Candidate School (OCS) in order to earn their commission. This intensive 6-week course is completed during their final summer training session. Marine Corps Option students also participate, on a limited basis, in local field training exercises during the academic year. Marine Corps Option midshipmen will be required upon graduation to serve at least four years on active duty.

Requirements for Commissioning

Students must meet USC degree requirements in their chosen fields and complete the prescribed naval science courses and Professional Laboratory (PROLAB). In addition, Navy scholarship students must include in their programs MATH 125 Calculus I and MATH 126 Calculus II and PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics and PHYS 152L Fundamentals of Physics II: Electricity and Magnetism; two courses of English, one course in American history/national security policy and one course in language or culture.

For more detailed program information, go to the USC NROTC Website at usc.edu/dept/nrotc.

USC Suzanne Dworak-Peck School of Social Work

The USC Suzanne Dworak-Peck School of Social Work offers programs of study leading to the Master of Social Work (MSW) and Doctor of Philosophy (PhD) in social work. These programs provide the student a broad background of knowledge about health and welfare problems, the meaning of programs past and present that have been established to meet them, and current issues and policy trends in the field.

At the same time, the student is helped to become a professional person through development of a philosophy in harmony with that of the profession: to prevent and mitigate severe social problems that challenge the viability of culturally diverse and complex urban settings; to build on the strengths of individuals, families and communities; and to lead the scholarly search for innovative, efficacious and just solutions.

Montgomery Ross Fisher
Building 214
Main: (213) 740-2711
Admissions: (213) 740-2013
FAX: (213) 740-0789
Email: sswadm@usc.edu
usc.edu/socialwork

Administration

Marilyn L. Flynn, PhD, *Dean, 2U Endowed Chair in Educational Innovation and Social Work*
R. Paul Maiden, PhD, *Executive Vice Dean, Academic and Student Affairs*
Janine Braun, EMBA, MEd, *Assistant Dean, Admissions and Scholarship Programs*
Carl Castro, PhD, *Director, Center for Innovation and Research on Veterans and Military Families*
Monica Ellis, MA, *Assistant Dean, Student Services*
Carmen Frierson, *Vice Dean, Administration*
John Gaspari, MSW, *Executive Director, USC Center for Work and Family Life*
Anthony Hassan, EdD, *Director, Center for Innovation and Research on Veterans and Military Families*
Dan Hester, *Departments Chief of Staff*
Michael Hurlburt, PhD, *Director, PhD Program*
Charles Kaplan, PhD, *Associate Dean, Research*
Jehoon Lee, PhD, *Director, Center for Asian-Pacific Leadership*
Carrie Lew, EdD, *Assistant Dean, Career and Professional Development*
Cindy Monticue, MA, *Director, Marketing Communications*
Michàlle Mor Barak, PhD, *Director, PhD Program*
Ellen Olshansky, PhD, RN, *Chair, Nursing Department*
Sharon O'Neill, JD, DNP, *Vice Chair, Nursing Department*
Scarlett Powers Osterling, MSW, *Senior Associate Dean, Advancement*
David Schonfeld, MD, *Director, National Center on School Crisis and Bereavement*
Cherry Short, MSc, *Associate Dean, Global and Community Initiatives*
Wendy Smith, PhD, *Associate Dean, Curriculum Planning and Assessment*
Marvin Southard, DSW, *Director, DSW Program and Cohen Veterans Clinic*
Haluk Soydan, PhD, *Associate Dean, Faculty Affairs*
Donna Toulmin, JD, *Director, USC Center on Child Welfare*
Dorian Traube, PhD, *Associate Dean, Faculty Affairs*
William Vega, PhD, *Executive Director, USC Roybal Institute on Aging*
Joshua Watson, EdD, *Director, Student Services*
Eugenia Weiss, PsyD, *Director, Orange County Academic Center*
June Wiley, PhD, *Director, Virtual Academic Center*
Leslie Wind, PhD, *Associate Dean for Academic Programs*
Terris Wolff, MBA, MSBA, *Chief Technology Officer, Information Technology*
Marleen Wong, PhD, *Senior Associate Dean, Field Education*

Faculty

Chinese-American Golden Age Association/Dr. Frances Wu Endowed Chair: Iris Chi, DSW
Dean's Professor of Social Work and Preventive Medicine: Hortensia Amaro, PhD
Margaret W. Driscoll/Louise M. Clevenger Professorship in Social Policy and Administration: Bruce Jansson, PhD*
Dean's Professor of Social Work and Business: Michàlle E. Mor Barak, PhD*
Frances L. and Albert G. Feldman Endowed Professorship in Social Policy and Health: Lawrence Palinkas, PhD
Ernest P. Larson Professor of Health, Ethnicity and Poverty: Kathleen Ell, DSW
Frances G. Larson Professor of Social Work Research: John Brekke, PhD*
John Milner Professor of Child Welfare: Jacquelyn McCroskey, DSW*
Provost's Professor of Social Work, Preventive Medicine, Psychiatry, Family Medicine and Gerontology: William Vega, PhD
Cleofas and Victor Ramirez Professor of Practice, Policy, Research and Advocacy for the Latino Population: William Vega, PhD
David Lawrence Stein/Violet Goldberg Sachs Professor of Mental Health: Marleen Wong, PhD
Richard M. and Ann L. Thor Professor in Urban Social Development: Suzanne Wenzel, PhD
Lenore Stein-Wood and Williams S. Wood Professor of School Behavioral Health: Ron Avi Astor, PhD
2U Endowed Chair in Educational Innovation and Social Work: Marilyn Flynn, PhD
Professors: Hortensia Amaro, PhD; Ron Avi Astor, PhD; John Brekke, PhD*; Iris Chi, DSW; Kathleen Ell, DSW; Marilyn L. Flynn, PhD; Bruce Jansson, PhD*; R. Paul Maiden, PhD; Jacquelyn McCroskey, DSW*; Michàlle E. Mor Barak, PhD*; Ellen Olshansky, PhD; Lawrence Palinkas, PhD; Penelope K. Trickett, PhD*; Avelardo Valdez, PhD; William Vega, PhD; Wynne Waugaman, PhD; Suzanne Wenzel, PhD
Associate Professors: Maria Aranda, PhD*; Concepcion Barrio, PhD; Devon Brooks, PhD; Julie Cederbaum, PhD; Alice Cepeda, PhD; Erick Guerrero, PhD; Michael Hurlburt, PhD; Maryalice Jordan- Marsh, PhD; Helen Land, PhD*; Karen Lincoln, PhD; Ferol Mennen, DSW*; Emily Putnam-Hornstein, PhD; Eric Rice, PhD; Dorian Traube, PhD; Shinyi Wu, PhD; Ann Marie Yamada, PhD
Assistant Professors: Carl Castro, PhD; Robynn Cox, PhD; Tamika Gilreath, PhD; Jeremy Goldbach, PhD; Benjamin Henwood, PhD; Jungeun Olivia Lee, PhD
Clinical Professors: Eileen Abel, PhD; Rafael Angulo, MSW; Margarita Artavia, MSW; Judith Axonovitz, MSW; Ralph Fertig, JD; Stephen Hydon, MSW; Anne Katz, PhD; Murali Nair, PhD; Doni Whitsett, PhD; Marleen Wong, PhD
Clinical Associate Professors: Jane Allgood, PhD; Estela Andujo, MSW; Juan Araque, PhD; Karra Bikson, PhD; David Bringhurst, PhD; Ruth Cislowski, MSW; Tory Cox, MSW; Jill Davis, MSW; Laurel Davis, MSW; Annalisa Enrile, PhD; Kimberly Finney, PhD; Terence Fitzgerald, PhD; Amber Ford, MSW; Pamela Franzwa, MSW; Conrad Fuentes, MSW; Stephanie George; Kim Goodman, MSW; Bianca Harper, DSW; Mary Beth Harris, PhD; Suh Chen Hsiao, MSW; Maria Hu-Cordova, MSW; Nadia Islam, PhD; Dawn Joosten, PhD; Seth Kurzban, PhD; Terri Lee, MSW; Shelley Levin, PhD; Jennifer Lewis, PhD; Omar Lopez, MSW; Martha Lyon-Levine, PhD; Shannon Mayeda, PhD; Renee Michelsen, MSS; Sam Mistrano, JD; Sharon O'Neill, JD, DNP; Christina Paddock, MSW; Tyan Parker Dominguez, PhD; Elizabeth Phillips, PhD; Elizabeth Pringle-Hornsby, MSW; Amber Ramirez, MSW; Michael Rank, PhD; Russana Rowles, MSW; Erik Schott, EdD; Michal Sela-Amit, PhD; Renee Smith-Maddox, PhD; Candace Smith, EdD; Wendy Smith, PhD; Fred Stone, PhD; Ruth Supranovich, MSW; Vivien Villaverde, MSW; Benita Walton-Moss, NP; Eugenia Weiss, PsyD; Ruth White, PhD; June Wiley, PhD; Leslie Wind, PhD; Deborah

Winters, MSW; Lisa Wobbe-Veit, MSW; Darlene Woo, MSW; Beverly Younger, PhD; Kristen Zaleski, PhD
Clinical Assistant Professors: Rosamaria Alamo, MSW; Nikki Cavalier, MSW; Susan Edwards, MSW; Theresa Granger, PhD, ARNP; Melissa Singh, MSW; Michelle Zappas, DNP
Senior Lecturers: Steven Bush, MSW; Sarah Caliboso-Soto, MSW; Kerry Doyle, MSW; Alyson Mischel Ein, PhD; Marco Formigoni, MSW; Laura Gale, MSW; Robert Hernandez, MSW; Susan Hess, MSW; Harry Hunter Jr., PhD; Stacy Kratz, MSW; Cheryl Macon-Oliver, MSW; Rick Newmyer, MSW; Aimee Odette, MSW; Jennifer Parga, MSW; Cynthia Rollo-Carlson, MSW; Shane'a Thomas, MSW; Shantel Vachani, JD; Andrea Witkin, MSW
Senior Lecturer, Research: Jan Nissly, PhD
Adjunct Professors: Lucia Aparicio, MSW; Vern Bengtson, PhD; Margaret Fetting, PhD; Michael Jackson, PhD; Wanda Jewell, MSW; Sheri Kelfer, MSW; Susan Lindau, MSW; Diane Meadow, PhD; Nancy Tkacs, PhD; Marcia Wilson, PhD; Mara Ziegler, MSW
Adjunct Associate Professors: Rita Davis, MSW; Nancy Flax-Plaza, MSW; Herbert Hatanaka, DSW; Heather Halperin, MSW; Kristie Holmes, PhD; CarolAnn Peterson, PhD; Jodi Smith, MSW
Adjunct Assistant Professors: Golnaz Agahi, MSW/MPH; Amy Alexander, MSW; Christopher Atkins, MSW; Wayne Barnstone, MSW; Mary Baron, MSW; Debra Berl, MSW; Sherry Blair, MSW; Ann Marie Brown, MSW; John Bucholtz, MSW; Susan Bueker, MSW; Dana Caballero, MSW; Stephanie Carter, MSW; Linda Cox, MSW; Todd Creager, MSW; Marcia Cunha, MSW; Wilhelmina De Castro, MSW; Lorraine Demi, MSW; Julie Emmer, MSW; William Feureborn, DSW; Dan Field, MSW; Tina Fietsam, MSW; Terri Fong, MSW; Amy Giesler, MSW; Alan Gordon, MSW; Leah Hanzlicek, MSW; Jason Harley, MSW; Joseph Harper, MSW; Trang Hoang, PhD; Kenneth Howard, MSW; Jazmin Jackson, MSW; Lisa Kabot, MSW; Shawnmari Kaiser, MSW; Stephen Koffman, MSW; Karen Leaf, MSW; Eileen Lemus, MSW; Marsalee Malatesta, MSW; Sofia Martinez, MSW; Elizabeth Misener, PhD; Nadia Mishael, PsyD; Sheila Monaghan, MA; Helene Morgan, MSW; Brittani Morris, MSW; Debbie Murad, MSW; Sherri Nader, PsyD; Deidre Norville, MSW; Katherine November, MSW; Laura Owen, MSW; Michelle Parra, PhD; Thomas Peterson, MBA; Sofia Reddy, MSW; Evangelina Reina, MSW; Jennifer Roberts, MSW; Lily Ross, MSW; Samih Samaha, MSW; Heidi Schnell-Cisneros, MSW; Stacy Story, MSW; Rocio Martinez-Sanchez Terry, MSW; Arlene Tippy, MSW; Russell Vergara, MSW; Tessa Wallace, MSW; Matthew Wells, MSW; Sharon Wheeler, MSW; Victoria Winsett, MSW
Research Professors: Charles Kaplan, PhD; Haluk Soydan, PhD
Research Associate Professors: Jehoon Lee, PhD; Donald Lloyd, PhD; Janet Schneiderman, PhD
Research Assistant Professors: Hazel Atuel, PhD; Sara Kintzle, PhD; Sonya Negriff, PhD; Harmony Rhoades, PhD; Sherrie Wilcox, PhD, Hsin Yi Hsiao, PhD
Emeritus Professors: Howard J. Parad, DSW*; Rino Patti, DSW*; Barbara Solomon, DSW*
Emeritus Field Education Faculty: Rhoda G. Sarnat, MA
**Recipient of university-wide or school teaching award.*

Degree Programs

The Suzanne Dworak-Peck School of Social Work offers the Master of Social Work (MSW), the Master of Science in Nursing (MSN), the Doctor of Social Work (DSW), the Doctor of Philosophy (PhD) and the dual Master of Social Work/Doctor of Philosophy, Social Work (MSW/PhD) degrees. In addition, the school offers dual degrees with the schools of business; gerontology; law; medicine; public policy; and Hebrew Union College.

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master of Social Work/Master of Science, Gerontology

The MS/MSW dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Students enrolled in this dual degree receive an MSW as well as an MS in Gerontology. This dual degree requires completion of 73 units: 32 units of work in the Davis School of Gerontology and 41 units in the Suzanne Dworak-Peck School of Social Work. The course work is usually completed over a 24-month period for full-time students.

Students must complete MSW course work in foundation, foundation field instruction and core courses specific to the AMHW or SCI departments.

See the Master of Social Work/Master of Science, Gerontology (MSW/MS) in the Davis School of Gerontology for course requirements.

Master of Social Work/Master of Public Administration, Public Policy

The Master of Public Administration/Master of Social Work (MPA/MSW) dual degree program provides those students interested in careers as administrators of social service agencies the opportunity to combine preparation in the substantive field of social work with the acquisition of the administrative capabilities necessary in the public sector. Students must complete 82 units: 54 units in social work and 28 units in public administration.

Dual degree students must complete MSW course work in foundation, field and core courses specific to the AMHW, SCI or CYF departments.

Most students complete both program requirements over a 24-month period for full-time students. See the USC Price School of Public Policy for course requirements.

Master of Social Work/Juris Doctor, Law

The Juris Doctor and Master of Social Work (JD/MSW) dual degree program with the USC Gould School of Law is a four-year program in which students complete a total of 121 units. This includes 45 units in social work and 76 units in law.

To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs. Students must apply to both programs prior to matriculation. The program of study is as follows:

First and Second Years: Complete both the first year JD program of study and MSW course work in foundation, field and core courses specific to the AMHW, SCI or CYF departments.

Third Year: Complete the second year JD program.

Fourth Year: Complete the remaining required core department and field courses and one semester of field instruction and the final semester of the JD program in the spring.

The law school gives credit for the third semester in the Suzanne Dworak-Peck School of Social Work, while the latter recognizes law courses as substitutions for a one-semester practice course, special topics courses, a third semester of social policy and one semester of field instruction (for which a clinical law semester is substituted).

Master of Social Work/Master of Business Administration, Business

The MSW/MBA dual degree develops knowledge and skills in working with individuals, families and groups, as well as organizational dynamics, marketing, decision sciences, accounting

and human relations. Students interested in working in the management of human services and not-for-profit organizations will develop knowledge of human resources, philanthropic and corporate social responsibility, organizational development and information management.

Prospective students must apply to both the Suzanne Dworak-Peck School of Social Work and the USC Marshall School of Business.

The MSW/MBA requires completion of a total of 96 units: 48 in the Marshall School of Business and 48 in the Suzanne Dworak-Peck School of Social Work.

Students must select Department of Social Change and Innovation (SCI). Dual degree students must complete MSW course work in foundation, field and core courses specific to the SCI department.

Course requirements in the Marshall School of Business include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. For MBA admission and degree requirements, visit USC Marshall School of Business.

The MBA and the MSW degrees are awarded simultaneously upon completion of all program requirements.

Hamovitch Center for Science in the Human Services

The Hamovitch Center for Science in the Human Services, located in the Suzanne Dworak-Peck School of Social Work, serves as the administrative umbrella for the school's centers of research excellence. These centers of interdisciplinary research include the areas of aging, behavioral health, child welfare, homelessness, severe mental illness, veterans and military families, and management and policy. The center hosts seminars and colloquia, which are open to the university and community.

Research projects are supported by federal, state, county and school resources. The center engages faculty in research, demonstration and application in building and testing theory, developing research instruments, testing models of service and treatment modalities, evaluating programs and service policy. The center also provides opportunities for doctoral students to acquire research training through ongoing and newly initiated faculty research projects. Doctoral students are encouraged to apply to participate in such projects which often lead to dissertation possibilities. Predoctoral fellowships and/or research assistantships for projects conducted at the center are sometimes available to incoming and ongoing doctoral students. The center also enables doctoral students to conduct their own research through the auspices of the center, including their dissertation research. All doctoral students are encouraged to attend and participate in the center's colloquia and programs to enhance their involvement with and skills in research and knowledge development.

Master's Degree

Nursing (MSN)

The program of study that leads to the Master of Science in Nursing degree consists of 49 units (31 units of theory; 12 units of clinical practicum; and 6 units of Social Work courses). The program, which prepares students to practice as family nurse practitioners (FNP), is administered primarily online via the Virtual Academic Center within the Suzanne Dworak-Peck School of Social Work, and features two on-campus intensives (OCI) providing students with opportunities for skills assessments and patient simulations. The clinical practica can be taken in various healthcare settings, including private practice and community-based facilities, and are based on the student's geographical location. The USC MSN degree is offered in a full-time (five-semester) or part-time (eight-semester) format.

The Department of Nursing is committed to achieving distinction and preparing diverse leaders in research, education and advanced nursing practice. The department aims to work collaboratively with its Suzanne Dworak-Peck School of Social Work and Keck School of Medicine and other health science colleagues to improve patient care by preparing outstanding advanced practice nurses who provide evidence-based health care, and transform the health care system by preparing leaders in health care policy and research.

Required Courses

MSN Students are required to take the following courses:

- NURS 501 Pathophysiology for Advanced Nursing Practice Units: 4
- NURS 502 Advanced Health Assessment Across the Life Span Units: 3
- NURS 503 Theory: Clinical Management of Adult Patients Units: 3
- NURS 504 Pharmacology for Advanced Practice Nursing Units: 3
- NURS 505 Clinical Practicum: Management of Adult Patients Units: 3
- NURS 507 Theory: Clinical Management of the Childbearing/ Childrearing Family Units: 3
- NURS 600 Theory: Clinical Management of Adult Patients with Complex Medical Issues Units: 3
- NURS 601 Clinical Practicum: Management of the Childbearing/Childrearing Family Units: 3
- NURS 602 Research/Analytical Methods Units: 3
- NURS 603 Transforming Research Evidence into Practice Units: 3
- NURS 604 Clinical Practicum: Management of Adult Patients with Complex Medical Issues Units: 3
- NURS 605 Professional Issues in Advanced Practice Nursing Units: 2
- NURS 606 Health Policy Principles in Changing Health Care Contexts Units: 2
- NURS 607 Theory: Family Primary Care Units: 2
- NURS 608 Clinical Practicum: Family Primary Care Units: 3
- SOWK 506 Human Behavior and the Social Environment Units: 3

  Plus one elective in Social Work (3 units)

Bridge Course Requirement

During the admissions process, applicants will be identified for NURS 500 Bridge Course based on grades in prior science courses and/or length of time away from an academic program of more than five years. Students that successfully complete and receive credit for the Bridge Course will start the full- or part-time MSN program course sequence in the following semester. Students who do not receive credit for the Bridge Course will not be admitted to the program of study but may reapply to the program in one year.

- NURS 500 Bridge Course Units: 2

Social Work (MSW)

The program of study that leads to the Master of Social Work degree consists of 60 units (42 units of course work and 18 units of field practicum). The program is available at these locations: University Park, Orange County Academic Center in Irvine and Virtual Academic Center via the Internet and can be completed in a full-time (four-semester) program or part-time (six- or eight-semester) program. In addition, some classes are offered at City Center in downtown Los Angeles.

The basic foundation curriculum introduces students to the range of social welfare problems and programs, and to the varieties of human behavior with which social work is concerned. At the same time, students learn the methods by which the social worker, the social agency and the organized community work with people and problems. Field instruction, under supervision in a social agency, is scheduled for two or three days a week, enabling students to apply theory to practice. All content areas include content on diversity, social work values and ethics, and economic justice and populations at risk. At the completion of foundation requirements, students are expected to have acquired a sense of professional responsibility and the ability to use knowledge on behalf of the individual, the group and the community.

The school is organized into three departments: 1) Children, Youth and Families; 2) Adult Mental Health and Wellness; 3)

Social Change and Innovation. Students will select one of these departments of study and, upon completion of the foundation semester, take core courses, including SOWK 611, and electives focused on department-specific issues. Each department offers its own six core courses, and students will choose three electives focused on their individual interests.

Specific course content includes:

Department of Children, Youth and Families (CYF)

This department prepares students to address the needs of vulnerable children, youth and families from the earliest years of childhood through adolescence and the transition to adulthood. Course work focuses on promoting wellness and preventing trauma, as well as which kinds of service programs are showing the best results for families with different makeups from a variety of racial, ethnic and socioeconomic groups. Students are trained to serve families in a variety of service settings, including health, mental health, early education, schools, child welfare and juvenile justice.

Department of Adult Mental Health and Wellness (AMHW)

This department is focused on enhancing the health and well-being of younger and older adults within families, agencies, institutions, communities and other environments, and eliminating disparities. The curriculum offers course work in mental health and substance use, integrated primary and behavioral health care, wellness and recovery, promotion of healthy aging, social welfare policy, and program and policy evaluation and analysis.

Department of Social Change and Innovation (SCI):

This department prepares students to lead bold, large-scale solutions to social problems and drive positive change in organizations, businesses and government agencies. Students can customize their learning experience by specializing in community organization, workplace interventions or military social work, and taking courses in social change, advocacy, evaluation research, organizational planning and development. The community track prepares students to think critically about problems in communities and organizations, identify barriers to progress and design interventions to facilitate change. The business track prepares students for corporate settings, where they may help employees manage the demands between work and life and companies build positive relationships with their communities.

This system of curriculum offerings provides a strong educational program with a continuing commitment to a generalist base and a focused set of concentrations, in combination with a range of options to meet special interests. This program enables graduates to move into the social work community with a combination of knowledge and skills in a broad arena, as well as in-depth knowledge and skills in a particular method, population or area of service.

The curriculum builds on a liberal arts foundation that all entering students are required to have. The applicant should have a range of undergraduate courses in the humanities and the social and physical sciences.

General Requirements

The Master of Social Work degree requires a minimum of 60 semester units of courses, including field education (1000 clock hours).

The degree is not awarded solely on the basis of credits earned but also requires evidence of competence in both theory and practice. At their discretion, the faculty may require courses or fieldwork or both beyond the minimum requirements.

Time Limit

The master's degree program requires two academic years of full-time study or a structured part-time program that must be completed in a maximum of four years.

Grade Point Average Requirement

In accordance with the requirements of the Graduate School, a grade point average of 3.0 (A = 4.0) is required for admission to the Suzanne Dworak-Peck School of Social Work. Likewise, the university requires an overall GPA of 3.0 for graduation from the master's degree program.

Course Requirements

All newly admitted MSW students will follow a program that includes one course in social work practice; one course in policy; one course in human behavior; one course in research methods; one course in leadership; four semesters of field education; six department-specific core courses and three electives.

Course requirements are organized into one semester of foundation course work and three semesters of department course work. Academic credit is not granted for life experience or work experience in lieu of the field practicum or any other courses in the curriculum.

Required Courses

MSW students are required to take the following courses:

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 611 Leadership and Management in Social Work Units: 3
- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

  Plus six additional department core courses and three additional Social Work electives totaling 27 units.

Additional Requirements

Field Education

Field education is an integral part of the Master of Social Work curriculum. Two year-long field education courses are required. The school works closely with thousands of community agencies, organizations, businesses and other field partners to ensure students receive valuable hands-on practice experience that complements their classroom learning. Students must complete two field internships, or 1,000 field hours in order to be awarded the Master of Social Work degree. The first placement requires 16 hours a week at a practicum agency that aligns with a student's department and includes a two-hour practice lab in the first semester. In these labs, students will be trained to apply three evidence-based interventions: motivational interviewing, problem-solving therapy and cognitive behavioral therapy. In the second semester, students will participate in a two-unit field seminar while completing 16 hours a week at a practicum agency. In the second year of the program, students will increase their field time to 20 hours a week, and in some cases, they may be able to remain at their original field site if the organization can facilitate advanced learning experiences. Additionally, second-year students will participate in a one-unit field seminar where they will learn to apply evidenced-based interventions specific to their department.

Field education takes place in selected agencies and centers, which represent the complete range of social services. Field placements are approved on the basis of the quality of their professional practice, commitment to social justice and to addressing social work problems, interest in participating in professional education, and ability to make personnel and resources available. Field instructors, who are employed by either the agency or the school, are responsible for teaching students in their field placements. The senior associate dean for field education is administratively responsible for all field assignments.

Each placement in field education is made on an individual basis, which takes into consideration the following: geographic location, previous experiences, future goals, professional interests, special needs and stipend requirements. In these placements, students engage in selected and organized social work activities that provide practical experience in applying skills learned in the classroom.

The number of field placement options for non-driving students is limited. Students are encouraged to have access to an automobile for field placement.

Research Requirement

The research requirement consists of one foundation course. In the foundation course of study, SOWK 546 or SOWK 562 are designed to impart knowledge of research methodology and statistics. Students are required to enroll in courses that combine research skills with evaluation and program development in their department field of study.

Transfer Students

Applicants who have recently completed part or all of the first half of graduate study at a Council on Social Work Education-accredited school of social work may apply as transfer students. In addition to materials described in the section on application procedures, transfer students should forward course syllabi and a bulletin of the school for the year in which the course or courses were taken.

Transfer credits may be applied for those courses determined to be equivalent to USC's first-year courses or to meet the expectation of the second-year electives. The grade point average for any course taken at another school of social work must be at least 3.0 on a 4.0 grading scale. Where foundation courses are similar, but not equivalent, transfer students may be permitted to take a waiver examination for possible exemption from those courses. Transferred credit for fieldwork will be computed on the basis of clock hours completed as well as on the breadth and depth of contents covered.

Military Social Work and Veteran Services

The Suzanne Dworak-Peck School of Social Work offers a Military Social Work and Veteran Services program in the MSW curriculum targeting military personnel, spouses and other military dependents and military retirees who wish to maintain a post-military career affiliation with the armed forces; military veterans who wish to provide professional services to their military comrades; and civilian personnel who are committed to assisting military personnel, their families and military veterans with adapting, coping and managing the stresses and strains of military life and post-military life.

Course Requirements

Beyond the basic professional social work foundation course requirements of the Master of Social Work degree, the program in Military Social Work and Veteran Services will offer a series of specialized courses focusing on the needs of military personnel, veterans and their families. Students will take two courses in special topics that focus on this area of practice. Individuals pursuing the Military Social Work and Veteran Services program options will also be able to select from a variety of highly relevant elective courses that will serve to enhance their training and future service delivery capabilities.

Advanced Standing Option

The Suzanne Dworak-Peck School of Social Work offers an advanced standing option for students who have graduated with a Bachelor of Social Work (BSW) degree from a Council on Social Work Education (CWSE)-accredited BSW program within the past five years. To be eligible for the advanced standing option, students must have successfully completed their BSW with a minimum GPA of 3.00 for the last 60/90 units of undergraduate work. A cumulative 3.5 GPA for all social work courses with a grade of B or better is required for admission.

Students admitted to advanced standing will bypass 23 units of the MSW program and be required to complete 37 units total of the following course work:

- SOWK 611 Leadership and Management in Social Work Units: 3
- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

  Plus six additional department core courses and two additional Social Work electives totaling 24 units.

Note:

The option is available at University Park Campus and the Virtual Academic Center and can be completed in three semesters.

Dual Degree

Master of Social Work/Doctor of Philosophy (MSW/PhD)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's/PhD Requirements

The MSW/PhD dual degree program is a course of study leading to both a graduate degree (Master of Social Work) and doctor of philosophy (PhD) in social work. This course of study is offered to exemplary students seeking advanced research based study in social work to become professional leaders who will make significant contributions to the knowledge base of the profession in the social work academic world.

Application:

Prospective students must meet both the MSW and PhD standing admission requirements.

Program Requirements:

A total of at least 90 units is required for the dual degree with at least 42 units in the MSW program and at least 48 units in the PhD program (exclusive of SOWK 794a, SOWK 794b, SOWK 794c, SOWK 794d, SOWK 794z, Doctoral Dissertation). The program can be completed within four years.

Required MSW Courses

Course requirements include the required MSW courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3

- SOWK 698a Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 698b Integrative Learning for Advanced Social Work Practice Units: 1
- SOWK 699a Advanced Applied Learning in Field Education Units: 4
- SOWK 699b Advanced Applied Learning in Field Education Units: 4

PhD Course Requirements

Students must complete a minimum of 48 course units beyond the master's degree (exclusive of SOWK 794a SOWK 794b SOWK 794c SOWK 794d SOWK 794z Doctoral Dissertation). Students must complete at least 24 units within the Suzanne Dworak-Peck School of Social Work and at least three courses in other departments or schools within the university. At least 8 of these 12 units must be in courses with a substantive rather than a research-methodology or statistic focus. Students must also take at least one 3-unit elective and one additional research or statistics course either in the Suzanne Dworak-Peck School of Social Work or elsewhere in the university. Each student must develop a concentration either in another discipline outside the Suzanne Dworak-Peck School of Social Work (such as gerontology; sociology; psychology; preventive medicine; business; policy, planning and development; or political science) or in a problem area where different external courses in different departments or schools bear on a specific social problem like homelessness. An overall grade point average of B (3.0) on all graduate work attempted in the doctoral program is required for graduation.

Core Content

All students are expected to master core content. They must also complete 12 units from the substantive five core courses.

Required PhD Courses

Substantive Courses – Students choose four:

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3
- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3
- SOWK 743 Theories for Practice with Small Systems Units: 3
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3
- SOWK 744 Theories for Practice with Large Systems Units: 3

  Macro focus: students with a macro focus in policy, community organization or administration must complete either SOWK 702 or SOWK 743 .

  Micro focus: students with a micro focus in direct practice must complete either SOWK 703, SOWK 733 or SOWK 744.

  Core Courses:
- SOWK 760L Introduction to Social Work Statistics Units: 3
- SOWK 761L Multiple Regression for Social Work Research Units: 3
- SOWK 762 Social Work Research Methods I Units: 3
- SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice Units: 3
- SOWK 764 Advanced Multivariate Statistics Units: 3

Other Requirements

Elective* Units: 3
Research or statistics course* Units: 3
Three external courses outside of Social Work Units: 9
SOWK 790 Research Units: 6
**Must be taken in the Suzanne Dworak-Peck School of Social Work or elsewhere at USC*

Individualized Study Plan

MSW/PhD dual degree students will develop an Individualized Study Plan (ISP) at two points in their educational process. They will develop a plan with their mentor before the fall semester begins in year 1 to identify courses they plan to take in their first and second years. It will be approved by the doctoral committee. Students will develop a plan with their mentor in the spring semester of their second year to identify courses and tutorials they will take in their third and fourth years.

Master of Social Work/Juris Doctor, Law (MSW/JD)

The Master of Social Work and Juris Doctor (MSW/JD) dual degree program is a four-year program. Students are required to complete 121 units of course work, including 76 units in the USC Gould School of Law and 45 units in the USC Suzanne Dworak-Peck School of Social Work.

Program Requirements:

To earn the JD, all students (including dual degree students) must complete 35 numerically graded law units at USC after the first year. The associate dean may make exceptions to this rule for students enrolled in law school honors programs. Students must apply to both programs prior to matriculation. The program of study is as follows:

First Year: Complete the first year JD program of study.

Second Year: Begin taking course requirements in the Suzanne Dworak-Peck School of Social Work, which includes the required courses outlined in the Social Work (MSW) section of the catalogue. Students will also begin to take department core courses specific to the MSW in either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

Third Year: Complete the second year JD program.

Fourth Year: Complete the remaining required MSW courses, per advisement, and the final semester of the JD program in the spring.

The law school gives credit for the third semester in the Suzanne Dworak-Peck School of Social Work, while the latter recognizes law courses as substitutions for a one-semester practice course, special topics courses, a third semester of social policy and one semester of field instruction (for which a clinical law semester is substituted).

Master of Social Work/Master of Arts, Jewish Nonprofit Management (MSW/MA)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The dual degree program combines in-class learning and fieldwork under the auspices of the Hebrew Union College-Jewish Institute of Religion's School of Jewish Nonprofit Management (formerly the School of Jewish Communal Service) and the University of Southern California's Suzanne Dworak-Peck School of Social Work.

Application:

Students must apply to both programs prior to matriculation.

Program Requirements:

Students in this dual degree program simultaneously pursue graduate studies leading to the MSW and an MA in Jewish Nonprofit Management over a 24-month period for full-time students. A total

of 90 units must be completed to meet the requirements of both degrees (42 units in social work and 48 units at the HUC-JIR School of Jewish Nonprofit Management).

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

See Hebrew Union College for MAJNM degree requirements.

Required MSW Courses

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 611 Leadership and Management in Social Work Units: 3

Master of Social Work/Master of Business Administration (MSW/MBA)

The MSW/MBA dual degree develops knowledge and skills in working with individuals, families and groups, as well as organizational dynamics, marketing, decision sciences, accounting and human relations. Students interested in working in the management of human services and not-for-profit organizations will develop knowledge of human resources, philanthropic and corporate social responsibility, organizational development and information management.

Application:

Prospective students must apply to both the Suzanne Dworak-Peck School of Social Work and the USC Marshall School of Business.

Program Requirements:

The MSW/MBA requires completion of a total of 96 units: 48 in the Marshall School of Business and 48 in the Suzanne Dworak-Peck School of Social Work.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses in the Department of Social Change and Innovation (SCI). Students will be advised into the appropriate courses.

Course requirements in the Marshall School of Business include all required courses in an MBA program and graduate business electives sufficient to bring the total units completed in the Marshall School of Business to at least 48. Dual degree students may not count courses taken outside the Marshall School of Business toward the 48 units. For MBA admission and degree requirements, visit USC Marshall School of Business.

The MBA and the MSW degrees are awarded simultaneously upon completion of all program requirements.

Master of Social Work/Master of Planning (MSW/MPl)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work and Master of Planning (MSW/MPl) dual degree program offers unique opportunities for students who want to devote their professional careers to social policy, social planning or social services delivery. Dual degree students in this program receive an MSW as well as a MPl.

Application:

Students must apply to both programs prior to matriculation.

Program Requirements:

The MPl/MSW degree requires completion of a total of 83 units: 51 units in social work and 32 units in planning. The course work is normally completed over a period of 28 months for full-time students.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

See the Master of Planning/Master of Social Work (MPl/MSW) in the Price School of Public Policy for course requirements.

Master of Social Work/Master of Public Administration (MSW/MPA)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work/Master of Public Administration/ (MSW/MPA) dual degree program provides those students interested in careers as administrators of social service agencies the opportunity to combine preparation in the substantive field of social work with the acquisition of the administrative capabilities necessary in the public sector.

Program Requirements:

Students must complete 82 units: 54 units in social work and 28 units in public administration.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses in outlined in the Social Work (MSW) section of the catalogue. Students will take their remaining MSW units in department core courses specific to either the AMHW, SCI or CYF department. Students will be advised into the appropriate courses.

For MPA degree requirements, see USC Price School of Public Policy.

Most students complete both program requirements over a 24-month period for full-time students.

Master of Social Work/Master of Public Health (MSW/MPH)

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work/Master of Public Health (MSW/MPH) dual degree offers the student interdisciplinary preparation in the fields of public health and social work leading to the Master of Social Work (MSW) and Master of Public Health (MPH) degrees. The dual degree program is a collaborative effort between the Suzanne Dworak-Peck School of Social Work and the Department of Preventive Medicine in the Keck School of Medicine. The objectives of the program are to provide students with the knowledge and skills necessary to promote health, prevent disease and enhance the delivery of health and social services in the community. Students will build interdisciplinary skills and an interdisciplinary professional identity by developing an understanding of the breadth of each field and their interface, while permitting concentration in particular specialization areas. The program prepares graduates for work in a variety of interdisciplinary settings; and for some, it will provide the basis for doctoral study.

Students must complete a minimum of 84 units, 37 of which fulfill unique requirements of the MSW, 27 which fulfill the unique requirements of the MPH, and 20 which fulfill the requirements of both degrees. Most students complete both program requirements over three years for full-time students; however, the program may be completed in less time if the student takes a full course load during the two summer sessions (MPH course work only; MSW is not available during the summer).

Dual degree students must complete MSW course work in foundation, field and core courses specific to the AMHW, SCI or CYF departments. Students will take MPH course work specific to the following public health tracks: health education and promotion; public health policy; or child and family health. MPH track will be determined by the MSW department chosen by the student.

Master of Social Work/Master of Science, Gerontology (MSW/MS)

The MSW/MS dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Taken in connection with the social work degree, the MS focuses course and fieldwork on the older person and prepares the student for social work with older persons and their families.

In the MSW/MS dual degree program, the student enrolls primarily in the first year program of the USC Suzanne Dworak-Peck School of Social Work. During the summer session, courses are taken in the USC Davis School of Gerontology. Second year courses are taken in both schools and fieldwork during the second year is taken in the School of Gerontology. The research course is taken through the Suzanne Dworak-Peck School of Social Work in the student's concentration area. The School of Gerontology will waive GERO 589 Case Studies in Leadership and Change Management (4 units) and GERO 555 Integrating Gerontology: A Multidisciplinary Approach (4 units) because students enrolled in this program have a primary professional focus on social work.

Dual Degree Programs

The Suzanne Dworak-Peck School of Social Work currently offers dual degree programs with a number of other USC professional schools. In addition, the school maintains a dual degree program at Hebrew Union College located adjacent to the USC campus.

The goal of these programs is to encourage graduate students to gain a recognized competence in another discipline which has direct relevance to the roles filled by social workers in society. Dual degree programs are based on the premise that some topics covered in the school are also addressed in the curricula of other departments, so that some credit toward an MSW degree may be given for specific courses in the cooperating department. Similarly, these departments have recognized that some credit toward their corresponding degree may be awarded for work completed in the Suzanne Dworak-Peck School of Social Work. For this reason, students enrolled in dual degree programs can obtain both degrees with a reduced number of total units. Students wishing to enroll in dual degree programs must apply for and be admitted to both schools.

Master's Requirements

The Master of Social Work and Master of Science, Gerontology (MSW/MSG) dual degree offers the student interested in direct service or community organization the credentials most valued in clinical and therapeutic practice. Students enrolled in this dual degree receive an MSW as well as an MS in Gerontology.

Program Requirements:

This dual degree requires completion of 73 units: 32 units of work in the Davis School of Gerontology and 41 units in the Suzanne Dworak-Peck School of Social Work. The course work is usually completed over a 24-month period for full-time students.

Course requirements in the Suzanne Dworak-Peck School of Social Work include the required courses outlined below. Students will take their remaining MSW units in department core courses specific to either the AMHW or SCI departments only. Students will be advised into the appropriate courses.

For MSG degree requirements, see the USC Davis School of Gerontology.

Required MSW Courses

- SOWK 506 Human Behavior and the Social Environment Units: 3
- SOWK 536 Policy and Advocacy in Professional Social Work Units: 3
- SOWK 544 Social Work Practice With Individuals, Families, and Groups Units: 3
- SOWK 546 Science of Social Work Units: 3
- SOWK 588 Integrative Learning for Social Work Practice Units: 2
- SOWK 589a Applied Learning in Field Education Units: 3
- SOWK 589b Applied Learning in Field Education Units: 3
- SOWK 611 Leadership and Management in Social Work Units: 3

Doctoral Degree

Social Work (DSW)

The Doctorate of Social Work (DSW) program is designed to address a different population of advanced learners and a distinct set of educational needs beyond the Master's in Social Work degree. Students entering with a Master of Social Work or other master's degree in a closely allied field from an accredited institution are admitted with Advanced Standing. They are required to complete a minimum of 42 units of DSW course work beyond their first graduate degree. The core DSW curriculum consists of 14 courses total (at 3 units each). There are no specializations or electives available in this program. The following themes are infused throughout the curriculum: Organizational Leadership, Public Leadership, Innovation and Change, Technological Fluency, and Data Driven Practice and Management.

The DSW program will be administered primarily online via the Virtual Academic Center within the Suzanne Dworak-Peck School of Social Work, and includes two week-long in-residence institutes, one in each year of the program. The purpose of the residencies is to bring together the cohort for a series of lecturers, seminars and discussions with "thought leaders" of the Grand Challenges in Social Work. The program can be completed in six consecutive semesters and culminates in a capstone project that will tie together the students' goals and objectives with skills learned in the DSW program.

Required Courses

DSW students are required to take the following courses:

- SOWK 704 Managing Innovation and Change Units: 3
- SOWK 705 Leading Public Discourse Units: 3
- SOWK 706 Leading and Managing Large Complex Systems Units: 3
- SOWK 707 Financial Management for Social Change Units: 3
- SOWK 710 Preparatory Scholarship for Capstone Units: 3
- SOWK 711 Innovation Laboratory I Units: 3
- SOWK 712 Residency I Units: 3
- SOWK 713 An Introduction to the Science of Innovative Social Work Units: 3
- SOWK 714 Evaluating Innovation and Change Units: 3
- SOWK 720 Informatics and Social Innovation and Influence Units: 3
- SOWK 721 Data Driven Decision Making Units: 3
- SOWK 722 Grand Challenges Capstone Units: 3
- SOWK 723 Innovation Laboratory II Units: 3
- SOWK 724 Residency II Units: 3

Social Work (PhD)

With the enrollment of a small group of highly qualified experienced social workers, the Suzanne Dworak-Peck School of Social Work established the first social work doctoral program in the Western United States in 1953. Over the years, the school has continued the tradition of providing opportunities for learning in small classes, seminars and tutorials.

The major goal of the doctoral program in social work is to produce social work scholars who will have the capacity to make valuable and significant contributions to the knowledge base of the profession. Students acquire the skills necessary to become professional scholars and develop a significant capacity for professional leadership. Toward this end, the school is committed to pursuing excellence in education with persons of definite promise and to seeking gifted students of varied social, ethnic and economic backgrounds.

Through training in specific areas, graduates of the program develop theoretical, conceptual, critical and analytic skills which can be applied to social, organizational, interpersonal and personal problems. They emerge from the program with substantive knowledge and analytic skills that enable them to contribute to understanding social problems and ways of solving them. With these skills, they are able to take a disciplined approach to the issues confronting the profession of social work and the field of social welfare and are prepared to make a significant contribution to the research and scholarship that informs society's effort to improve the human condition.

The PhD program in social work is administered by the Doctoral Committee of the Suzanne Dworak-Peck School of Social Work in accordance with the policies set by the Graduate School. The requirements listed below are special to the Suzanne Dworak-Peck School of Social Work and must be read in conjunction with the general requirements of the Graduate School.

Admission Requirements

Applicants for admission to the doctoral program must meet the following requirements:

1. A master's degree from a program accredited by the Council on Social Work Education or from another field related to social work.
2. Academic promise, as evidenced by above average achievement in undergraduate and professional education and a personal statement outlining the applicant's scholarly goals.
3. Professional competence as demonstrated through substantial experience in responsible social work, internships or other positions either during or subsequent to the master's program.
4. Personal qualities compatible with performance in social work and indicating a potential for leadership in the field: skill in relationships, flexibility and openness to new ideas, maturity, identification with the profession of social work, and commitment to furthering the development of the profession.
5. Satisfactory performance on the Graduate Record Examinations — existing test scores may be submitted if the GRE has been completed no more than five years prior to the date of application. Information may be obtained from the USC Center for Testing and Assessment, Student Union 301, Los Angeles, CA 90089-0896, (213) 740-7166, or from the Educational Testing Service at ets.org.
6. Satisfactory performance on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) for all international students prior to the date of application. Existing test scores may be submitted if the TOEFL or IELTS has been completed no more than two years prior to the date of application. Information may be obtained from the USC Center for Testing and Assessment, Student Union 301, Los Angeles, CA 90089-0896, (213) 740-7166, or from the Educational Testing Service at ets.org.
7. Submission of application materials as required. Instructions for application to the Doctor of Philosophy in Social Work program may be obtained by writing to the director of the program.

Under unusual circumstances, applications from persons who do not meet these requirements, including those who have just been awarded the MSW degree, will be considered. In cases where the MSW (or its equivalent) has recently been granted and the applicant does not have the prerequisite post-master's degree employment experience, it may be required that such experience be acquired concurrent with enrollment in the doctoral program.

Under very unusual circumstances, applications to the doctoral program in social work will be considered from those who do not hold the MSW or an equivalent degree. Such applicants, in order to be admitted to the program, must have a master's degree (or its equivalent) in a field related to social work and a demonstrated commitment to the field of social work as evidenced by substantial contribution to the knowledge base of the profession. Admission decisions on applicants who do not hold an MSW or equivalent degree will be made by the full Doctoral Program Committee of the Suzanne Dworak-Peck School of Social Work rather than by a subcommittee of that body.

Priority will be given to applications that are completed by January 1.

Application Procedure

All applicants to the doctoral program must submit the following information: (1) graduate admission application using the university's online system; (2) statement of purpose which is submitted as part of the online application; (3) current resume which is uploaded as part of the online application; (4) all undergraduate and graduate transcripts; (5) four letters of reference, at least three of which are from persons who can assess the student's scholarly potential; (6) recent GRE scores; (7) recent TOEFL or IELTS scores; (8) documented evidence of financial support is required of all international applicants; (9) PhD Information Form for the Suzanne Dworak-Peck School of Social Work; (10) career plans and goals; and (11) scholarly writing sample.

Foreign Language/Research/English Language Requirements

There is no foreign language requirement for the PhD degree. Competence in advanced research methodology and statistics is required through satisfactory completion of required courses. All international students are required to submit their TOEFL or IELTS

scores from a test date prior to application and to meet university requirements for teaching.

Course Requirements

Students must complete a minimum of 48 course units beyond the master's degree (exclusive of SOWK 794a, SOWK 794b, SOWK 794c, SOWK 794d, SOWK 794z Doctoral Dissertation). Students must complete at least 24 units within the Suzanne Dworak-Peck School of Social Work and at least three courses in other departments or schools within the university. At least 8 of these 12 units must be in courses with a substantive rather than a research-methodology or statistic focus. Students must also take at least one 3-unit elective and one additional research or statistics course either in the Suzanne Dworak-Peck School of Social Work or elsewhere in the university. Each student must develop a concentration either in another discipline outside the Suzanne Dworak-Peck School of Social Work (such as gerontology; sociology; psychology; preventive medicine; business; policy, planning and development; or political science) or in a problem area where different external courses in different departments or schools bear on a specific social problem like homelessness. An overall grade point average of B (3.0) on all graduate work attempted in the doctoral program is required for graduation.

Core Content

All students are expected to master core content. They must also complete 12 units from the substantive five core courses.

Required Courses

24 units from the following:

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3
- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3
- SOWK 743 Theories for Practice with Small Systems Units: 3
- SOWK 744 Theories for Practice with Large Systems Units: 3

Core Courses:

- SOWK 760L Introduction to Social Work Statistics Units: 3
- SOWK 761L Multiple Regression for Social Work Research Units: 3
- SOWK 762 Social Work Research Methods I Units: 3
- SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice Units: 3
- SOWK 764 Advanced Multivariate Statistics Units: 3

Macro focus:

students with a macro focus in policy, community organization or administration must complete either SOWK 702 or SOWK 743 as part of their core curriculum.

- SOWK 702 Theories of Human Behavior in the Contexts of Social Environments Units: 3 or
- SOWK 743 Theories for Practice with Small Systems Units: 3

Micro focus:

students with a micro focus in direct practice must complete either SOWK 703, SOWK 733 or SOWK 744.

- SOWK 703 Explanatory Theories for Larger Social Systems Units: 3 or
- SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context Units: 3 or
- SOWK 744 Theories for Practice with Large Systems Units: 3

Other Requirements

- Elective Units: 3 *
- Research or statistics course Units: 3 *
- SOWK 790 Research Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (6 units required)

Note:

**Must be taken in the Suzanne Dworak-Peck School of Social Work or elsewhere at USC*

Additional Requirements

Students must complete a minimum of 12 units per semester in their first semester and second semester of their first year in the program to maintain their status as full-time students and eligibility for financial support from the Suzanne Dworak-Peck School of Social Work.

Individualized Course of Study

The second year of the curriculum is largely individualized to meet each student's educational goals. It is organized around a specific field of social work practice or a problem area. In the case of fields of practice or problem area, students gain knowledge of that field's development and policies; one level of comparative practice theory applicable to that field; comparative explanatory theory appropriate to the field and the chosen practice level; and advanced research methods which can be used to explore field-specific questions.

Field of Practice is defined as a field of activity in which there is an identifiable service delivery system, a continuum of care for clients, and a defined or established role for social workers.

Given the current expertise of the faculty and available faculty resources, students may choose from the following fields of practice specializations:

Given the current expertise of the faculty and available faculty resources, students may choose from the following fields of practice specializations: (1) families and children, (2) mental health, (3) health, (4) occupational/industrial employment, (5) aging/gerontology, or (6) economic security/income maintenance.

Additional fields of practice can be added to the above choices depending on faculty interest, expertise and availability.

Problem Area is defined as a social or service delivery problem that is relevant to the field of social work such as homelessness or urban health systems.

Practice Theory is defined as advanced knowledge of comparative practice theories at one point on the intervention continuum as they relate to the field of practice chosen. The practice intervention continuum is defined to include practice with individuals, families and groups, as well as community practice, administration, planning and policy practice.

Explanatory Theory is defined as advanced knowledge of comparative social science theories as they relate to the field of practice and level of intervention chosen.

Specialized Research Skills is defined as advanced skills in research methodology and statistics which support the student's dissertation within the field of practice.

Students fulfill the requirement for the mastery of the content of their individualized course of study through a combination of at least three (2-unit) directed tutorials (SOWK 790) with members of the social work faculty, at least three university courses in other departments of the university and an elective.

Students prepare an individualized course study plan with their faculty adviser in the spring of the first year that is approved by the doctoral committee. It details classes and tutorials that each student will take during the second year of the program.

Opportunities for Further Skill Development

The program offers students skills training in both teaching and research.

Teaching Skills

All doctoral students must teach for two semesters before they graduate. Requirements may be fulfilled by coteaching, teaching as an assistant or solo teaching. Before beginning these teaching experiences, students must take a teaching course approved by the doctoral committee. International students must meet the English proficiency standards set forth by the American Language Institute and participate, if necessary, in specialized training offered by the Center for Excellence in Teaching.

Additional Research Skills

Students are also offered the opportunity for enhanced skills building in research through a research internship. The one- or two-

semester internship (SOWK 785), starting typically in the spring of the second year, is designed to provide students with hands-on, practical experience with an ongoing faculty research project prior to the start of their own dissertation research. Typically, activities include data collection and/or analysis. The practicum is expected to yield a paper of publishable quality co-authored by the student and the faculty member.

Students may enroll in SOWK 599 by petitioning the doctoral committee in writing. The decision to grant or deny admission will be based on each applicant's learning and research interests and permission of the instructor.

The usual program includes two years of full-time course work, plus an additional period for completing the qualifying examinations and dissertation. In rare cases, students who are not able to take the full-time program because of employment may spread course work over three years. They must, however, have the equivalent of full-time study in residence for at least one year.

Students should specify whether they are applying for the full-time or part-time program at the time they apply to the program. Part-time students usually carry two courses per semester during the academic year. They may wish to accelerate their progress by enrolling in appropriate courses when available during the summer session.

The time limit for completing all requirements for the PhD degree is eight years from the first course taken at USC to be applied toward the degree. Students who have completed an applicable master's degree at USC or elsewhere (almost all students in the social work doctoral program) must complete the PhD in six years.

Transfer of Credit

The transfer of post-master's doctoral course work from another institution will only be considered if a grade of B or better (A = 4.0) has been obtained, and the course has been completed within the last five years. Transfer of credits must be petitioned and approved by both the Suzanne Dworak-Peck School of Social Work and the Graduate School.

Screening Procedures

When students have completed a minimum of 16 units (but not more than 24 units) of doctoral course work, the doctoral committee assesses their performance and makes a decision about their readiness to continue in the program. If the decision is to deny permission to continue, the students are so notified. If permission is granted, a qualifying exam committee is established.

Qualifying Exam Committee

The qualifying exam committee is composed of five faculty members, four of whom, including the chair, are from the Suzanne Dworak-Peck School of Social Work and one from an academic unit of the university other than the Suzanne Dworak-Peck School of Social Work. The function of the qualifying exam committee is to oversee the development of the student's academic program through the qualifying examination.

Qualifying Examination

As a prerequisite to candidacy for the PhD degree, students must pass written and oral qualifying examinations. In order to take the examinations, students must complete all core courses, at least 6 units of SOWK 790 tutorials and at least 32 units of course work in the doctoral program with a minimum grade point average of 3.0.

All students must pass a qualifying examination by completing a paper that the examination committee judges to be of publishable quality and passing an oral examination on subject matter related to the paper. The paper must deal with a substantive theoretical, model-building or methodological issue in the student's chosen area. Critical reviews of the literature or reports of empirical studies conducted by the student specifically for the qualifying examination are acceptable. The topic of the paper will be chosen in conjunction with the student's chair and must be defended before and agreed to by the entire examination committee. The content of the paper is to go beyond products developed for tutorials and must be an independent effort. Further details for completing the paper and oral examination are provided as needed. When students pass the written and oral portions of the qualifying examination, they advance to candidacy.

In accordance with university policy, since the two portions of the qualifying examination are considered part of a single examination, only one retake of either portion of the examination is permitted. When the oral examination has been passed, the student is formally admitted to candidacy.

Doctoral Dissertation

When the student is admitted to candidacy, a dissertation committee is established consisting of three members of the qualifying exam committee, one of whom must be from outside the Suzanne Dworak-Peck School of Social Work. The dissertation committee has the responsibility of providing consultation in research, approving the dissertation, conducting the final oral examination and recommending the candidate for the PhD degree. The doctoral dissertation should make a contribution to knowledge and theory related to the profession of social work. Dissertations must not only show technical mastery of the subject and research methodology but must also demonstrate the candidate's ability to work independently as a scholar.

The first step in the dissertation process is the development of a dissertation proposal. Normally about 25-30 pages, the proposal should contain a clear statement of purpose, a rationale for the research, research questions or hypotheses, a review of pertinent literature, and an explication of the research methods to be used including the design, instrumentation, sampling procedures and plan for analysis. The proposal must include human subject clearances for the anticipated research obtained from the appropriate school and university committees.

The dissertation proposal is submitted to the student's dissertation committee and defended. Upon approval of the proposal, a copy is filed with the director of the doctoral program.

It is expected that students will begin work on their dissertation prospectus as soon as possible after completion of the qualifying examinations, and that an acceptable proposal will be presented within three months of the completion of the examination.

Abstract of Dissertation

Since the abstract of the dissertation is also published in *Dissertation Abstracts International*, it should be written with care and must be representative of the final draft of the dissertation. A shorter abstract for publication in *Social Work Research and Abstracts* is also required.

Final Oral Examination

Upon approval of the final draft of the dissertation by all members of the dissertation committee, the candidate must pass a general final oral examination. After the candidate successfully completes the final oral examination, the committee recommends the candidate to the Graduate School for the PhD degree.

Courses of Instruction

The terms indicated are *expected* but are not *guaranteed*. For the courses offered during any given term, consult the *Schedule of Classes*.

Arts, Technology and the Business of Innovation

ACAD 174 Innovators Forum
Units: 2 Max Units: 04 Terms Offered: FaSp Leaders in diverse disciplines, industries, and the arts present and discuss problems facing society, and critique real-world projects that challenge the concept of innovation. Registration Restriction: Open only to Technology and the Business of Innovation majors Duplicates Credit in former ACAD 175 Instruction Mode: Lecture Grading Option: Letter

ACAD 176 Rapid Visualization
Units: 4 Terms Offered: Fa Basic techniques, methods, concepts, tools, and materials that are used to quickly communicate ideas and concepts in a visual manner. *Recommended Preparation:* Photoshop; iPad and/or laptop skills; iPad drawing apps such as Sketchbook or iDraw. Instruction Mode: Lecture Grading Option: Letter

ACAD 177 Digital Toolbox for Design
Units: 2 Terms Offered: Fa Eight-week session covering the basics of industry-standard creative, analytical and presentation software. Applications include: design, presentation, publishing and business management. Registration Restriction: Open only Arts, technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 178 Digital Toolbox: Motion Graphics
Units: 2 Terms Offered: Fa Eight-week course covering the basics of industry-standard digital video and motion graphics software used for visual effects, non-linear video production and editing. Registration Restriction: Open only Arts, technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 179 Digital Toolbox: Excel for Business Management
Units: 2 Terms Offered: Sp Eight-week course designed to provide a spreadsheet format to analyze information and build Microsoft Excel-based models for business management and creative data visualization. Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 180 Digital Toolbox: Sound and Audio
Units: 2 Terms Offered: FaSp An eight-week course covering the basics of industry-standard hardware and software used for designing, creating, processing, and distributing sound and audio. Instruction Mode: Lecture Grading Option: Letter

ACAD 181g Disruptive Innovation
Units: 4 Terms Offered: Fa Critical approaches to social and cultural changes stemming from disruptive innovations in the arts, science, technology, communications, new media, politics and business. Satisfies New General Education in Category C: Social Analysis Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 182 Case Studies in Innovation
Units: 4 Terms Offered: Sp Employing a case-study methodology, students analyze the artistic, technological, and entrepreneurial factors and address the conceptual, ethical, and logistical issues that lead to disruptive innovation. *Prerequisite:* ACAD 181. Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 187 Digital Toolbox: 3D Design
Units: 2 Terms Offered: Sp An eight-week course covering the basics of industry-standard 3D modeling, rendering, and capturing software used for product, packaging, industrial and environmental design. Open only to Arts, Technology and the Business of Innovation majors. Registration Restriction: Open only to Arts, Technology and the Business of Innovation Instruction Mode: Lecture Grading Option: Letter

ACAD 200 Advanced Sound and Audio
Units: 4 Terms Offered: FaSp An in-depth study of sound, acoustics, psychoacoustics, and the standard components of the audio signal chain, including microphones, mixers, interfaces, signal processors, amplifiers, loudspeakers, and audio-distribution systems. *Recommended Preparation:* ACAD 180. Instruction Mode: Lecture Grading Option: Letter

ACAD 202 Modeling Physical Systems
Units: 4 Terms Offered: Fa The physics of mechanics and motion is integrated with differential and integral calculus. The concepts are linked through a computational, problem-solving, methodology. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 203 Statics
Units: 3 Terms Offered: FaSp (Enroll in AME 201)

ACAD 206 Communication and Culture
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 206)

ACAD 207 Multimedia for Designers and Entrepreneurs I
Units: 4 Terms Offered: Fa Basics of industry-standard hardware and software specific to creating effective and compelling multimedia experiences. *Prerequisite:* ACAD 177 and ACAD 178 and ACAD 180 Instruction Mode: Lecture Grading Option: Letter

ACAD 230 3D Design: Materials and Tools
Units: 4 Terms Offered: FaSp (Enroll in DES 230)

ACAD 240 Materials: Denim to Nanotubes
Units: 4 Terms Offered: Fa Covers the fundamentals of materials science and introduce students to the principles of designing with specific materials in mind. Instruction Mode: Lecture Grading Option: Letter

ACAD 245 Product Design I
Units: 4 Terms Offered: Sp A wide investigation of techniques specific to dimensional design as they apply to package, product and spatial design, in analog and digital environments. *Prerequisite:* ACAD 240 and ACAD 323g Instruction Mode: Lecture Grading Option: Letter

ACAD 275 Dev I
Units: 4 Terms Offered: Sp Web page design and creation, web objects, scripting and interactivity. Includes developing skills to design and build interactive websites. Duplicates Credit in former ITP 204 Instruction Mode: Lecture Grading Option: Letter

ACAD 276 Dev II
Units: 4 Terms Offered: Fa Fundamentals of server-side scripting and web templates. Design and creation of data structures and databases. Visualize analytics and data. *Prerequisite:* ACAD 275 Instruction Mode: Lecture Grading Option: Letter

ACAD 277 Dev III
Units: 4 Terms Offered: Sp An accelerated approach to object-oriented programming, including foundations of mobile application development. Focus on user interface design. *Prerequisite:* ACAD 276 Instruction Mode: Lecture Grading Option: Letter

ACAD 280 Designing for Experiences
Units: 4 Terms Offered: Sp Designing effective and elegant interfaces and experiences for the ways people interact with data, devices, systems, and environments. *Prerequisite:* ACAD 178 and ACAD 275 and ACAD 276 Instruction Mode: Lecture Grading Option: Letter

ACAD 300x Database Web Development
Units: 3 Terms Offered: FaSpSm (Enroll in ITP 300)

ACAD 302 The Hacker Imagination: from Ancient Greece to Cupertino
Units: 4 Exploring issues in innovation, design and invention from the perspective of the hacker imagination. Instruction Mode: Lecture Grading Option: Letter

ACAD 303 Web Design
Units: 2 Terms Offered: FaSp (Enroll in DES 303)

ACAD 306 Innovation, Entertainment, and the Arts
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 306)

ACAD 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 (Enroll in ITP 308)

ACAD 310 Launching Disruptive Ventures
Units: 4 Terms Offered: FaSp (Enroll in BAEP 310)

ACAD 312 Materials Behavior and Processing
Units: 3 Terms Offered: Fa (Enroll in MASC 310)

ACAD 315x Basics of Project and Operations Management for Non-Majors
Units: 2 Terms Offered: Fa (Enroll in BUAD 315x)

ACAD 323g Design Theory
Units: 4 Terms Offered: FaSp (Enroll in DES 323g)

ACAD 330 3D Design: Objects and Space
Units: 4 Terms Offered: FaSp (Enroll in DES 330)

ACAD 331x Influence and Collaboration
Units: 2 Terms Offered: FaSp (Enroll in MOR 331x)

ACAD 332a Typography
Units: 2 Terms Offered: FaSp (Enroll in DES 332a)

ACAD 332b Typography
Units: 2 Terms Offered: FaSp (Enroll in DES 332b)

ACAD 342 Mobile Application Development
Units: 3 (Enroll in ITP 342)

ACAD 343 Mobile Development for Content and Media
Units: 1 (Enroll in ITP 343)

ACAD 344 Advanced Topics in Mobile App Development
Units: 3 (Enroll in ITP 344)

ACAD 350 International Experience
Units: 1 Terms Offered: Sp An international study experience and trip focusing on a primary subject area of the USC Iovine and Young Academy. Instruction Mode: Lecture Grading Option: Letter

ACAD 352 Digital Audio Recording and Processing
Units: 4 Terms Offered: FaSp The principles, techniques, and aesthetics of digital audio recording and processing with an emphasis on mastering for multimedia integration. *Recommended Preparation:* ACAD 200. Instruction Mode: Lecture Grading Option: Letter

ACAD 354 Synthesis and Sound Design
Units: 4 Terms Offered: FaSp A comprehensive study of the elements of electronic synthesis and sampling, as well as the use of "live" and "found" audio recordings for creative sound design purposes. *Recommended Preparation:* ACAD 200 Instruction Mode: Lecture Grading Option: Letter

ACAD 356 Audio and Media Integration
Units: 4 Terms Offered: FaSp Methods and techniques for integrating audio into various media and applications including: film and video, Internet streaming, mobile devices, and other digital and computer applications. *Recommended Preparation:* ACAD 200 Instruction Mode: Lecture Grading Option: Letter

ACAD 360 Design Consulting: Problem Solving for Organizations
Units: 4 Terms Offered: Sp A professional, collaborative and multidisciplinary consulting approach to diagnosing problems and applying design-based solutions on behalf of organizations. *Prerequisite:* ACAD 181g and ACAD 182 Instruction Mode: Lecture Grading Option: Letter

ACAD 365 Managing Data in C++
Units: 3 (Enroll in ITP 365)

ACAD 366 Designing Media and Communication Projects for Social Change
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 366)

ACAD 367x Advanced Coding
Units: 4 (Enroll in ITP 367x)

ACAD 375 Business and Professional Communication
Units: 4 Terms Offered: FaSpSm (Enroll in COMM 375)

ACAD 376 Discerning and Making I: Concept and Feasibility
Units: 4 Terms Offered: Fa A broad look at innovation from the perspectives of designers, engineers, and entrepreneurs as applied to concept/feasibility of art, design, products, services and experiences. *Prerequisite:* ACAD 177, ACAD 178, ACAD 179, ACAD 180. Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 377 Discerning and Making II: Creation and Implementation
Units: 4 Terms Offered: Sp Students create and implement – from conception through prototype – new ventures, products, services, and processes; building upon the innovations of designers, engineers, and entrepreneurs. *Prerequisite:* ACAD 376. Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture, Lab Grading Option: Letter

ACAD 382 Mobile Game Programming
Units: 3 (Enroll in ITP 382)

ACAD 385x Marketing of Creative Disruption and Innovation
Units: 4 Terms Offered: Fa (Enroll in MKT 385x)

ACAD 387x Cloud Architecture and Applications
Units: 4 (Enroll in ITP 387)

ACAD 404 Modern Technologies of Web Development
Units: 3 Terms Offered: Fa (Enroll in ITP 404)

ACAD 405 Professional Applications and Frameworks in Web Development
Units: 3 (Enroll in ITP 405)

ACAD 419 Professional Internship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm An experiential/academic opportunity in an arts, technology and business related facility. Written analysis, evaluation, and working internship. Instruction Mode: Lecture Grading Option: Letter

ACAD 423 Management of Small Businesses
Units: 4 Terms Offered: FaSp (Enroll in BAEP 423)

ACAD 425 Web Application Security
Units: 4 (Enroll in ITP 425)

ACAD 435 Professional C++
Units: 3 Terms Offered: Sp (Enroll in ITP 435)

ACAD 442 Mobile App Project
Units: 4 (Enroll in ITP 442)

ACAD 460 Web Application Project
Units: 4 Terms Offered: Sp (Enroll in ITP 460)

ACAD 467 Strategic Management of Innovation
Units: 4 Terms Offered: Sp (Enroll in MOR 467)

ACAD 475a The Garage Experience
Units: 4, 8 Terms Offered: FaSp Academy capstone experience, innovative projects leading to operational prototypes and viable enterprises, mentored by faculty and industry experts. *Prerequisite:* ACAD 377 Registration Restriction: Open only to Arts, Technology and the Business of Innovation students. Instruction Mode: Lecture Grading Option: Letter

ACAD 475b The Garage Experience
Units: 4, 8 Terms Offered: FaSp Academy capstone experience, innovative projects leading to operational prototypes and viable enterprises, mentored by faculty and industry experts. *Prerequisite:* ACAD 475a Registration Restriction: Open only to Arts, Technology and the Business of innovation students Instruction Mode: Lecture Grading Option: Letter

ACAD 480 Information Technology Internship
Units: 1, 2, 3, 4 Max Units: max 8 (Enroll in ITP 480)

ACAD 490 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

ACAD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Comprehensive exploration of particular aspects of art, technology and the business of innovation. Instruction Mode: Lecture Grading Option: Letter

ACAD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to graduate degree. Maximum units which may be applied to degree determined by department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACAD 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Comprehensive exploration of particular aspects of art, technology and the business of innovation. Instruction Mode: Lecture Grading Option: Letter

Accounting

Major Restrictions

Enrollment in most 500-level business

courses by non-business graduate students requires special permission. For information about the registration application process for non-business students, visit the *Schedule of Classes*.

ACCT 370 External Financial Reporting Issues
Units: 4 Terms Offered: FaSp Understanding of decision-making, problem solving, and research skills as a supplement to financial accounting knowledge for accounting professionals. *Prerequisite:* BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Duplicates Credit in former ACCT 370ab. Instruction Mode: Lecture Grading Option: Letter

ACCT 371 Introduction to Accounting Systems
Units: 4 Terms Offered: FaSp Understanding of technology and controls needed to capture data used by professionals in financial and managerial accounting, auditing and taxation. *Prerequisite:* BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Duplicates Credit in former ACCT 371ab. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 372 Internal Reporting Issues
Units: 2 Terms Offered: FaSp Understanding of decision-making, problem solving, and research skills as a supplement to managerial accounting knowledge for accounting professionals. *Prerequisite:* BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Instruction Mode: Lecture Grading Option: Letter

ACCT 373 Introduction to Auditing and Assurance Services
Units: 2 Terms Offered: FaSp Exploration of the requisite skills and knowledge needed to offer services in assurance, attestation or auditing engagements. *Prerequisite:* ACCT 370 and ACCT 371. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 374 Introduction to Tax Issues
Units: 2 Terms Offered: FaSp Basic tax principles, introduction to U.S. federal, state and local tax systems, income and expense definitions, property transactions, and fundamentals of individual taxation. *Prerequisite:* BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Instruction Mode: Lecture Grading Option: Letter

ACCT 377 Valuation for Financial Statement Purposes
Units: 2 Terms Offered: FaSp Explores Accounting Standards Codification (ASC) 820 "Fair Value Measurements and Disclosures" and reviews the historical background of US GAAP fair value guidance. *Prerequisite:* ACCT 370. Instruction Mode: Lecture Grading Option: Letter

ACCT 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ACCT 410x Foundations of Accounting
Units: 4 Terms Offered: FaSpSm Non-technical presentation of accounting for users of accounting information; introduction to financial and managerial accounting. Not open to students with course credits in accounting. Not available for unit or course credit toward a degree in Accounting or Business Administration. Instruction Mode: Lecture Grading Option: Letter

ACCT 415x Intermediate Financial Accounting for Non-Accounting Majors
Units: 4 Terms Offered: FaSp In-depth study of balance sheet, income statement, and cash flow statement issued from the perspective of a user (not preparer) of corporate financial reports. *Prerequisite:* ACCT 410x or BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Duplicates Credit in former ACCT 411x and ACCT 412x. Instruction Mode: Lecture Grading Option: Letter

ACCT 416 Financial Reporting and Analysis
Units: 2 Terms Offered: FaSp Examination of the role of financial statement analysis in the prediction of a firm's future financial performance. *Prerequisite:* BUAD 215 or BUAD 306; ACCT 370 or ACCT 415. Instruction Mode: Lecture Grading Option: Letter

ACCT 430 Accounting Ethics
Units: 4 Terms Offered: FaSp Theoretical knowledge and practical application accountants need to identify ethical issues and reconcile conflicts among competing stakeholders' interests in all major areas of accounting practice. *Prerequisite:* ACCT 372 and ACCT 373 and ACCT 374 and ACCT 377 Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 442 The Ethics of Financial and Political Accountability
Units: 4 (Enroll in HIST 442)

ACCT 462 Detecting Fraudulent Financial Reporting
Units: 2 Terms Offered: FaSp Understanding/identifying methods of fraudulent financial reporting, and signals that financial statements were fictitiously prepared; major frameworks for analyzing ethical dilemmas; reforms in corporate reporting environment. *Prerequisite:* ACCT 370 or ACCT 415x. Instruction Mode: Lecture Grading Option: Letter

ACCT 463 Internal Audit
Units: 2 Terms Offered: FaSp Examination of internal audit/auditors and their relationship to management, the investors, the regulators, and the external auditors. *Prerequisite:* ACCT 370, ACCT 373. Instruction Mode: Lecture Grading Option: Letter

ACCT 470 Advanced External Financial Reporting Issues
Units: 4 Terms Offered: FaSp Develop capabilities to identify and resolve advanced external financial reporting challenges, focusing primarily on operating, financing, and investing activities of business enterprises. *Prerequisite:* ACCT 370; *Corequisite:* ACCT 377. Duplicates Credit in former ACCT 470ab. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 471 Accounting Information Systems
Units: 2 Terms Offered: FaSp Issues related to the design, control, and implementation of accounting information systems. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 472 Managerial Accounting
Units: 2 Terms Offered: FaSp Understanding of systems providing cost information useful in management decision-making and problem solving. *Prerequisite:* ACCT 372. Instruction Mode: Lecture Grading Option: Letter

ACCT 473 Financial Statement Auditing
Units: 2 Terms Offered: FaSp Course builds on the background developed in ACCT 373, specifically the process used by external auditors to conduct financial statement audits. *Prerequisite:* ACCT 373. Instruction Mode: Lecture, Discussion Grading Option: Letter

ACCT 474 Tax Issues for Business
Units: 2 Terms Offered: FaSp Capabilities to identify and articulate tax issues related to a business entity's life: formation, investing, financing and operations, and change of form. *Prerequisite:* ACCT 374. Duplicates Credit in former ACCT 451. Instruction Mode: Lecture Grading Option: Letter

ACCT 475 Systems Security and Audit
Units: 2 Terms Offered: FaSp Issues related to the security, control, and auditing of accounting information systems. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 476 Performance Measurement Issues
Units: 2 Terms Offered: FaSp Introduction to understanding how management control systems can enhance achievement of the organization's objectives and strategies. *Prerequisite:* ACCT 410x or BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305. Instruction Mode: Lecture Grading Option: Letter

ACCT 477 Intermediate Fair Value Issues in Accounting
Units: 2 Terms Offered: FaSp Develops the ability to identify and understand new areas of emerging guidance involving fair value issues and to recognize and demonstrate appropriate application of methodologies. *Prerequisite:* ACCT 377. Instruction Mode: Lecture Grading Option: Letter

ACCT 478 Accounting Systems Design
Units: 4 Terms Offered: FaSp Explores the design of accounting systems. Introduction to tools and techniques for analyzing and designing accounting systems with an emphasis on system controls and reporting. *Prerequisite:* ACCT 371. Instruction Mode: Lecture Grading Option: Letter

ACCT 479 Accounting Systems Development
Units: 4 Terms Offered: FaSp Examines the fundamentals of accounting systems development. Introduction to the concepts of implementation and support, with emphasis on system quality assurance, evaluation and attestation. *Prerequisite:* ACCT 478. Duplicates Credit in former ACCT 454.

Instruction Mode: Lecture Grading Option: Letter

ACCT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ACCT 493 Leventhal Honors Research Seminar
Units: 2 Terms Offered: Sp Provides the methodological tools to identify research problems, develop researchable hypotheses, apply appropriate methodologies, conduct research, derive meaningful conclusions from data, write a research proposal. Registration Restriction: Open only to Accounting and Business Majors Instruction Mode: Lecture Grading Option: Letter

ACCT 494 Marshall Honors Research and Thesis
Units: 2 Max Units: 04 Terms Offered: FaSpSm Experience in conducting research and writing a thesis under supervision of a faculty adviser. *Prerequisite:* ACCT 493 or BUAD 493 Registration Restriction: Open only to Leventhal and Marshall Honors students Duplicates Credit in BUAD 494 Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 495 Accounting Internship: Work, Ethics and Communication
Units: 2 Terms Offered: Sp Provides insights and tools for the work environment specifically integrating technical, communication and ethical decision-making; bridging classroom learning and "real world" experience. *Recommended Preparation:* ACCT 370, BUAD 302T. Registration Restriction: Open only to accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Examination of current literature relevant to the total and changing environment in which business operates. Instruction Mode: Lecture Grading Option: Letter

ACCT 509 Concepts of Financial and Management Accounting
Units: 4 Terms Offered: Fa Introduction to the concepts of financial and managerial accounting. The course will provide coverage of key concepts needed by managers of businesses in order to communicate information important in decision-making. Registration Restriction: Not open to business or accounting majors Duplicates Credit in GSBA 510 and GSBA 518. Instruction Mode: Lecture Grading Option: Letter

ACCT 525x Intensive Accounting Principles and Practices
Units: 15 Terms Offered: Sm Technical accounting theory and principles necessary for graduate work. Satisfies the prerequisite requirements for intermediate and advanced accounting, auditing, and tax. *Recommended Preparation:* introductory accounting courses. Instruction Mode: Lecture Grading Option: Letter

ACCT 526 Global Accounting Experience
Units: 1.5 Terms Offered: Sp Cross-border transactions in the global economy examining accounting, legal, and tax environments, economic and political systems, and cultural differences. Includes international travel to selected region. Instruction Mode: Lecture Grading Option: Letter

ACCT 528 Fair Value Accounting: GAAP, IFRS and Emerging Issues
Units: 1.5 Terms Offered: FaSp Case study approach to explore fair value issues in accounting; research and analysis of causes of valuation differences. Registration Restriction: Open only to business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

ACCT 530L Ethics for Professional Accountants
Units: 3 Terms Offered: FaSp Provides the ethical grounding that accountants need to identify ethical issues and reconcile conflicts among competing stakeholder interests. Registration Restriction: Open only to business and accounting students. Instruction Mode: Lecture, Lab Grading Option: Letter

ACCT 535 Management and Cost Accounting
Units: 3 Terms Offered: FaSp Presentation of accounting data for management use in decision making; cost accounting, profit planning, decision analysis, systems for revenue and costs control, responsibility accounting. *Prerequisite:* ACCT 585 or GSBA 510. Registration Restriction: Open only to business and accounting students. Duplicates Credit in GSBA 518 and GSBA 536 . Instruction Mode: Lecture Grading Option: Letter

ACCT 536 Advanced Cost Analysis and Management Accounting
Units: 3 Terms Offered: Sm Analysis and design of systems that provide cost information useful in making strategic and operating decisions. Advantages and limitations of activity-based costing methods. *Prerequisite:* GSBA 518 or ACCT 535. Instruction Mode: Lecture Grading Option: Letter

ACCT 537 Performance Measurement, Evaluation, and Incentives
Units: 3 Terms Offered: FaSp Financial responsibility centers, financial and nonfinancial performance measures, budgets and other targets, evaluation techniques and styles, incentives. Strategy implementation and execution. Corporate governance. Registration Restriction: Online registration limited to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

ACCT 546 Auditing and Assurance Services
Units: 3 Terms Offered: FaSp Concepts and principles governing independent professional services that provide assurance on the reliability and relevance of information, including financial statement information. Topics include demand and supply issues for these services, basic principles of evidence, risk assessment and testing. *Recommended Preparation:* ACCT 525x. Instruction Mode: Lecture Grading Option: Letter

ACCT 547 Enterprise Information Systems
Units: 3 Terms Offered: Fa Focuses on accounting enterprise database models and information technology required to support those systems. Includes analysis and design of interfunctional process flows through reengineering to exploit technology capabilities. Instruction Mode: Lecture Grading Option: Letter

ACCT 548 Enterprise Systems: Design, Implementation, Security and Audit
Units: 3 Terms Offered: FaSp Exploration of a number of areas including the role systems play in organizations, the technology that supports these systems and issues relating to technology risk, system/application security and system review/audit. *Prerequisite:* ACCT 371 or ACCT 547. Instruction Mode: Lecture Grading Option: Letter

ACCT 549 Advanced Enterprise Systems and Technologies
Units: 3 Terms Offered: FaSp Design, control and development of advanced enterprise systems, using reengineering, focusing on accounting and financial systems, using a wide range of emerging existing technologies. *Recommended Preparation:* ACCT 547. Instruction Mode: Lecture Grading Option: Letter

ACCT 550T Tax Research and Professional Responsibilities
Units: 3 Terms Offered: FaSm Tax law research methods; interpreting statutes, cases and rulings; communicating research results; administration and professional responsibilities of tax practice. *Recommended Preparation:* introductory tax course. Instruction Mode: Lecture Grading Option: Letter

ACCT 551T Taxation of Partnerships and S-Corps
Units: 3 Terms Offered: Fa Federal taxation of flow-through entities, including: partnerships, S corporations, limited liability partnerships (LLPs) and limited liability companies (LLCs). *Recommended Preparation:* ACCT 550T or ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 552 Knowledge and Data Management
Units: 3 Terms Offered: Sp Managing knowledge using knowledge-based systems and contemporary knowledge management approaches (intranets) in order to enhance and facilitate decision making and manage accounting data and information in organizations. *Recommended Preparation:* ACCT 547. Instruction Mode: Lecture Grading Option: Letter

ACCT 553T Tax Policy and Strategic Tax Planning
Units: 3 Introduction to business taxes and their impact on management decisions. For prospective managers and business consultants, topics include discounted cash flow, financial accounting, and overall

business impacts of taxes on decision making. *Recommended Preparation:* GSBA 518. Instruction Mode: Lecture Grading Option: Letter

ACCT 557 Advanced Financial Statement Auditing Topics
Units: 3 Terms Offered: FaSp Advanced coverage of topics in financial statement auditing including market effects of auditing, auditor litigation and client acceptance, errors and fraud, analytical procedures, and going-concern assessment. *Prerequisite:* ACCT 525x. Instruction Mode: Lecture Grading Option: Letter

ACCT 558 Advanced Accounting Valuation
Units: 1.5 Terms Offered: Sp Explores complex valuation issues arising in financial reporting and the related professional standards and guidance. *Prerequisite:* ACCT 528. Instruction Mode: Lecture Grading Option: Letter

ACCT 559 Strategy and Operations Through CFO Lens
Units: 3 Terms Offered: FaSp Examination of strategic objectives and operations within specific industries and companies. Chief Financial Officers present how they view the business as a whole and measure performance effectively. Instruction Mode: Lecture Grading Option: Letter

ACCT 560T Tax Theory and Ethics
Units: 3 Terms Offered: FaSp Taxation and its relationship to business and investment decisions; the effects of taxation on business organization, capital structure, policies, operation, and expansion. *Recommended Preparation:* introductory tax course. Instruction Mode: Lecture Grading Option: Letter

ACCT 561T Income Tax of Corporations and Their Shareholders
Units: 3 Terms Offered: FaSp Concepts and principles governing the taxation of corporations and their shareholders; the effect of taxes on corporate formation, capital structure, distributions, and liquidations. *Recommended Preparation:* ACCT 550T or ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 562 Methods and Motivations of Financial Reporting Fraud
Units: 1.5 Terms Offered: Sp Discover and analyze signals of major and frequently committed methods of fraudulent financial reporting; explore current reforms in financial reporting, auditing, and corporate governance. *Recommended Preparation:* ACCT 572 or other intermediate accounting course Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

ACCT 563T Federal Estate and Gift Taxes
Units: 3 Terms Offered: FaSpSm Taxation of decedents' estates and lifetime gifts; valuation of property subject to estate and gift taxes. *Prerequisite:* ACCT 550T Registration Restriction: Online registration open only to graduate accounting students Instruction Mode: Lecture Grading Option: Letter

ACCT 567T Taxation of Transactions in Property
Units: 3 Terms Offered: FaSm Taxation of gains and losses from sales, exchanges and other transactions involving property, especially real estate; tax planning. *Prerequisite:* ACCT 550T. Registration Restriction: Open only to graduate accounting majors. Instruction Mode: Lecture Grading Option: Letter

ACCT 568T International Taxation
Units: 3 Terms Offered: FaSpSm Taxation of cross-border transactions of U.S. citizens and corporations and of U.S. source income of foreign persons and corporations; planning for organization of international operations under the tax laws. *Prerequisite:* ACCT 561T Instruction Mode: Lecture Grading Option: Letter

ACCT 569T Advanced Partnership Taxation
Units: 3 Terms Offered: Sp Advanced tax concepts involving partnerships and limited liability companies, designed to produce a level of expertise in Subchapter K of the Internal Revenue Code. *Prerequisite:* ACCT 551T. Instruction Mode: Lecture Grading Option: Letter

ACCT 570T State and Local Tax Concepts
Units: 3 State income taxes; property tax; other state and local taxes; the effect of state and local taxes on multistate operations. *Prerequisite:* ACCT 550T *Recommended Preparation:* ACCT 561T or minimum one year of work in corporate taxation Registration Restriction: Online registration open only to graduate students in Business Taxation. Instruction Mode: Lecture Grading Option: Letter

ACCT 571T Taxation of Individuals
Units: 3 Terms Offered: SpSm Application of tax law in areas of compensation planning, investment planning, tax shelters, and current developments relating to the individual taxpayer. *Prerequisite:* ACCT 550T. Instruction Mode: Lecture Grading Option: Letter

ACCT 572 Corporate Accounting and Reporting
Units: 3 Terms Offered: FaSp A study of financial reporting and disclosure issues with an emphasis on the use of corporate financial statements and their accompanying footnotes. *Prerequisite:* GSBA 510. Instruction Mode: Lecture Grading Option: Letter

ACCT 573T Federal Tax Procedure
Units: 3 Terms Offered: SpSm Tax reporting and collection procedures; administrative and judicial procedures governing tax controversies; the rights and obligations of the taxpayer. *Prerequisite:* ACCT 550T; ACCT 560T or LAW 600. Instruction Mode: Lecture Grading Option: Letter

ACCT 574 Accounting and Corporate Governance in Global Business
Units: 3 How corporate governance and financial reporting systems are influenced by business environments internationally. Global perspective of governance and reporting challenges and mechanisms for their remedy. *Recommended Preparation:* GSBA 510 or other Financial Accounting course. Registration Restriction: Online registration open only to accounting and business students Instruction Mode: Lecture Grading Option: Letter

ACCT 575T Taxation of Financial Markets
Units: 3 Terms Offered: Sm Taxation of financial market products with focus on derivative products. Basics of tax forwards, futures, options, swaps, collars and floor. Time value of money considerations. *Prerequisite:* ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 576T Tax Consolidations
Units: 3 Terms Offered: FaSp Concepts and principles of taxation of companies operating as consolidated groups. *Prerequisite:* ACCT 550T and ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 577T Compensation
Units: 3 Concepts of taxation of employers and employees from various forms of compensation, including pension plans, profit sharing plans, stock ownership plans, and deferred compensation arrangements. *Prerequisite:* ACCT 550T and ACCT 560T. Instruction Mode: Lecture Grading Option: Letter

ACCT 578T Advanced Corporate Taxation
Units: 3 Terms Offered: Sp Analysis of corporate divisions and reorganizations, carryovers, and other advanced topics in corporate taxation. *Prerequisite:* ACCT 561T. Instruction Mode: Lecture Grading Option: Letter

ACCT 579T Advanced International Taxation
Units: 3 Analysis of tax treaties, foreign currency transactions, international licensing, reorganization of foreign corporations, and other current topics as the law changes. *Prerequisite:* ACCT 568T. Instruction Mode: Lecture Grading Option: Letter

ACCT 580T Tax Accounting Methods
Units: 3 Terms Offered: FaSpSm Concepts governing timing of recognition of income and deductions for income tax purposes. Covers differences between GAAP and income tax accounting for all taxpayers. *Prerequisite:* ACCT 550T. Instruction Mode: Lecture Grading Option: Letter

ACCT 581 Financial Statement Analysis
Units: 3 Terms Offered: FaSpSm Analysis of corporate financial reports from a decision-maker's perspective. This course is case-and-applications-oriented. Applications include credit analysis, equity valuation, and financial distress. *Prerequisite:* GSBA 510. Instruction Mode: Lecture Grading Option: Letter

ACCT 582 Accounting for Mergers and Acquisitions
Units: 3 Terms Offered: FaSp Theoretical and practical problems in accounting for business combinations: purchase and pooling-of-interests accounting; consolidated financial statements; income tax considerations; International Accounting

Standards. *Prerequisite:* GSBA 510. Instruction Mode: Lecture Grading Option: Letter

ACCT 583 Income Tax Accounting and Auditing
Units: 3 Terms Offered: FaSp Examination of FAS 109 and roles of auditors, tax professionals and corporate financial personnel in preparing, analyzing and reviewing accrual of income taxes. *Prerequisite:* ACCT 561T or ACCT 585. Registration Restriction: Open only to graduate majors. Instruction Mode: Lecture Grading Option: Letter

ACCT 584 Family Wealth Preservation
Units: 3 Terms Offered: Sp Analysis of transfer of property during lifetime or at death from a tax saving perspective. Instruction Mode: Lecture Grading Option: Letter

ACCT 585 Professional Responsibilities in Accounting
Units: 3 Terms Offered: Fa A case study approach to the integration of accounting and auditing knowledge; research, communication, and interpersonal skills developed through extensive written and presentation requirements. *Recommended Preparation:* ACCT 572. Instruction Mode: Lecture Grading Option: Letter

ACCT 586 Financial Reporting Topics and Analysis for Tax Professionals
Units: 3 Terms Offered: Sm Explores the technical financial accounting skills needed for an entry-level tax professional with emphasis on an understanding of financial statements and accounting for income taxes. Exposure to the preparation of corporate tax returns with the integration to the financial reporting of a corporation. *Recommended Preparation:* undergraduate financial accounting or accounting class for lawyers. Instruction Mode: Lecture Grading Option: Letter

ACCT 587 Forensic Accounting
Units: 1.5, 3 Terms Offered: FaSp Role of the accountant in litigation matters. Identification and exploration of the analytical and communication tools necessary to be an effective forensic accountant. *Prerequisite:* ACCT 572. Instruction Mode: Lecture Grading Option: Letter

ACCT 588 Analysis and Implications of SEC Registration and Reporting
Units: 3 Terms Offered: Sp Legal, institutional, and economic implications of being a U.S. public company. The Securities and Exchange Commission and its influence on investors, management, underwriters, and accountants. *Recommended Preparation:* ACCT 572. Instruction Mode: Lecture Grading Option: Letter

ACCT 590 Directed Research
Units: 1, 2, 3, 4 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the School of Accounting. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 592 Field Research in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* Completion of MAcc or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture, Guided Independent Study Grading Option: Credit/No Credit

ACCT 593 Independent Research in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 595 Internship in Accounting
Units: 0.5-2, Max Units: 9.0 Supervised on-the-job business experience in the field of Accounting. (Curricular Practical Training). *Recommended Preparation:* Completion of required MAcc or MBT course work. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 596 Research Practicum in Accounting
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Leventhal faculty member on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 597 Consulting Project in Accounting
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSp Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 599 Special Topics
Units: 1, 1.5, 2, or 3 Max Units: 6.0 Terms Offered: FaSpSm Examination of current literature and research techniques in contemporary accounting areas including tax, auditing and international accounting. Instruction Mode: Lecture Grading Option: Letter

ACCT 602 Survey of Judgment and Decision-Making Research in Accounting
Units: 3 Survey of major topics in judgment and decision-making research in accounting with coverage of both key research questions and frequently used methods. Instruction Mode: Lecture Grading Option: Letter

ACCT 604 Survey of Management Accounting Research
Units: 3 Survey of major topics in accounting research with coverage of both key research questions and frequently used methods. Instruction Mode: Lecture Grading Option: Letter

ACCT 605 Survey of Financial Reporting Research
Units: 3 Terms Offered: Fa Survey of major topics and methods in research on financial reporting with coverage of both key research questions and frequently used methods. Registration Restriction: Open only to Business Administration doctoral students. Instruction Mode: Lecture Grading Option: Letter

ACCT 606 Survey of Tax Research
Units: 3 Survey of major topics and methods in research on taxation with coverage of both key research questions and frequently used methods. Instruction Mode: Lecture Grading Option: Letter

ACCT 608 Positive Accounting Research
Units: 3 Survey of major topics related to positive accounting research with coverage of both key research questions and frequently used methods. Instruction Mode: Lecture Grading Option: Letter

ACCT 610 Survey of Accounting Research
Units: 3 Terms Offered: FaSp Advanced seminar that surveys both seminal and cutting edge research in financial accounting, managerial accounting, accounting information systems, and tax accounting. Instruction Mode: Lecture Grading Option: Letter

ACCT 611 Selected Topics in Accounting Research
Units: 1.5 Max Units: 6.0 Terms Offered: FaSp Advanced seminar to address issues/topics covered in accounting research. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

ACCT 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Accounting. Presentations by faculty, visiting researchers, and advanced students. Registration Restriction: Open only to Marshall Ph.D. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACCT 630 Auditing and Archival Research
Units: 1.5 Terms Offered: Sp Survey of major topics and methods in archival auditing research, research design methodologies, use of STATA and statistical modeling. *Recommended Preparation:* Graduate level econometrics course. Registration Restriction: Open only to PhD students in Accounting. Instruction Mode: Lecture Grading Option: Letter

ACCT 661a Accounting Research Methodology
Units: 2 Advanced doctoral seminar concerned with review and critique of accounting research forum papers and with the preparation, presentation, and defense of research proposals and papers. Instruction Mode: Lecture Grading Option: Letter

ACCT 661b Accounting Research Methodology
Units: 2 Advanced doctoral seminar concerned with review and critique of accounting research forum papers and with

the preparation, presentation, and defense of research proposals and papers. Instruction Mode: Lecture Grading Option: Letter

ACCT 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary accounting. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Academic Medicine

ACMD 501 Introduction to Academic Medicine Worldwide
Units: 3 Introduces the master's program; includes historical development of training in the health professions; current issues, challenges and opportunities in academic medicine and health worldwide. Instruction Mode: Lecture Grading Option: Letter

ACMD 502 Becoming a Leader in Academic Medicine Worldwide
Units: 3 Current approaches to leadership within the context of global academic medicine and health professions education; individual applications, group dynamics, teamwork, and interpersonal skill enhancement. Instruction Mode: Lecture Grading Option: Letter

ACMD 503 Leading Change in Academic Medical Centers
Units: 3 Exploration and practice of skills for promoting programs within academic medicine and health professions' education; building trust, organizational change, conflict resolution, negotiation, and managing resources. Instruction Mode: Lecture Grading Option: Letter

ACMD 511 Competencies in Academic Medicine and Health I
Units: 3 Acquisition of cognitive knowledge and problem-solving skills in health professions worldwide; instructional methods, assessment techniques, designing curricula for health professions education. Instruction Mode: Lecture Grading Option: Letter

ACMD 512 Competencies in Academic Medicine and Health II
Units: 3 Learning theory, teaching methods, assessment techniques related to acquisition and reinforcement of competencies related to patient care, practice based learning and improvement and systems-based practice. Instruction Mode: Lecture Grading Option: Letter

ACMD 513 Professionalism in Academic Medicine and Health
Units: 3 Acquisition and evaluation of interpersonal and communication skills and professionalism including ethics and cultural competence; within the context of health care disparities and health initiatives. Instruction Mode: Lecture Grading Option: Letter

ACMD 514 Accreditation and Program Evaluation in Academic Medicine
Units: 3 Evaluating health professions training programs within guidelines of relevant accreditation organizations; models of evaluation, designing plans and tools for evaluation of program elements. Instruction Mode: Lecture Grading Option: Letter

ACMD 591 Designing Research on Innovations in Academic Medicine
Units: 2 Introduction to design and scholarly review of innovations in health professions education; needs assessment, problem selection, use of research methods to study an innovation. Instruction Mode: Lecture Grading Option: Letter

ACMD 592 Implementing Research on Innovation in Academic Medicine
Units: 2 Mentored research on an innovation in academic medicine leading to the master's degree. The project will result in a formal written research report. *Prerequisite:* ACMD 591. Instruction Mode: Lecture Grading Option: Letter

ACMD 593 Foundations of Academic Writing
Units: 1 Academic writing for conference papers, grant proposals and journal articles. *Recommended Preparation:* A completed study of an innovation in academic medicine or other health-related field that is ready to move to publication. Instruction Mode: Lecture Grading Option: Letter

ACMD 598 Fieldwork: Designing Innovations for the Health Professions
Units: 1, 2, 3 Max Units: 3.0 Individual projects designing curricular or other innovations for the home program as an application of Year 1 concepts and as part of the capstone experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

ACMD 604 Supporting the Educational Enterprise in Academic Medicine
Units: 3 Explores support functions in academic medical centers and health professions schools; financial, scientific, educational, faculty and student affairs departments, and offices of medical education. Instruction Mode: Lecture Grading Option: Letter

ACMD 605 Faculty Development for Health Sciences Faculty Educators
Units: 2 Role of faculty development programs in health professions schools; tools for delivering effective continuing education and faculty development; models for mentoring clinical faculty. Instruction Mode: Lecture Grading Option: Letter

ACMD 615 Maintenance of Competence in the Health Professions
Units: 2 Maintenance of competence and continuing professional development (CPD) of physicians and other health care professionals; trends, needs, strategies, assessing outcomes, examining effectiveness of CPD programs. Instruction Mode: Lecture Grading Option: Letter

ACMD 621 Capstone Portfolio for the Master of Academic Medicine
Units: 1 Role of portfolios for teachers and learners; develop a personal capstone portfolio that represents each learner's accomplishment of the core competencies of the MACM program. Instruction Mode: Lecture Grading Option: Credit/No Credit

Advanced Dental Education Conjoint Program

ADNT 701 Research Methodologies in Dentistry
Units: 2 Critical evaluation of the scientific principles in the development, execution, and interpretation of methodologies used in dentistry. Instruction Mode: Lecture Grading Option: Letter

ADNT 702 Physical Diagnosis
Units: 2 Didactic and clinical experience in physical diagnosis relevant to practice of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703a Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703b Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703c Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703d Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703e Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Letter

ADNT 703f Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703h Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703i Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 703j Seminar: Combined Treatment Planning
Units: 2 each Interdisciplinary consideration of complex cases which involve several of the dental specialties. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 704a Oral Biology

Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 704b Oral Biology
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 704c Oral Biology
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 each Interdisciplinary consideration of contemporary biology of the cell, bone, teeth, periodontium, occlusion, dental pulp, pain and human growth and development. Instruction Mode: Lecture Grading Option: Letter

ADNT 706 Seminar: Diseases of Childhood
Units: 2 Intraoral hard and soft tissue pathologic conditions in children, common bacterial and viral diseases and their transmission in the pediatric dental environment. Instruction Mode: Lecture Grading Option: Credit/No Credit

ADNT 707 Behavior of the Child Patient
Units: 2 Child and adolescent psychological growth and development: Human communication, needs, motivation, and learning. Critical analysis of patient management, team treatment, and practice administration. Instruction Mode: Lecture Grading Option: Letter

ADNT 710 Internship: Dental Education
Units: 1, 2, 3, 4, 5 Practical experience teaching predoctoral students. Units and hours variable. Instruction Mode: Lecture Grading Option: Letter

Aerospace Studies

AEST 100a Aerospace Studies I: Air Force Mission and Organization
Units: 1 Terms Offered: FaSp Introduction to U.S. Air Force and the military profession; USAF organization and functions; Strategic Air Command organization, command, control, and weapons systems; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 100b Aerospace Studies I: Air Force Mission and Organization
Units: 1 Terms Offered: FaSp Organization and function of NORAD; tactical air, military airlift, systems, logistics, air training and communications commands; Army, Navy, Marines; reserves; separate operating agencies. Instruction Mode: Lecture Grading Option: Letter

AEST 110a Leadership Laboratory I
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 110b Leadership Laboratory I
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 200a Aerospace Studies II: Air Force History
Units: 1 Terms Offered: FaSp Development of aerospace power in the U.S. through World War II; emphasis on the Army Air Corps; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 200b Aerospace Studies II: Air Force History
Units: 1 Terms Offered: FaSp Development of aerospace power since World War II; emphasis on international confrontations involving the United States; communication skills. Instruction Mode: Lecture Grading Option: Letter

AEST 210a Leadership Laboratory II
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 210b Leadership Laboratory II
Units: 1 Terms Offered: FaSp Introduction to the military experience focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 220a Advanced Leadership Laboratory II
Units: 1 Terms Offered: FaSp Additional exposure to the military experience for continuing AFROTC cadets, focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 220b Advanced Leadership Laboratory II
Units: 1 Terms Offered: FaSp Additional exposure to the military experience for continuing AFROTC cadets, focusing on customs and courtesies, drill and ceremonies, and the environment of an Air Force officer. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 300a Aerospace Studies III: Air Force Management and Leadership
Units: 3 Terms Offered: FaSp Air Force management focusing on the new manager in the Air Force milieu. Emphasis on communication skills peculiar to the Air Force. Instruction Mode: Lecture Grading Option: Letter

AEST 300b Aerospace Studies III: Air Force Management and Leadership
Units: 3 Terms Offered: FaSp Air Force management focusing on the new manager in the Air Force milieu. Emphasis on communication skills peculiar to the Air Force. Instruction Mode: Lecture Grading Option: Letter

AEST 310a Leadership Laboratory III
Units: 1 Terms Offered: FaSp Practical introduction to Air Force leadership focusing on military communicative skills, group dynamics, and application of theories of leadership and management. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 310b Leadership Laboratory III
Units: 1 Terms Offered: FaSp Practical introduction to Air Force leadership focusing on military communicative skills, group dynamics, and application of theories of leadership and management. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 400a Aerospace Studies IV: National Security Forces in Contemporary American Society
Units: 3 Terms Offered: FaSp Military professionalism and the context in which defense policy is formulated and implemented; national security policy, political/social constraints, and military justice. Instruction Mode: Lecture Grading Option: Letter

AEST 400b Aerospace Studies IV: National Security Forces in Contemporary American Society
Units: 3 Terms Offered: FaSp Military professionalism and the context in which defense policy is formulated and implemented; national security policy, political/social constraints, and military justice. Instruction Mode: Lecture Grading Option: Letter

AEST 410a Leadership Laboratory IV
Units: 1 Terms Offered: FaSp Advanced Air Force leadership experience focusing on the practical development of the Air Force officer through command and staff positions within the Cadet Corps. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 410b Leadership Laboratory IV
Units: 1 Terms Offered: FaSp Advanced Air Force leadership experience focusing on the practical development of the Air Force officer through command and staff positions within the Cadet Corps. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 420a Leadership Laboratory V
Units: 1 Terms Offered: FaSp Advanced leadership experiences for AFROTC continuing cadets. Instruction Mode: Lecture Grading Option: Credit/No Credit

AEST 420b Leadership Laboratory V
Units: 1 Terms Offered: FaSp Advanced leadership experiences for AFROTC continuing cadets. Instruction Mode: Lecture Grading Option: Credit/No Credit

Art History

AHIS 100g Introduction to Visual Culture
Units: 4 Terms Offered: Sp The description and analysis of various forms of visual culture, including both mass media and "high" art representations, both Western and non-Western images. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 120gp Foundations of Western Art
Units: 4 Terms Offered: Fa Mediterranean and European art and architecture presented in historical, cultural and social context that introduces art history as a discipline. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 121gp Art and Society: Renaissance to Modern
Units: 4 Terms Offered: FaSpSm European art and its legacy in the Americas. Painting, sculpture, architecture and other visual media considered in relation to social and cultural history. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 125gp Arts of Asia I: Antiquity to 1300
Units: 4 Terms Offered: Fa An introduction to the major art forms and monuments of religious art in India, Southeast Asia, China, and Japan from pre-history to 1300. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 126g Arts of Asia II: 1300 to the Present
Units: 4 Terms Offered: Sp A survey of the art and architecture of India, China, Korea, and Japan from 1300 to the present. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 127g Arts of the Ancient Americas
Units: 4 Terms Offered: Fa A survey of the art, architecture, and archaeology of the diverse array of peoples and cultures in ancient Mesoamerica and the South American Andean Mountains. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

AHIS 128g Arts of Latin America
Units: 4 Terms Offered: Sp Survey of the art, architecture, and visual culture of Latin America from the colonial period to the present, focusing on connections to culture and society. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 201g Digging into the Past
Units: 4 Terms Offered: Sp A broad survey, covering some 8,000 years and focusing on the material culture of the ancient world in a historical and social context. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

AHIS 220g Medieval Visual Culture
Units: 4 Terms Offered: Fa Medieval visual culture as an introduction to the Christian heritage of western civilization and to the interaction of Church and state from the 3rd to the 13th century. Satisfies New General Education in Category A: The Arts Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 230 Art and Culture in Early Modern Europe
Units: 4 Survey of European art from the 15th to the 17th century. Case studies in Renaissance and Baroque art with emphasis on artists in major urban centers. Instruction Mode: Lecture Grading Option: Letter

AHIS 240g Introduction to American Art
Units: 4 Terms Offered: FaSp An Introduction to North American visual and material culture from the late sixteenth century to the present. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 250m Modernity and Difference: Critical Approaches to Modern Art
Units: 4 Terms Offered: Fa Consideration of various categories of "The Modern" as they have been constructed in Western art of the late 19th and 20th centuries. Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 255g Culture Wars: Art and Social Conflict in the Modern World
Units: 4 Terms Offered: FaSp Examination of social conflicts and political controversies in American culture through the lens of visual art and photography. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

AHIS 270 L.A. Now: Contemporary Art in Los Angeles
Units: 4 Explores the production, display and critical reception of contemporary art, taking Los Angeles as its laboratory. Instruction Mode: Lecture Grading Option: Letter

AHIS 282 Korean Art
Units: 4 Introduction to the richness and complexity of artistic expression in Korean art through the study of painting, sculpture, ceramics, and architecture through the 19th century. Instruction Mode: Lecture Grading Option: Letter

AHIS 304m Gender and Difference in the Early Modern Period
Units: 4 An introduction to Italian Renaissance art with emphasis on the role of gender and sexuality in the creation of "masterpieces." Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 304

AHIS 318 Arts of the Ancient Andes
Units: 4 Survey of the art and architecture of the ancient cultures of the Andes in South America. Instruction Mode: Lecture Grading Option: Letter

AHIS 319 Mesoamerican Art and Culture
Units: 4 Introductory survey of painting, sculpture, and architecture of Mesoamerica before the Spanish conquest presented in their social, cultural, and political contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-319

AHIS 320 Aegean Archaeology
(Enroll in CLAS 323)

AHIS 321 Greek Art and Archaeology
Units: 4 Terms Offered: Fa Survey of artistic works and monuments of ancient Greece from the Geometric through the Hellenistic period (c. 1000 - 30 BCE.). Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 321, ARCG 321

AHIS 322 Roman Art and Archaeology
Units: 4 Terms Offered: Sp Survey of the art and architecture of ancient Rome and its empire, from the beginnings of the city through Constantine (8th century BCE to 4th century CE). Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 322, ARCG 322

AHIS 324 Late Antique Art and Archaeology
Units: 4 (Enroll in CLAS 324)

AHIS 325 Roman Archaeological Excavation: Methods and Practice
Units: 4 Terms Offered: SpSm Students learn about archaeological methodology and practice by visiting archaeological sites in Rome and excavating a nearby ancient site. Instruction Mode: Lecture Grading Option: Letter

AHIS 326 Archaeology of Religion in the Greco-Roman World
Units: 4 (Enroll in CLAS 328)

AHIS 328 Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm A survey of the art, architecture, and visual culture of colonial Latin America, focusing on connections to culture and society. Instruction Mode: Lecture Grading Option: Letter

AHIS 330 Medieval Art
Units: 4 Introductory survey of art and architecture of Christianity from 300–1300; biblical themes and classical traditions; cultural and historical analysis of medieval art. Instruction Mode: Lecture Grading Option: Letter

AHIS 336 Bodies of Knowledge: Art and Anatomy in Renaissance Europe
Units: 4 Terms Offered: FaSp Explores anatomical knowledge and art making in Renaissance Europe, focusing on collaborations between medical professions, printers and artists in illustrated anatomy books. *Recommended Preparation:* AHIS 120 Instruction Mode: Lecture Grading Option: Letter

AHIS 343 Renaissance Art
Units: 4 Painting, sculpture and architecture in Renaissance Europe, north and south, from

1300–1600. *Recommended Preparation:* AHIS 120 or AHIS 121. Duplicates Credit in former AHIS 340 and AHIS 342. Instruction Mode: Lecture Grading Option: Letter

AHIS 344 Baroque Art
Units: 4 Painting, sculpture and architecture in 17th century Europe, north and south. Duplicates Credit in former AHIS 353 and AHIS 356. Instruction Mode: Lecture Grading Option: Letter

AHIS 357 History of French Art 1860–1920
Units: 4 Terms Offered: Sp (Paris Semester only) Exploration of the main movements of late 19th and early 20th century French art using the resources of Parisian museums and monuments. Visits to Paris museums are an integral part of the course work. *Recommended Preparation:* familiarity with modern European history. Instruction Mode: Lecture Grading Option: Letter

AHIS 361 British Modernism, 1780-1918
Units: 4 A survey of art and architecture in Britain from the age of Hogarth to Art Nouveau. Among the artists studied are Constable, Turner, and the Pre-Raphaelites. Duplicates Credit in the former AHIS 461 Instruction Mode: Lecture Grading Option: Letter

AHIS 363m Contemporary Art and the Culture Wars
Units: 4 Focuses on issues of race, gender, and sexuality in American art of the last three decades. *Recommended Preparation:* AHIS 121 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 363

AHIS 364 Myths, Arts, Realities: Visual Culture in California, 1849 to the Present
Units: 4 Diverse interpretations of "the California experience and lifestyle" in paintings, sculpture, photography, cinema, public art and popular culture of the last 150 years. Instruction Mode: Lecture Grading Option: Letter

AHIS 365m African American Art
Units: 4 A survey of the fine arts produced by people of African descent in the United States from the nation's inception in the late 18th century until the contemporary movement. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-364

AHIS 366 Picturing Democracy: American Art and Visual Culture, 1750-1900
Units: 4 Terms Offered: FaSp Studies the art and visual culture of the United States from nation formation to the World's Columbian Exposition of 1893. *Recommended Preparation:* any 100-level Art History course Instruction Mode: Lecture Grading Option: Letter

AHIS 367 Early American Modernism: American Art and Visual Culture
Units: 4 Terms Offered: FaSp Studies the art and visual culture of the United States between 1876, the date of the Centennial Fair in Philadelphia, to the eve of World War II. *Recommended Preparation:* any 100-level art history course Instruction Mode: Lecture, Discussion Grading Option: Letter

AHIS 368 Modern Art I: 1700–1850
Units: 4 A cultural and historical examination of European art and architecture from 1700 (Rococo) to 1850 (Realism), focusing on the beginnings of modernism in the age of revolution. Duplicates Credit in former AHIS 360. Instruction Mode: Lecture Grading Option: Letter

AHIS 369 Modern Art II: 1851–1940
Units: 4 An examination of European modern art and design, focusing on industrialization, urbanism, primitivism, colonialism, and their relations to the arts. Instruction Mode: Lecture Grading Option: Letter

AHIS 370g Modern Art III: 1940 to the Present
Units: 4 Terms Offered: Sp Questions of social engagement and political structure address this examination of major international movements in art since 1940. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 373g History and Theory of Photography
Units: 4 Terms Offered: Irregular Explores key moments in the history of photography from its invention to the present. Issues include modernity and mass culture; photography as a fine art; technologies of vision. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

AHIS 376 Introduction to African Art
Units: 4 An introduction to sub-Saharan art (sculpture, textiles, architecture, masquerades, performances and body arts) in the context of issues of function, gender, politics and ethnic diversity. Instruction Mode: Lecture Grading Option: Letter

AHIS 378 Modern Russian Art
Units: 4 (Enroll in SLL 378)

AHIS 381g Visual Cultures of Asia
Units: 4 Terms Offered: FaSp Exploration of one or more major traditions of visual culture in Asia through cross-cultural, interdisciplinary perspectives. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 381

AHIS 382 Art and Cultural Heritage in East Asia
Units: 4 Terms Offered: FaSpSm (Enroll in EALC 382)

AHIS 384 Early Chinese Art
Units: 4 A survey of Chinese architecture, ceremonial bronzes, sculpture, ceramics and painting from antiquity through the T'ang Dynasty. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-384

AHIS 385 Later Chinese Art
Units: 4 A survey of Chinese painting from 900 to the present, emphasizing the role of painting within the context of Chinese intellectual history. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-383

AHIS 386 Early Japanese Art
Units: 4 A survey of Japanese Buddhist and secular architecture, sculpture and painting from antiquity to 1333, stressing the relation of art to cultural context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-387

AHIS 387 Later Japanese Art
Units: 4 A survey of Japanese architecture, garden design, ceramics, and painting from 1333 to the present, stressing the role of art within cultural context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-388

AHIS 390 Special Problems
Units: 1 Max Units: 4.0 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

AHIS 400x Undergraduate Apprenticeship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Independent work in art museums, galleries or art history related institutes supervised by on-site professionals and USC faculty. Not available for credit to art history majors. Available to upper-division art history majors only. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 415 Object-Worlds: Histories and Theories of Things
Units: 4 Developing strategies for analyzing what material culture of the past can tell us about the individuals and cultures that interacted with it. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 415, ARCG 415

AHIS 420 Studies in Ancient Art
Units: 4 Max Units: 16.0 Terms Offered: Irregular In-depth exploration of specified topics within the area of Ancient art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Each year a different topic in Greek and Roman art and archaeology will be examined in depth. Emphasis on interdisciplinary methodological approaches and research techniques. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS-425

AHIS 427 Archaeological Theories, Methods, and Practice
Units: 4 Terms Offered: FaSp Examined are various theoretical approaches, methods, and practice of archaeology in a seminar style format, with lectures, oral presentations, and museum visits. Instruction Mode: Lecture Grading Option: Letter

AHIS 428 Studies in Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm In-depth exploration of specified topics within colonial Latin American art. Instruction Mode: Lecture Grading Option: Letter

AHIS 429 Studies in Art, Science, and Technology
Units: 4 Terms Offered: FaSpSm Examination of the connections between art, science, and technology, focusing on a

specific time period and/or set of questions. Instruction Mode: Lecture Grading Option: Letter

AHIS 430 Studies in Renaissance Art
Units: 4 In-depth exploration of specified topics within the area of Renaissance art and architecture. *Recommended Preparation:* AHIS 230 or AHIS 330. Duplicates Credit in former AHIS 444 and AHIS 446. Instruction Mode: Lecture Grading Option: Letter

AHIS 433 Studies in Medieval Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of Medieval art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 436 The Philosophy of Art
Units: 4 Terms Offered: FaSp Discusses writings on aesthetics, the history of aesthetics and art criticism, the philosophy of art, and modern philosophical notions such as genius and originality. Instruction Mode: Lecture Grading Option: Letter

AHIS 449 History of Prints and Drawings
Units: 4 Terms Offered: Irregular Aspects of the history of the graphic arts; stylistic and technical considerations may both be included or specific areas stressed at the choice of the instructor. Instruction Mode: Lecture Grading Option: Letter

AHIS 453 Studies in Baroque Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of 17th century art and architecture. *Recommended Preparation:* AHIS 230 or AHIS 344. Instruction Mode: Lecture Grading Option: Letter

AHIS 460 Studies in 18th and 19th Century Art
Units: 4 Max Units: 8.0 In-depth exploration of specified topics within the area of 18th and 19th century art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 465 Studies in American Art
Units: 4 Max Units: 8.0 In-depth exploration of a specified topic in the history of American art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-465

AHIS 466 Studies in the Decorative Arts and Design
Units: 4 Exploration of a specified topic in the history of the decorative arts and design in Europe and America. Instruction Mode: Lecture Grading Option: Letter

AHIS 467 19th Century French Art
Units: 4 Terms Offered: FaSp Exploration of the main movements in 19th century French art, using the city of Paris and its museums. Field trips in conjunction with classwork. Instruction Mode: Lecture Grading Option: Letter

AHIS 468 Studies in Modern Art
Units: 4 Max Units: 8.0 Terms Offered: Irregular In-depth exploration of a specified topic in art of the late 19th and/or early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 469 Critical Approaches to Photography
Units: 4 Terms Offered: Irregular Selected problems in the history, theory and criticism of photography; recent scholarship considered in relationship to specific photographers and photographic images. Instruction Mode: Lecture Grading Option: Letter

AHIS 470 Studies in Contemporary Art
Units: 4 In-depth exploration of specified topics within the area of contemporary art and architecture. Instruction Mode: Lecture Grading Option: Letter

AHIS 475m Blackness in American Visual Culture
Units: 4 A historical overview of how people of African - descent have been represented visually in American culture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-475

AHIS 477 Studies in Visual and Material Culture
Units: 4 Max Units: 16.0 In-depth exploration of selected topics in visual and material culture. Instruction Mode: Lecture Grading Option: Letter

AHIS 481 Studies in Japanese Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of Japanese art and architecture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-481

AHIS 482 Japanese Photography
Units: 4 Terms Offered: FaSp Surveys the evolution of Japanese photography from 1850 to 21st century and examines how photography has helped define Japan's national and cultural identity. *Recommended Preparation:* AHIS 125 Instruction Mode: Lecture Grading Option: Letter

AHIS 484 Studies in Chinese Art
Units: 4 Max Units: 16.0 In-depth exploration of specified topics within the area of Chinese art and architecture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-484

AHIS 486 Introduction to Museums: Past, Present, and Future
Units: 4 Terms Offered: Sp Comprehensive exploration of the role of art museums in society. Inquiry into the present and future potential of museums as a complex force in society. Instruction Mode: Lecture Grading Option: Letter

AHIS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

AHIS 494 Undergraduate Proseminar in Art History
Units: 4 Terms Offered: FaSp Historiography and methodology: introduction to techniques of research and writing. Required of all art history majors, preferably in the junior year. Instruction Mode: Lecture Grading Option: Letter

AHIS 495a Undergraduate Honors Thesis
Units: 2 Terms Offered: FaSp Research and writing of original thesis under guidance of faculty member. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

AHIS 495b Undergraduate Honors Thesis
Units: 2 Terms Offered: FaSp Research and writing of original thesis under guidance of faculty member. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

AHIS 496 Paintings in the Prado Museum
Units: 4 Terms Offered: Irregular (Madrid Center only) From Romanticism through Goya in relation to European and Mediterranean antecedents using paintings in the Prado Museum. Field trips in conjunction with classwork. Instruction Mode: Lecture Grading Option: Letter

AHIS 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp (Enroll in ENGL 497)

AHIS 498 The Gods and Goddesses of the Renaissance
Units: 4 Terms Offered: FaSp Renaissance visual and material culture and the visual representation of Ancient mythology, recovery and reception of ancient art, and collecting practices. Instruction Mode: Lecture Grading Option: Letter

AHIS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Comprehensive exploration of particular aspects of the history of art. Instruction Mode: Lecture Grading Option: Letter

AHIS 500 Methods and Theory of Art History
Units: 4 Terms Offered: Fa Methodologies, theories and critical traditions that have shaped the discipline. Emphasis will vary depending on faculty. Required of all first-year MA and PhD candidates. Instruction Mode: Lecture Grading Option: Letter

AHIS 501 Problems in the History and Theory of Collecting and Display
Units: 4 Explores the history of patronage, collecting and display in the private and the public spheres (e.g., salons, galleries, museums, and international expositions). Instruction Mode: Lecture Grading Option: Letter

AHIS 502 Markets, Value and the Institutions of Art
Units: 4 Intensive examination of economic, societal, and aesthetic frameworks in which art was sold, bought, exhibited and reviewed. Explores how perceptions of art and value were shaped. Instruction Mode: Lecture Grading Option: Letter

AHIS 503 Categories and Collections
Units: 4 How collections are organized by category — e.g., period, culture, materials, or mode of production. Examines collecting protocols, historiography and modes of collecting and viewing associated with that category. Instruction Mode: Lecture Grading Option: Letter

AHIS 504 Museum Research Assistantship
Units: 1 Terms Offered: FaSp Working within an institution with a collection and reflecting, in class meetings, upon how

collections are formed, shaped and used. Instruction Mode: Lecture Grading Option: Letter

AHIS 505 Seminar in Feminist Theory and Visual Culture
Units: 4 Recent feminist scholarship in art history, cultural studies, film theory. Feminist theory in relation to art from the late 19th and 20th centuries. Occasional film screenings. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-505

AHIS 509 Seminar in Arts of the Ancient Americas
Units: 4 Max Units: 16.0 In-depth exploration of a specified topic in the arts of the ancient Americas, which includes North, Central, and South America. Instruction Mode: Lecture Grading Option: Letter

AHIS 510 Seminar in Ancient Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 511 Seminar in Medieval Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 512 Seminar in Renaissance Art
Units: 4 Max Units: 16.0 *Recommended Preparation:* relevant languages. Instruction Mode: Lecture Grading Option: Letter

AHIS 513 Seminar in Baroque Art
Units: 4 Max Units: 0.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 514 Seminar in 18th and 19th Century European Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 515 Seminar in Contemporary Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 517 Seminar in Korean Art
Units: 4 Max Units: 8.0 In-depth exploration of a specified topic in the history of Korean art. Instruction Mode: Lecture Grading Option: Letter

AHIS 518 Seminar in Chinese Art
Units: 4 Max Units: 0.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 519 Seminar in Japanese Art
Units: 4 Max Units: 16.0 Instruction Mode: Lecture Grading Option: Letter

AHIS 520 Seminar in Modern Art
Units: 4 Max Units: 16.0 In-depth exploration of a specified topic within the area of European art of the late 19th and early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 521 Seminar in Modern German Art
Units: 4 Max Units: 8.0 In-depth exploration of a specific topic in modern German art of the 19th and early 20th centuries. Instruction Mode: Lecture Grading Option: Letter

AHIS 522 Writing (and) the History of Art
Units: 4 Examination of how various forms of writing and different contexts of presentation shape the visual experience of art and the understanding of its history, encouraging students to think critically about how to develop a voice of their own. Instruction Mode: Lecture Grading Option: Letter

AHIS 524 Readings in Greek and Roman Authors on Ancient Art and Monuments
Units: 4 Max Units: 8.0 Focuses on readings of ancient Greek and Roman authors writing on Greek and Roman art, monuments and topography. Topics vary from year to year. Departmental approval. Instruction Mode: Lecture Grading Option: Letter

AHIS 525 Seminar in American Art
Units: 4 In-depth exploration of a specified topic in the history of American art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-525

AHIS 528 Seminar in Colonial Latin American Art
Units: 4 Terms Offered: FaSpSm In-depth exploration of specific topics in the arts of colonial Latin America. Instruction Mode: Lecture Grading Option: Letter

AHIS 529 Seminar in Art, Science, and Technology
Units: 4 Terms Offered: FaSpSm In-depth exploration of the connections between art, science, and technology, focusing on a specific time period and/or set of questions. Instruction Mode: Lecture Grading Option: Letter

AHIS 550 Art, Business and the Law
Units: 4 Investigation of the financial, legal and ethical dimensions of the collection and display of cultural property by private and public institutions. Participants will explore the legal and ethical issues related to the public use of museums and visual reproductive technologies. Instruction Mode: Lecture Grading Option: Letter

AHIS 590 Directed Research
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 593x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within College disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to Art History doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 594a Master's Thesis
Units: 2 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 594b Master's Thesis
Units: 2 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 594z Master's Thesis
Units: 0 Credit upon acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 596 Seminar on Advanced Writing and Professionalization in Art History
Units: 2 Terms Offered: Fa Trains Art History graduate students to write for a variety of professional purposes, such as grant and job applications, conference abstracts, and reviews. Registration Restriction: Open only to master and doctoral Art History students Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Comprehensive exploration of particular aspects of the history of art. Instruction Mode: Lecture Grading Option: Letter

AHIS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AHIS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AHIS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

American Language Institute

ALI 090x Beginning English as a Second Language for International Students
Units: 12 Required for international students assessed to have no proficiency in English by the International Student English Examination (ISE). Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 103x Elective Courses in English as a Second Language for International Students
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Specialized tutorial classes in listening, speaking, reading, or writing. A maximum of 4 units may be counted toward a degree. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 134 Intermediate Oral Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 135 Intermediate Writing Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 144 High Intermediate Oral Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 145 High Intermediate Writing Skills
Units: 1 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 200 Elementary English as a Second Language for International Students
Units: 12 Terms Offered: FaSpSm Required for international students assessed to be at the beginning level by the International Student English Examination (ISE) or by the completion of a lower level ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 211 Low Intermediate ESL (II) for International Students
Units: 6 Required for international students assessed to have intermediate level writing skills, but pre-intermediate level oral skills or by completion of a lower level ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 224 Low Intermediate Oral Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the low intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 210. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 225 Low Intermediate Writing Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the low intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 210. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 234 Intermediate Oral Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 220. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 235 Intermediate Writing Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 220. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 242 High Intermediate Pronunciation
Units: 2 Terms Offered: FaSpSm Required for international students whose pronunciation skills are assessed at the high intermediate level by the Inter national Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 244 High Intermediate Oral Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 230 and ALI 240. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 245 High Intermediate Writing Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the high intermediate level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 231 and ALI 240. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 246 Intermediate Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Required for international teaching assistants (ITAs) whose oral skills are assessed to be at the intermediate level by the ITA exam or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 252 Advanced Pronunciation
Units: 3 Terms Offered: FaSpSm Required for international students whose pronunciation skills are assessed at the advanced level by the International Student English Examination (ISE) or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 254 Advanced Oral Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose oral skills are assessed to be at the advanced level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 259. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 255 Advanced Writing Skills
Units: 2 Terms Offered: FaSpSm Required for international students whose writing skills are assessed to be at the advanced level by the International Student English Examination (ISE) or previous ALI course. Duplicates Credit in former ALI 258. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 256 High Intermediate Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Required for international teaching assistants (ITAs) whose oral skills are assessed to be at the high intermediate level by the ITA exam or previous ALI course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 270 Advanced Oral Communication for ITAs
Units: 3 Terms Offered: FaSpSm Classroom interaction skills for international teaching assistants, with a focus on the language needed to lead discussions and make presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 271 Language Tutorial for International Teaching Assistants
Units: 2 Terms Offered: FaSpSm Individualized tutorial on the language and oral skills used by international teaching assistants in the performance of his or her duties. Based on observation and feedback. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 274 Advanced Academic and Professional Spoken English
Units: 2 Terms Offered: FaSpSm Required for International Teaching Assistants (ITAs) who, after taking the ITA Oral Interview Exam, are determined to need the particular skills taught in this course. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 275 Writing for Publication and Dissertations
Units: 2 Terms Offered: FaSpSm Elective course for international graduate students focusing on conventions of advanced academic writing and problems in syntax, vocabulary, and register for writing and/or publishing dissertations. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 276 Workshop for International Teaching Assistants
Units: 2 Max Units: 08 Terms Offered: Sm Language assistance and individualized instruction to help International Teaching Assistants develop the skills and language proficiency necessary to perform their classroom duties. Graded CR/NC. Registration Restriction: Open only to International Teaching Assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

ALI 280 English Skills and Strategies for the Job Search
Units: 2 Max Units: 4.0 Elective course for undergraduate and graduate international students. Introduces students to job search skills and strategies while focusing on improving their English. Instruction Mode: Lecture Grading Option: Credit/No Credit

Aerospace and Mechanical Engineering

AME 101L Introduction to Mechanical Engineering and Graphics
Units: 3 Terms Offered: Fa Gateway to the bachelor of science degree in mechanical engineering. Introduction to mechanical engineering disciplines and practice; graphical communication and layout of machine parts; introduction to computer-aided drafting and drawing. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 105 Introduction to Aerospace Engineering
Units: 4 Terms Offered: Fa Gateway to the Aerospace Engineering major. Introduction to flight vehicle performance and propulsion. Elements of the physics of gases. Laboratory: computers and graphics; model rocket and glider test flights. Instruction Mode: Lecture, Lab Grading Option: Letter

AME 150L Introduction to Computational Methods
Units: 4 Terms Offered: Sp Computer programming; organization of problems for computational solution; introduction to software for computation and graphics; applications to engineering problems. *Corequisite:* MATH 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 201 Statics
Units: 3 Terms Offered: FaSp Analysis of forces acting on particles and rigid bodies in static equilibrium; equivalent systems of forces; friction; centroids and moments of inertia; introduction to energy methods. *Prerequisite:* MATH 125g and PHYS 151Lg *Recommended Preparation:* AME 101L Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 203

AME 204 Strength of Materials
Units: 3 Terms Offered: FaSp Stress, strain and deflection of mechanical elements due to tension, shear, bending, or torsion; combined loads; energy methods, statically indeterminate structures; strength-based design. *Prerequisite:* AME 201 or CE 205 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 204

AME 222 Fundamentals of Audio Engineering
Units: 3 Terms Offered: Fa (Enroll in EE 222)

AME 231L Mechanical Behavior of Materials
Units: 3 Terms Offered: Sp Material properties of metals, ceramics, and composites; stress-strain relationships; microstructural characteristics; fracture, fatigue, and creep; effects of processing. *Corequisite:* AME 204 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ACAD 231L

AME 261 Basic Flight Mechanics
Units: 4 Terms Offered: Sp Performance of flight vehicles; maximum speed, rate-of-climb, range, and endurance; basic stability and control, weight, and balance; computer exercises. *Recommended Preparation:* ITP 168 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 291 Undergraduate Design Projects I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Analysis, design, fabrication, and evaluation of devices intended for entry in local and national design competitions. Intended for lower division students or those with little prior project experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 301 Dynamics
Units: 3 Terms Offered: FaSp 2-D and 3-D kinematics and dynamics of particles and rigid bodies; systems of particles and rigid bodies; coupled rigid bodies; introduction to vibrations. *Prerequisite:* AME 201 or CE 205 *Recommended Preparation:* PHYS 151Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 301

AME 302 Dynamic Systems
Units: 3 Terms Offered: FaSp Modeling of lumped parameter elements and systems; free and forced response of first and second order systems; design oriented approach to dynamic systems. *Prerequisite:* MATH 245; *Recommended Preparation:* AME 309 or CE 309; AME 301 or CE 325. Instruction Mode: Lecture Grading Option: Letter

AME 303 Dynamics of Machinery
Units: 3 Terms Offered: FaSpSm Kinematics and dynamics of machines; balancing of rotating and reciprocating machinery; gyroscopic effects; critical speeds; energy variation in machinery; introduction to mechanism design. *Prerequisite:* AME 301 or CE 235. Instruction Mode: Lecture Grading Option: Letter

AME 305 Mechanical Design
Units: 3 Terms Offered: Fa Design and analysis of mechanical elements including shafts, bearings, springs, screws, belts and gears; strength, fatigue and deflection considerations in machine design. *Prerequisite:* AME 204 or CE 225. Instruction Mode: Lecture Grading Option: Letter

AME 308 Computer-Aided Analyses for Aero-Mechanical Design
Units: 3 Terms Offered: FaSpSm Introduction to the finite element method; practical application of computer analysis tools for structural analysis and design. *Prerequisite:* AME 204; *Corequisite:* AME 301. Instruction Mode: Lecture Grading Option: Letter

AME 309 Dynamics of Fluids
Units: 3 Terms Offered: FaSp Fluid statics; conservation of mass, momentum, and energy in integral and differential form; applications. Laminar and turbulent pipe flow; compressible flow; potential flow over bodies. *Prerequisite:* AME 201 *Recommended Preparation:* AME 310 *Corequisite:* MATH 245 Instruction Mode: Lecture Grading Option: Letter

AME 310 Engineering Thermodynamics I
Units: 3 Terms Offered: FaSp Fundamental laws of thermodynamics applied to actual and perfect gases and vapors; energy concepts, processes, and applications. *Prerequisite:* MATH 226 or MATH 227 or MATH 229 *Recommended Preparation:* PHYS 151Lg, high-level programming language Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 312 Engineering Thermodynamics II
Units: 3 Terms Offered: Sp Application of thermodynamic principles to fluid flow, power cycles, and refrigeration. *Prerequisite:* AME 310; *Recommended Preparation:* high-level programming language. Instruction Mode: Lecture Grading Option: Letter

AME 331 Heat Transfer
Units: 3 Terms Offered: Sp General principles underlying heat transfer by conduction, convection, and radiation; steady and transient conditions; heat exchangers. *Prerequisite:* AME 310; *Corequisite:* AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 341aL Mechoptronics Laboratory I and II
Units: 3 Terms Offered: FaSp A coordinated laboratory and lecture sequence on aeromechanical instrumentation and device control stressing the symbiotic integration of mechanical, optical and electronic components. *Prerequisite:* (PHYS 152L or PHYS 162L) and (MATH 126 or MATH 127 or MATH 129) Instruction Mode: Lecture, Lab Grading Option: Letter

AME 341bL Mechoptronics Laboratory I and II
Units: 3 Terms Offered: FaSp A coordinated laboratory and lecture sequence on aeromechanical instrumentation and device control stressing the symbiotic integration of mechanical, optical and electronic components. *Prerequisite:* PHYS 152L, MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

AME 403 Stress Analysis
Units: 3 Terms Offered: Sp Theories of failure, shear center, unsymmetrical bending, curved beams, torsion of non-circular sections; cylinders, rotating discs, thermal stresses, inelastic strains, energy methods. *Prerequisite:* AME 204. Instruction Mode: Lecture Grading Option: Letter

AME 404 Computational Solutions to Engineering Problems
Units: 3 Terms Offered: Fa Mathematical aspects of the solutions to typical advanced mechanical engineering problems. Modeling, simulation, computational aspects, computer solutions, and computational tools. *Recommended Preparation:* FORTRAN, MATLAB and Maple. Instruction Mode: Lecture Grading Option: Letter

AME 405 Functional Approach to Computational Methods
Units: 3 Terms Offered: Sp Introduction to computational methods in engineering: learning to develop and implement numerical algorithms for solving a range of mathematics, physics, and engineering problems. Suitable for undergraduate students in aerospace, bio, civil and mechanical engineering. *Recommended Preparation:* 1 year of college-level calculus and physics Instruction Mode: Lecture Grading Option: Letter

AME 408 Computer-Aided Design of Mechanical Systems
Units: 3 Terms Offered: FaSp Design of mechanical systems using advanced graphics techniques; computer-aided drafting, design

optimization, elements of computer graphics, solids modeling; introduction to computer-aided manufacturing. *Prerequisite:* AME 204 or CE 225; *Recommended Preparation:* AME 308. Instruction Mode: Lecture Grading Option: Letter

AME 409 Senior Design Project
Units: 4 Terms Offered: Sp Modeling, analysis, integration, layout and performance analysis of a mechanical system to meet specified design requirements. *Prerequisite:* senior standing. Instruction Mode: Lecture, Lab Grading Option: Letter

AME 410 Engineering Design Theory and Methodology
Units: 3 Terms Offered: Fa Product planning and task clarification, voice of customers, quality function deployment, conceptual and embodiment design, axiomatic theory of design, product quality and manufacturability, design decision-making. *Recommended Preparation:* AME 305. Instruction Mode: Lecture Grading Option: Letter

AME 412 Molecular Theory of Gases
Units: 3 Terms Offered: Irregular Molecular structure; intermolecular potentials; molecular processes in gases; molecular interpretation of concepts of classical thermodynamics; radiative transport phenomena in gases. *Prerequisite:* AME 310. Instruction Mode: Lecture Grading Option: Letter

AME 415 Turbine Design and Analysis
Units: 3 Terms Offered: Fa Physics of turbine operation; design and analysis for the development of turbine hardware for propulsion and power generation. *Recommended Preparation:* familiarity with Matlab. Instruction Mode: Lecture Grading Option: Letter

AME 420 Engineering Vibrations I
Units: 3 Terms Offered: Fa Theory of free and forced vibrations with and without damping; systems of single and multiple degrees of freedom; iteration; methods; vibration isolation; instrumentation. *Prerequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

AME 423L Loudspeaker and Sound-System Design
Units: 3 Terms Offered: Sp (Enroll in EE 423Lx)

AME 428 Mechanics of Materials
Units: 3 (Enroll in CE 428)

AME 430 Thermal Systems Design
Units: 3 Terms Offered: Fa Design methodology for thermal systems; boilers, condensers, air conditioning, power generation, air pollution control, combustion and alternative fuels. *Prerequisite:* AME 331; *Recommended Preparation:* AME 312. Instruction Mode: Lecture Grading Option: Letter

AME 436 Energy and Propulsion
Units: 3 Terms Offered: Fa Performance and analysis of reciprocating, jet, rocket engines, and hybrid systems. Characteristics of inlets, compressors, combustors, turbines, nozzles and engine systems. Energy and environmental problems. *Prerequisite:* AME 310; AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 441aL Senior Projects Laboratory
Units: 3 Terms Offered: FaSp Individual engineering projects designed and constructed to model and test a physical principle or system. *Prerequisite:* AME 341bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 441bL Senior Projects Laboratory
Units: 3 Terms Offered: FaSp Individual engineering projects designed and constructed to model and test a physical principle or system. *Prerequisite:* AME 341bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

AME 443 Control Systems Laboratory
Units: 3 Terms Offered: Sp Vibration measurement and analysis; simulation, design, and experimental verification of mechanical control systems; identification of system parameters, implementation of controllers, verification of closed-loop performance via experimentation and stimulation. *Prerequisite:* AME 420 or AME 451 or EE 482. Duplicates Credit in former AME 442bL. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-481l

AME 451 Linear Control Systems I
Units: 3 Transform methods, block diagrams; transfer functions; stability; root-locus and frequency domain analysis and design; state space and multiloop systems. *Prerequisite:* AME 302 and MATH 245. Duplicates Credit in EE 482. Instruction Mode: Lecture Grading Option: Letter

AME 453 Engineering Dynamics
Units: 3 Terms Offered: Sp Principles of dynamics applied to mechanical and aerospace problems. Introduction to gyroscopic motion and rigid body dynamics. *Prerequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

AME 455 Introduction to MEMS
Units: 3 Terms Offered: Sp Introduction to micro-electro-opto-mechanical systems; scaling effects on material properties, fluid flows, dynamical behavior; fabrication methods; design considerations for MEMS sensors and actuators. *Recommended Preparation:* AME 301, AME 309 and AME 310. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-415

AME 457 Engineering Fluid Dynamics
Units: 3 Terms Offered: Fa Laminar and turbulent boundary layer flow with and without heat transfer; boundary layer separation, stability, transition and control; introduction to compressible fluid flow. *Prerequisite:* AME 310; AME 309 or CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 458 Theory of Structures II
Units: 3 (Enroll in CE 458)

AME 459 Flight Mechanics
Units: 3 Terms Offered: Fa Applications of basic aerodynamics to aircraft and missile performance, power and thrust, stability and control, compressibility effects. *Recommended Preparation:* AME 309. Instruction Mode: Lecture Grading Option: Letter

AME 460 Aerodynamic Theory
Units: 3 Basic relations describing the inviscid flow field about bodies and wings moving at subsonic and supersonic speeds. *Prerequisite:* AME 309. Instruction Mode: Lecture Grading Option: Letter

AME 461 Formation Evaluation
Units: 3 (Enroll in PTE 461)

AME 462 Economic, Risk and Formation Productivity Analysis
Units: 4 (Enroll in PTE 462)

AME 463L Introduction to Transport Processing in Porous Media
Units: 3 (Enroll in PTE 463L)

AME 464L Petroleum Reservoir Engineering
Units: 3 (Enroll in PTE 464L) Instruction Mode: Lecture, 3 hours; laboratory, 3 hours.

AME 465L Drilling Technology and Subsurface Methods
Units: 3 (Enroll in PTE 465L) Instruction Mode: Lecture, 3 hours; laboratory, 3 hours.

AME 481 Aircraft Design
Units: 4 Terms Offered: Sp Aircraft design and analysis, design requirements and specifications; integration of structure, propulsion, control system, and aerodynamic configuration; performance analysis and prediction. Instruction Mode: Lecture Grading Option: Letter

AME 485 Aerospace Structures I
Units: 3 Terms Offered: FaSp Design, qualification, and workmanship verification of aerospace structures. Analysis for assessing buckling and crippling, welds, and analysis of connections and thin-walled structures. *Prerequisite:* AME 204 *Recommended Preparation:* AME 231L or MASC 310 Duplicates Credit in former AME 353 Instruction Mode: Lecture Grading Option: Letter

AME 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

AME 491 Undergraduate Design Projects II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Analysis, design, fabrication, and evaluation of devices intended for entry in local and national design competitions. Intended for students with prior project experience. Upper division standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpx Course content to be selected each semester from recent developments in mechanical engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

AME 502 Modern Topics in Aerospace Design
Units: 3 Terms Offered: Fa Current topics in Aerospace Engineering are addressed by a number of industry panelists. Students,

under panelists' supervision and guidance, complete independent research reports and briefings. *Recommended Preparation:* AME 261, AME 441, AME 481 or equivalents. Genuine interest in design of flight vehicles. Registration Restriction: Open only to seniors, master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

AME 503 Advanced Mechanical Design
Units: 3 Terms Offered: Fa Specific problems and methods of analysis in mechanical systems design. Instruction Mode: Lecture Grading Option: Letter

AME 505 Engineering Information Modeling
Units: 3 Terms Offered: Sp Symbolic and object-oriented modeling, product and process modeling for design and manufacturing, information models for computer integrated and collaborative engineering, information modeling for life-cycle engineering. Instruction Mode: Lecture Grading Option: Letter

AME 507 Mechanics of Solids I
Units: 3 (Enroll in CE 507)

AME 509 Applied Elasticity
Units: 3 Terms Offered: Sp Condensed treatment dealing with engineering applications of the principles of elasticity, using the theories of elasticity, elastic stability, and plates and shells. *Prerequisite:* AME 403 Instruction Mode: Lecture Grading Option: Letter

AME 511 Compressible Gas Dynamics
Units: 3 Terms Offered: Sp Thermodynamics, kinetic theory, compressible flow equations, shock and expansion waves, similarity, shock-expansion techniques and linearized flow applied to bodies, characteristics, theory of boundary layers. Instruction Mode: Lecture Grading Option: Letter

AME 513 Principles of Combustion
Units: 3 Terms Offered: Fa Thermochemistry, equilibrium, chemical kinetics, flame temperature, flame velocity, flame stability, diffusion flames spray combustion, detonation. Equations of motion including reaction, heat transfer, and diffusion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-513

AME 514 Applications of Combustion and Reacting Flows
Units: 3 Terms Offered: Sp Advanced topics and modern developments in combustion and reacting flows including ignition and extinction, pollutant formation, microscale and microgravity combustion, turbulent combustion and hypersonic propulsion. *Recommended Preparation:* AME 513. Instruction Mode: Lecture Grading Option: Letter

AME 515 Advanced Problems in Heat Conduction
Units: 3 Terms Offered: Sp Review of analytical methods in heat conduction; moving boundaries melting and freezing; sources and sinks, anisotropic and composite media; numerical methods for steady and unsteady problems. *Recommended Preparation:* AME 331, AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 516 Convection Processes
Units: 3 Terms Offered: Sp Analysis of isothermal and nonisothermal boundary layers. Exact and approximate solutions of laminar and turbulent flows. Variable-property and high-speed effects; dimensional analysis. *Prerequisite:* AME 457; *Recommended Preparation:* AME 526, AME 331. Instruction Mode: Lecture Grading Option: Letter

AME 517 Radiation Heat Transfer
Units: 3 Terms Offered: Fa Radiation properties; black body radiation; shape factors of radiation network analogy and solar radiation. *Prerequisite:* AME 331; *Corequisite:* AME 525 or AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 520 Modeling of Bio-Systems
Units: 3 Terms Offered: Sp Interacting population dynamics, Cheyne-Stokes respiration, reaction kinetics, biological switches, neuronal models, BZ reaction, phase locking, reaction diffusion, chemotaxis, biological waves, and animal coat patterns. *Recommended Preparation:* MATH 245. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC-522, BME-520

AME 521 Engineering Vibrations II
Units: 3 Terms Offered: Fa Multi-degree of freedom systems; modal analysis. Rayleigh's quotient. Continuous systems; modal analysis. Beams, rods, membranes. Colocations, Galerkin, Rayleigh Ritz methods; finite elements. *Prerequisite:* AME 420. Instruction Mode: Lecture Grading Option: Letter

AME 522 Nonlinear Dynamical Systems, Vibrations, and Chaos
Units: 3 Terms Offered: Fa Lagrange equations; nonlinear maps and differential equations; fixed points; periodic motion; qualitative/quantitative and local/global analysis; higher order systems; stability; bifurcations; chaos; fractals. Instruction Mode: Lecture Grading Option: Letter

AME 523 Random Vibrations
Units: 3 Terms Offered: Irregular Random processes, ergodic theory. Ito calculus. Linear systems under stationary and nonstationary excitations. Fokker-Planck equations. Failure analysis and first passage problems. *Prerequisite:* AME 420, basic probability (or MATH 407), AME 451 recommended. Instruction Mode: Lecture Grading Option: Letter

AME 524 Advanced Engineering Dynamics
Units: 3 Terms Offered: Fa Principle of virtual work, constraints, Lagrange's equations, Gibbs-Appell equations, Gauss's Principle, Theory of Rotations, dynamics of rigid bodies, Hamiltonian mechanics, Hamilton-Jacobi equation. *Recommended Preparation:* AME 521, AME 525. Instruction Mode: Lecture Grading Option: Letter

AME 525 Engineering Analysis
Units: 3 Terms Offered: FaSpSm Typical engineering problems discussed on a physical basis. Vector analysis; functions of complex variables, infinite series, residues. Instruction Mode: Lecture Grading Option: Letter

AME 526 Engineering Analytical Methods
Units: 3 Terms Offered: FaSpSm Typical engineering problems discussed on a physical basis. Fourier series; Fourier integrals; Laplace transform; partial differential equations; Bessel function. Instruction Mode: Lecture Grading Option: Letter

AME 527 Elements of Vehicle and Energy Systems Design
Units: 3 Terms Offered: Irregular Design synthesis of aero/hydro/mechanical systems; techniques of design; conceptual thinking; problem definition, configurational development, analytic engineering approximation, oral briefings and group problem solving. Instruction Mode: Lecture Grading Option: Letter

AME 529 Aircraft Structures Analysis
Units: 3 Terms Offered: Sp The direct stiffness (finite element) method for analysis of semimonocoque structures; energy methods; elasticity, plates and shells, vibration, and stability; system identification. Instruction Mode: Lecture Grading Option: Letter

AME 530a Dynamics of Incompressible Fluids
Units: 3 Terms Offered: FaSp A unified discussion of low-speed fluid mechanics including exact solutions; approximation techniques for low and high Reynolds numbers; inviscid flows; surface waves; dynamic stability; turbulence. Instruction Mode: Lecture Grading Option: Letter

AME 530b Dynamics of Incompressible Fluids
Units: 3 Terms Offered: FaSp A unified discussion of low-speed fluid mechanics including exact solutions; approximation techniques for low and high Reynolds numbers; inviscid flows; surface waves; dynamic stability; turbulence. Instruction Mode: Lecture Grading Option: Letter

AME 532a Flight Vehicle Stability and Control
Units: 3 Terms Offered: FaSp Response of flight to linear, nonlinear, and randomly defined disturbances. Generation and measurement of error signals in navigational systems. Stability and control techniques. *Recommended Preparation:* AME 459. Instruction Mode: Lecture Grading Option: Letter

AME 532b Flight Vehicle Stability and Control
Units: 3 Terms Offered: FaSp Response of flight to linear, nonlinear, and randomly defined disturbances. Generation and measurement of error signals in navigational systems. Stability and control techniques. *Recommended Preparation:* AME 459. Instruction Mode: Lecture Grading Option: Letter

AME 533 Multi-Phase Flows
Units: 3 Terms Offered: Sp Physics of the

interaction between phases, empirical and analytical methods of solution to relevant technological problems. *Prerequisite:* AME 457. Instruction Mode: Lecture Grading Option: Letter

AME 534 Nuclear Thermal-Hydraulics
Units: 3 Terms Offered: Fa Thermal-fluid phenomena for nuclear power stations. Heat generation by nuclear reactions, conduction in fuel rods, and transport of generated heat by convection, boiling, and condensation. *Prerequisite:* AME 457 or AME 530a; and AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering. Instruction Mode: Lecture Grading Option: Letter

AME 535a Introduction to Computational Fluid Mechanics
Units: 3 Terms Offered: FaSp Convergence, consistency, stability: finite difference, finite element, and spectral methods; direct and iterative procedures for steady problems; linear diffusion and advection problems; non-linear advection problems. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 535b Introduction to Computational Fluid Mechanics
Units: 3 Terms Offered: FaSp Generalized curvilinear coordinates; grid generation; numerical techniques for transonic and supersonic inviscid flows; boundary layer flows; reduced Navier-Stokes equations; compressible and incompressible viscous flows. *Recommended Preparation:* AME 511 or AME 530a, AME 535a. Instruction Mode: Lecture Grading Option: Letter

AME 537 Microfluidics
Units: 3 Terms Offered: Fa Introduction to fluid dynamics in the microscale. Scaling parameters, dynamic, thermodynamic, electroosmotic and electrochemical forces. Flow in microdevices, external flow measurement and control, microvalves and micropumps. Limited to students with graduate standing. *Recommended Preparation:* AME 309, MATH 445. Instruction Mode: Lecture Grading Option: Letter

AME 539 Multi-body Dynamics
Units: 3 Terms Offered: Sp Kinematics and kinetics of rigid body motion, quaternions; elastic vibrations of continua; geometric and material nonlinearities; Galerkin methods; meshless finite elements; complex dynamical systems; computational methods. Instruction Mode: Lecture Grading Option: Letter

AME 541 Linear Control Systems II
Units: 3 Terms Offered: Fa State space representation, linearization, solution of state equations; controllability and observability; state feedback, state observers; optimal control; output feedback. *Prerequisite:* AME 451 Duplicates Credit in EE 585 Instruction Mode: Lecture, Discussion Grading Option: Letter

AME 542 Theory of Plates
Units: 3 (Enroll in CE 542)

AME 543 Stability of Structures
Units: 3 (Enroll in CE 543)

AME 544 Computer Control of Mechanical Systems
Units: 3 Terms Offered: Sp Computer control as applied to machine tools, mechanical manipulators, and other mechanical machinery; discrete time controller design; microprocessor implementation of motion and force control servos. *Prerequisite:* AME 451. Instruction Mode: Lecture Grading Option: Letter

AME 545 Modeling and Control of Distributed Dynamic Systems
Units: 3 Terms Offered: Sp Modeling and analysis of complex flexible mechanical systems; distributed transfer function synthesis; frequency-domain control methods; smart structure design; applications in vibration and noise control. *Prerequisite:* AME 521 and AME 541. Instruction Mode: Lecture Grading Option: Letter

AME 548 Analytical Methods in Robotics
Units: 3 Terms Offered: Irregular Homogeneous transformations; formal description of robot manipulators; kinematic equations and their solution; differential relationships; dynamics; control; static forces; compliance. *Prerequisite:* EE 545; EE 482 or AME 451; knowledge of linear algebra. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-548

AME 549 Systems Architecting
Units: 3 Terms Offered: FaSm (Enroll in SAE 549)

AME 550 Seminar in Aerospace and Mechanical Engineering
Units: 1 Max Units: 03 Terms Offered: FaSp Recent developments and research in aerospace and mechanical engineering and related fields. Oral and written reports. Registration Restriction: Open only to AME graduate students. Duplicates Credit in former AME 550a and former AME 550b Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 551 Mechanical Behavior of Engineering Materials
Units: 3 (Enroll in MASC 551)

AME 552 Nonlinear Control Systems
Units: 3 Terms Offered: Sp Phase plane, describing functions, applications to mechanical and aerospace systems. Lyapunov direct and indirect methods, applications; Popov circle criteria applications. *Prerequisite:* AME 541. Instruction Mode: Lecture Grading Option: Letter

AME 553aL Digital Control Systems
Units: 3 (Enroll in EE 543aL, EE 543bL) Instruction Mode: (Lab is required for the b section only.)

AME 553bL Digital Control Systems
Units: 1 (Enroll in EE 543aL, EE 543bL)

AME 559 Creep
Units: 3 Terms Offered: Fa (Enroll in MASC 559)

AME 560 Fatigue and Fracture
Units: 3 Terms Offered: Sp (Enroll in MASC 560)

AME 561 Dislocation Theory and Applications
Units: 3 (Enroll in MASC 561)

AME 567 Collaborative Engineering Principles and Practice
Units: 3 Terms Offered: Sp (Enroll in ISE 567)

AME 572L Experimental Engineering Projects
Units: 3 Experimental methods appropriate to engineering research, emphasizing interdisciplinary investigations. Individual projects. Instruction Mode: Lab Required Grading Option: Letter

AME 573 Aerosol Physics and Chemistry
Units: 3 Terms Offered: Sp Examination of the fundamentals of aerosol formation and evolution, aerosol effects on health and climate, and the principles of aerosol measurement. Instruction Mode: Lecture Grading Option: Letter

AME 575 Advanced Engineering Analysis
Units: 3 Terms Offered: Fa Solution of engineering problems by methods of calculus variations, integral equations, asymptotic expansions. *Prerequisite:* CE 525 or AME 525 and AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 576 Advanced Engineering Analytical Methods
Units: 3 Terms Offered: Sp Solution of engineering problems by methods of linear and nonlinear partial differential equations of first and second order; perturbations. *Prerequisite:* AME 525 or AME 526 or CE 525 or CE 526. Instruction Mode: Lecture Grading Option: Letter

AME 577 Survey of Energy and Power for a Sustainable Future
Units: 3 Terms Offered: FaSp Power production includes conventional fossil fuels, synthetic fuels, hydroelectric, solar, wind, geothermal, biomass and nuclear. The environmental consequences of various energy sources are discussed. Duplicates Credit in CHE 510. Instruction Mode: Lecture Grading Option: Letter

AME 578 Modern Alternative Energy Conversion Devices
Units: 3 Terms Offered: FaSp Alternative energy/power conversion including fuel cells, photovoltaic, batteries, and biologically inspired energy processes; biomass conversion and utilization; Environmental implications of alternative energy processes. Instruction Mode: Lecture Grading Option: Letter

AME 579 Combustion Chemistry and Physics
Units: 3 Terms Offered: Sp Thermodynamics of combustion processes. Reaction mechanisms of hydrocarbon combustion. Pollutant formation. Theories and application of thermochemical kinetics and reaction rate theories. Transport in reacting flows. Instruction Mode: Lecture Grading Option: Letter

AME 581 Introduction to Nuclear Engineering
Units: 3 Terms Offered: Fa Review of basic nuclear physics, binding energy, reactor kinetics, thermal transport in reactor systems, radioactivity, shielding, reactor safety and health effects of radiation, risk

assessment. Open only to graduate students. *Recommended Preparation:* Undergraduate degree in engineering; AME 310, MATH 245, PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 582 Nuclear Reactor Physics
Units: 3 Terms Offered: Sp Neutron-induced fission chain reactions, reactor criticality. Neutron transport and diffusion in nuclear reactors. Mathematical/computational foundation for diffusion theory and transport calculations for fission reactor design/analysis. *Prerequisite:* AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering and PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 583 Effects of Radiation on Health
Units: 3 Terms Offered: Sp Nuclear physics relevant to human health. Biological effects of radiation, quantification and measurement of different types of radiation affecting living tissue, radiation protection, nuclear accidents. *Prerequisite:* AME 526 and AME 581; *Recommended Preparation:* undergraduate degree in engineering and PHYS 153L. Instruction Mode: Lecture Grading Option: Letter

AME 584 Fracture Mechanics and Mechanisms
Units: 3 Terms Offered: Fa (Enroll in MASC 584)

AME 585 Aerospace Structures II
Units: 3 Terms Offered: FaSp Analysis of repairs in aircraft/launch vehicles. Flexible dynamics for spacecraft, random vibration, deployable spacecraft components, certification of thermal protection systems. Practical finite element analysis. *Prerequisite:* AME 485 Instruction Mode: Lecture Grading Option: Letter

AME 588 Materials Selection
Units: 3 Terms Offered: Sp (Enroll in MASC 583)

AME 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: FaSp Course content will be selected each semester to reflect current trends and developments in the field of mechanical engineering. Instruction Mode: Lecture Grading Option: Letter

AME 620 Aero and Hydrodynamic Wave Theory
Units: 3 Linear and nonlinear wave motion in fluids: group velocity, dispersion, wave action, wave patterns, evolution equations, solitons and solitary waves, resonance phenomena. *Recommended Preparation:* AME 526 and CE 309. Instruction Mode: Lecture Grading Option: Letter

AME 621 Stability of Fluids
Units: 3 Linear and nonlinear stability analysis applied to free shear layers, boundary layers and jets; Rayleigh-Benard convective instabilities and centrifugal instability of rotating flows. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 623 Dynamics of Stratified and Rotating Flows
Units: 3 Fluid motions in which density gradients and/or rotation are important, including internal wave motions with rotation, flow past obstacles, viscous effects, singular perturbations. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 624 The Fluid Dynamics of Natural Phenomena
Units: 3 Application of the basic concepts of rotating, stratified fluid motion to problems in meteorology, oceanography, geophysics and astrophysics. Instruction Mode: Lecture Grading Option: Letter

AME 626 Singular Perturbation Methods
Units: 3 Asymptotic series, W.K.B. approximation, method of steepest descent, stationary phase; matched asymptotic expansions and method of multiple scales applied to ordinary and partial differential equations. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 630 Transition to Chaos in Dynamical Systems
Units: 3 Bifurcation theory and universal routes to chaos in deterministic systems; application to maps and differential flows; characterization of strange attractors. *Recommended Preparation:* AME 526. Instruction Mode: Lecture Grading Option: Letter

AME 640 Advanced Theory of Elasticity
Units: 3 (Enroll in CE 640)

AME 645 Uncertainty Modeling and Stochastic Organization
Units: 3 (Enroll in CE 645)

AME 647 Multiscale Methods in Mechanics
Units: 3 (Enroll in CE 647)

AME 651 Statistical Theories of Turbulence
Units: 3 Stationary stochastic processes. Isotropic turbulence; governing equations for the velocity correlation and spectrum functions. Turbulent diffusion. Scalar fluctuations in a turbulent field. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 652 Turbulent Shear Flows
Units: 3 Free shear layers. Turbulent flows in pipes and channels. Turbulent boundary layers. Effects of compressibility. Sound radiation by turbulence. *Recommended Preparation:* AME 530b. Instruction Mode: Lecture Grading Option: Letter

AME 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Mechanical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 694a Thesis
Units: 2 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 694b Thesis
Units: 2 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 694z Thesis
Units: 0 Required for the degree Engineer in Aerospace Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

AME 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AME 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Anesthesia and Medicine

AMED 421 Seminar: Teaching Local Anesthesia
Units: 1 Techniques of teaching local anesthesia to dental hygiene students. Instruction Mode: Lecture Grading Option: Letter

AMED 502 Emergency Medicine
Units: 2 Recognition and management of life-threatening emergencies, including unconsciousness, altered consciousness, respiratory distress, convulsions, drug-related emergencies, and chest pain. Instruction Mode: Lecture Grading Option: Letter

AMED 523 Pharmacosedation II
Units: 1 Introduction to intravenous sedation; evaluation of patient, selection of technique and procedure; prevention of complications, recognition and management of complications; introduction to general anesthesia. Instruction Mode: Lecture Grading Option: Letter

AMED 524 Pain and Anxiety Control
Units: 2 Terms Offered: Sp Theory and techniques for pain control, anxiety includes: local anesthetics; drugs, adjunctive premedication, techniques in oral, rectal, intramuscular, inhalation sedation, prevention, management of complications. Duplicates Credit in the former AMED 521 and AMED 522. Instruction Mode: Lecture Grading Option: Letter

AMED 610 Physical Diagnosis/Cardiology
Units: 1 Participation in the Cardiac Clinic at LAC+USC Medical Center; experience in cardiac auscultation, abnormal breath sounds, use of cardiac drugs, and prosthetic valve management. Instruction Mode: Lecture Grading Option: Letter

AMED 750a Physical Evaluation and Anesthesia
Units: 2 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

AMED 750b Physical Evaluation and Anesthesia
Units: 2 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

AMED 750c Physical Evaluation and Anesthesia
Units: 1 In-depth examination of physical evaluation, emergency medicine, basic life support, inhalation sedation, intravenous sedation, local anesthesia, and patient monitoring; includes clinical experience. Instruction Mode: Lecture Grading Option: Letter

American Studies and Ethnicity

AMST 101gmw Race and Class in Los Angeles
Units: 4 Terms Offered: Fa Analysis of race and the economic, political, gender, and social dimensions of contemporary Los Angeles including topics such as residential segregation, economic inequality, and city politics. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 111g Sex in America
Units: 4 Explores how the proliferation of sexual cultures, identities, politics shape everyday lives in the U.S. and beyond. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 133g Religions of Latin America
Units: 4 (Enroll in REL 133g) *Prerequisite:* REL 133g

AMST 135gmw Peoples and Cultures of the Americas
Units: 4 Terms Offered: FaSp An introduction to cultures and people in the Americas; the social, historical, economic and cultural formations that together make up the Latino/a American imaginary. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 140gw Borderlands in a Global Context
Units: 4 Interdisciplinary survey of theory and borderland site cases, national sentiment, linguistic and cultural conflicts, exploration of local, regional, and national identities in cultural contact zones. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 150gw The American War in Viet Nam
Units: 4 Examination of the ways that different nations and cultures have remembered the Vietnam War or the American War as it is called in Vietnam. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former AMST 377. Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 200gm Introduction to American Studies and Ethnicity
Units: 4 Terms Offered: FaSp Introduction to American studies and ethnic studies. Provides an overview of major theories, concepts, and issues. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

AMST 201g LGBTQ America
Units: 4 Examines how U.S. sexual identity and experience are represented in the 20th and 21st century and introduces the interdisciplinary field of LGBTQ Studies. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 202m Interethnic Diversity in the West
Units: 4 Introduction to community, culture, and ethnicity within the Western United States with emphasis on African American, Asian American, and Chicano/Latino cultures and social patterns. Instruction Mode: Lecture Grading Option: Letter

AMST 204g Introduction to Native Studies
Units: 4 Terms Offered: FaSp Overview of Native American studies, including Indigenous intellectualism and resistance through language revitalization, film-making, and the recognition of one another. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

AMST 205g Introduction to American Popular Culture
Units: 4 Terms Offered: FaSp Examines the relation between U.S. national culture, race, and popular culture. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 206mg The Politics and Culture of the 1960s
Units: 4 Terms Offered: Sp Examines political and cultural change in the United States during the decade of the 1960s. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

AMST 220gmw The Making of Asian America
Units: 4 Terms Offered: FaSp Historical, social, and cultural analysis of (East, South, and Southeast) Asians in the United States. Themes examined: immigration, race and gender relations, ethnic culture, community and identity. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

AMST 230g Introduction to African American Studies
Units: 4 Examines the socio-historical and political imperatives of multi-disciplinary scholarship foundational to the study of African Americans. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 240gm Representing 9/11 and Hurricane Katrina
Units: 4 Terms Offered: FaSp (Enroll in ANTH 240gm)

AMST 242gm Social Responses to Disaster
Units: 4 Exploration of social complexities associated with U.S. disasters; influences of (political) action on mitigation, response, recovery; how activities and investment vary along racial and economic lines. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 250gmw The African Diaspora
Units: 4 Terms Offered: FaSp History, political-economy and aesthetics of the African Diaspora with emphasis on Latin America, the Caribbean, Europe and Africa. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode:

Lecture, Discussion Grading Option: Letter Crosslisted as ENGL-250

AMST 252gmw Black Social Movements in the U.S.
Units: 4 This course examines black social movements for freedom, justice, equality, and self-determination. Beginning with Reconstruction, movements include labor, civil rights, radical feminism, socialism, reparations, Black Nationalism, prisoners' rights, and Hip Hop. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

AMST 274gmw Exploring Ethnicity through Film
Units: 4 Terms Offered: FaSpSm Examination of the constructions of American ethnicity/race in film. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in former AMST 374m. Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 285gm African American Popular Culture
Units: 4 Terms Offered: Sp Examines history of popular cultural forms such as literature, music, dance, theatre, and visual arts produced by and about African Americans. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ENGL-285

AMST 301gp America, the Frontier, and the New West
Units: 4 Terms Offered: FaSp Introduction to the interdisciplinary study of American political, cultural, and social life with a particular emphasis on the Western United States as a region. *Recommended Preparation:* HIST 100, ENGL 263. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

AMST 305 Art and Performance in the Americas
Units: 4 Terms Offered: Irregular Critically examine the histories, formations, and possibilities of art and performance from the 1970s forward. Instruction Mode: Lecture Grading Option: Letter

AMST 320 Social Construction of Race and Citizenship
Units: 4 Terms Offered: FaSp Comparative perspective on the social construction of race and citizenship. Social, economic and political experiences of selected groups in the U.S. are examined. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-322

AMST 328 Asian American Politics
Units: 4 Terms Offered: FaSp (Enroll in POSC 328)

AMST 330m Black Music and the Political Imagination
Units: 4 Explores the changing political meanings of "Black music" throughout the 20th century, from freedom to a threat to civil order, from racial integration to Black liberation. Duplicates Credit in the former GEOG 350m. Instruction Mode: Lecture Grading Option: Letter

AMST 332m Post-Civil Rights Black America
Units: 4 Analyzes the political, economic, and cultural experiences of the post-1965 period through an interrogation of contemporary conditions, movements, and responses to power in Black America. Instruction Mode: Lecture Grading Option: Letter

AMST 333 Religion in the Borderlands
Units: 4 (Enroll in REL 333)

AMST 336 Re-Viewing Religion in Asian America
Units: 4 (Enroll in REL 336)

AMST 337m Islam in Black America: From Slavery to Hip Hop
Units: 4 Exploration of the rise of Islam in Black America, and the relationship of Black American Muslims to more recent Muslim immigrants using historical and sociopolitical frameworks. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-337

AMST 340m Latina/o LA
Units: 4 Examination of spatial and social patterns of the Latino population in Los - Angeles. Emphasis on economic, demographic and cultural processes. Duplicates Credit in the former GEOG 340. Instruction Mode: Lecture Grading Option: Letter

AMST 342m Law and Identities
Units: 4 Examines the complex and contested interaction between the law and racial, gender, religious, ethnic, and sexual identities using historical and contemporary cases. Instruction Mode: Lecture Grading Option: Letter

AMST 343 Food, Health and Culture in Los Angeles
Units: 4 Terms Offered: FaSp Examination of Los Angeles' diverse food cultures as well as the food justice issues that affect many low-income residents of neighborhoods surrounding USC campus. Duplicates Credit in SPAN 385 Instruction Mode: Lecture Grading Option: Letter

AMST 344m Islamic Law and American Society
Units: 4 Examination of the nature and substance of Islamic law (Shari'a) and how it relates to American democracy, society and secularism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-344

AMST 345 Law and American Indian Studies
Units: 4 Terms Offered: FaSp Examines indigenous sovereignties and the historical and contemporary legal histories and cases which inform them. Instruction Mode: Lecture Grading Option: Letter

AMST 348m Race and Environmentalism
Units: 4 Relationships between environmentalism, environmental problems and racial-ethnic minorities. Rise of environmental justice movement. Assessment of social science methods used to investigate these relationships. Instruction Mode: Lecture Grading Option: Letter

AMST 350 Junior Seminar in American Studies and Ethnicity: Theories and Methods
Units: 4 Terms Offered: FaSp Advanced study in interdisciplinary theories and methods for analyzing race and ethnicity in the United States, including a comparative study of topics such as inequality, gender, and class. Instruction Mode: Lecture Grading Option: Letter

AMST 353m Race and Racism in the Americas
Units: 4 Terms Offered: FaSp Examination of selected topics in the historical development of racism with the goal of understanding the complex ways in which race has functioned in the modern world. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-353

AMST 357m Latino Social Movements
Units: 4 Terms Offered: FaSp Focuses on the political experience of Latinos in the U.S. Comparative analysis of their political experiences and perspectives, their histories of identity formation, and their political organizations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-357

AMST 364m African American Art
Units: 4 Terms Offered: FaSp (Enroll in AHIS 365m)

AMST 365 Leadership in the Community — Internship
Units: 4 Terms Offered: FaSp Eight to 10 hours per week in a community-based internship plus two hour lecture. Theoretical and practical issues associated with community leadership. Instruction Mode: Lecture Grading Option: Letter

AMST 373m History of the Mexican American
Units: 4 Terms Offered: FaSp Racial and cultural background of Mexico; immigration and conquest; the Mexican in California and the southwest; the rise of contemporary Mexican- American consciousness. Duplicates Credit in former HIST 472. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-373

AMST 376m Contemporary Issues in Asian American Communities
Units: 4 Terms Offered: FaSp (Enroll in SOCI 376m)

AMST 378m Introduction to Asian American History
Units: 4 Terms Offered: FaSp Comparative examination of the social, economic, and political experiences of Asian immigrants and their descendants in the U.S., 1840s–present. Duplicates Credit in former HIST 378. Instruction Mode: Lecture Grading

Option: Letter Crosslisted as HIST-378

AMST 379 Arabs in America
Units: 4 Terms Offered: FaSp Arab immigration and acculturation in the U.S. from late 19th century to present; emphasis on community formation, race, religion and gender. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-379

AMST 380 American Popular Culture
Units: 4 Terms Offered: FaSp (Enroll in HIST 380)

AMST 382 America and the World: Japan Case Study
Units: 4 Terms Offered: Sm Transnational, global perspective on American culture to examine the relationship between Los Angeles and various cities in Japan. Trip to Japan. Instruction Mode: Lecture Grading Option: Letter

AMST 383 Jews in American Popular Culture
Units: 4 Terms Offered: FaSp (Enroll in JS 383)

AMST 385 African American Culture and Society
Units: 4 Terms Offered: Sp Examines social and cultural issues affecting the past and present lives of African Americans in the United States. Instruction Mode: Lecture Grading Option: Letter

AMST 389m Carceral Geographies
Units: 4 Terms Offered: FaSp Focusing on California, interdisciplinary research teams will study why there are so many new U.S. prisons. What is their relationship to shopping malls, gated communities, globalization? *Prerequisite:* AMST 200. Instruction Mode: Lecture Grading Option: Letter

AMST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration; by petition only. Instruction Mode: Lecture Grading Option: Letter

AMST 392 Undergraduate Research Methods
Units: 2 Terms Offered: FaSpSm Examines processes of scholarly research; quantitative and qualitative research methods; faculty mentorship; experiential learning; research proposal writing; careers in research. Sophomore or junior standing in the major. Departmental approval. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-392

AMST 395m African American Humor and Culture
Units: 4 Terms Offered: FaSp Examination of one of several traditions of African American humor for insights into shifting notions of race, culture, language and identity in and beyond Black America. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-395

AMST 414 Latina/o Screen Cultures
Units: 4 Terms Offered: FaSpSm (Enroll in CTCS 414)

AMST 424m Political Participation and American Diversity
Units: 4 Terms Offered: Fa (Enroll in POSC 424m)

AMST 428 Latino Politics
Units: 4 Terms Offered: Fa (Enroll in POSC 428)

AMST 432m Racial and Ethnic Relations in a Global Society
Units: 4 Terms Offered: FaSp (Enroll in SOCI 432m)

AMST 435m Women in Society
Units: 4 Terms Offered: FaSp (Enroll in SOCI 435m)

AMST 442 American Literature, 1920 to the Present
Units: 4 Terms Offered: FaSp (Enroll in ENGL 442)

AMST 444m Native American Literature
Units: 4 Terms Offered: FaSp (Enroll in ENGL 444m)

AMST 445 African American Anthropology
Units: 4 Terms Offered: FaSp (Enroll in ANTH 445)

AMST 446 Cultural Circuits in the Americas
Units: 4 Terms Offered: FaSp How does culture move within and across the Americas? What are the relationships between new global media conglomerates, "national cultural industries," and local cultural practices? Instruction Mode: Lecture Grading Option: Letter

AMST 448m Chicano and Latino Literature
Units: 4 Terms Offered: FaSp Development of poetry, essay, short story and novel of the Chicano and Latino peoples of the United States, with particular emphasis on the differentiating characteristics between the multiple cultures that constitute the Latino populations. Duplicates Credit in former ENGL 448m. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-448

AMST 449m Asian American Literature
Units: 4 Terms Offered: FaSp Survey of Asian American literature from the earliest time to the present; development of prose, poetry and novel. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-449

AMST 452m Race, Gender and Sexuality
Units: 4 Examination of sexual discourses in the United States in the context of slavery, empire, sex work, labor markets, schools and prisons. Instruction Mode: Lecture Grading Option: Letter

AMST 456m People of Color and the News Media
Units: 4 (Enroll in JOUR 466m)

AMST 458m Race and Ethnicity in Entertainment and the Arts
Units: 4 Terms Offered: FaSp (Enroll in COMM 458m)

AMST 464m Latino News Media in the United States
Units: 4 Terms Offered: Sp (Enroll in JOUR 465m)

AMST 465 Studies in American Art
Units: 4 Max Units: max 8 Terms Offered: FaSp (Enroll in AHIS 465)

AMST 466m The Psychology of African Americans
Units: 4 Terms Offered: FaSp Provides an introduction to the study of health, mental health, and social behavior among African Americans. Instruction Mode: Lecture Grading Option: Letter

AMST 475m Blackness in American Visual Culture
Units: 4 Terms Offered: FaSp (Enroll in AHIS 475m)

AMST 483 Religion and Popular Culture in the United States
Units: 4 Terms Offered: Sp (Enroll in REL 483)

AMST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

AMST 492 Research Methods in American Studies and Ethnicity
Units: 4 Develop the research proposal and methods for completing a senior honors thesis; for students in one of the four American Studies and Ethnicity honors programs. Instruction Mode: Lecture Grading Option: Letter

AMST 493 Senior Honors Thesis in American Studies and Ethnicity
Units: 4 Writing the honors thesis; for students in one of the four American Studies and Ethnicity majors and Honors Program. Instruction Mode: Lecture Grading Option: Letter

AMST 498 Senior Seminar in American Studies and Ethnicity
Units: 4 Terms Offered: FaSp Capstone course for majors, highlighting interdisciplinary study of race and ethnicity in a comparative context. *Prerequisite:* AMST 200. Instruction Mode: Lecture Grading Option: Letter

AMST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the earth sciences. Field trip required when appropriate to the topic. Departmental approval required. Instruction Mode: Lecture Grading Option: Letter

AMST 500 Introduction to American Studies and Ethnicity
Units: 4 Terms Offered: Fa An exploration of themes, theoretical influences, and methodological approaches current in American Studies and Ethnic Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 509 Key Topics in Linguistic Anthropology
Units: 4 Terms Offered: FaSp (Enroll in ANTH 509)

AMST 510 Readings in Chicano/Latino Studies
Units: 4 Terms Offered: FaSp Perspectives from the major debates that have driven the development of the field of Chicano/Latino/a studies across the disciplines. Instruction Mode: Lecture Grading Option: Letter

AMST 519 Indigenous, Decolonial and Transhemispheric American Studies
Units: 4 Terms Offered: FaSp Evaluate pressing social science and humanities concerns hemispherically in relation to first peoples, decolonialization, land, cultural memory, and politics within comparative ethnic studies. Instruction Mode: Lecture Grading Option: Letter

AMST 520 Readings in Asian American Studies
Units: 4 Terms Offered: FaSp Graduate seminar covering critical themes in the interdisciplinary field of Asian American Studies, including perspectives from anthropology, literature, sociology, history, political science, religious studies, cultural studies, women/gender studies and psychology. Instruction Mode: Lecture Grading Option: Letter

AMST 522 Transpacific History
Units: 4 (Enroll in HIST 560)

AMST 525 Seminar in American Art
Units: 4 Terms Offered: FaSp (Enroll in AHIS 525)

AMST 530 Readings in African American Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Seminar exploring crucial theoretical, methodological and historical issues in the development of African American Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 543 Critical Studies in Whiteness
Units: 4 Max Units: 8.0 Terms Offered: FaSp Examines meaning of "whiteness" from historical and other disciplinary perspectives; focus is on how whiteness operates within specific racial regimes to perpetuate inequality. Instruction Mode: Lecture Grading Option: Letter

AMST 552 Archives and Subcultures
Units: 4 Terms Offered: FaSm Introduction to the practice of archival research with an emphasis on the literary and historical methods of documenting subcultural groups, particularly racial and sexual minorities. Instruction Mode: Lecture Grading Option: Letter

AMST 553 Race, Gender and Sexuality
Units: 4 Interdisciplinary investigation of concepts, theories, and debates in the study of race and its intersection with gay, lesbian, trans, heterosexual and other sexualities/ genders. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-553

AMST 554 Readings in Chicano/Latino History
Units: 4 Terms Offered: FaSp Readings, analyses, and discussion of various approaches, topics, and genres in the field of Chicano/Latino history. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-554

AMST 560 Readings on Race and Ethnicity
Units: 4 Terms Offered: FaSp Exploration of research on race and ethnicity in the United States as it pertains to political, social, economic, cultural and historical issues. Instruction Mode: Lecture Grading Option: Letter

AMST 562 The Practice of Ethnography
Units: 4 (Enroll in ANTH 562)

AMST 570 Readings on Los Angeles and Urban Culture
Units: 4 Terms Offered: FaSp Exploration of some of the leading scholarship from a variety of disciplines writing about Los Angeles and the Southern California area. Particular emphasis is placed on the intersections of historical, contemporary and cultural issues that inform recent scholarship on Los Angeles. Instruction Mode: Lecture Grading Option: Letter

AMST 572 Quantitative Methods for a Diverse Society
Units: 4 Terms Offered: FaSp Diversity and empirical social research; conceptualization, design and measurement; conducting, analyzing and evaluating surveys and experiments; focus on obstacles in the empirical study of diversity. Instruction Mode: Lecture Grading Option: Letter

AMST 580 Readings in Cultural Studies
Units: 4 Terms Offered: FaSp Seminar in theoretical approaches to cultural studies, with an emphasis on the analysis of race, gender, sexuality, and class in the U.S. Instruction Mode: Lecture Grading Option: Letter

AMST 585 Topics in Cultural Theory
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introduction to key texts on poststructuralism and its theorizing of the body, power, and historical trauma. Instruction Mode: Lecture Grading Option: Letter

AMST 586 Utopia and Dystopia
Units: 4 Terms Offered: FaSp How did Marx conceptualize modernity? What is capital? Historical materialism? Dialectical materialism? What roles do race, class, gender, sexuality, territory and the state perform? Instruction Mode: Lecture Grading Option: Letter

AMST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the program. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 593 Practicum in Teaching the Liberal Arts: American Studies
Units: 2 Terms Offered: FaSp Practical principles for the long term development of effective teaching within college disciplines, intended for teaching assistants in American Studies and Ethnicity. Duplicates Credit in MDA 593. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar in selected topics in American studies and ethnicity. Instruction Mode: Lecture Grading Option: Letter

AMST 610 Interdisciplinary Research Seminar in Chicano/Latino Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Exploration of issues involved in conducting research in the interdisciplinary field of Chicano/Latino Studies and guides students through the design and completion of a journal- quality research paper. *Recommended Preparation:* graduate reading course in Chicano/ Latino Studies. Instruction Mode: Lecture Grading Option: Letter

AMST 622 Research Seminar on Transpacific Studies
Units: 4 Terms Offered: FaSp Interdisciplinary research seminar foregrounding a multilateral approach towards understanding the political, cultural, economic, and military relations and conflicts between Asia, the Americas, and the Pacific. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-660

AMST 630 Interdisciplinary Research Seminar: African American Studies
Units: 4 Terms Offered: FaSp Methodological and theoretical approaches to conducting research in African American Studies; design and completion of a publishable research paper. Instruction Mode: Lecture Grading Option: Letter

AMST 660 Interdisciplinary Research Seminar in Race and Ethnicity
Units: 4 Explores issues of conducting interdisciplinary research in race and ethnicity and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course in race and ethnicity. Instruction Mode: Lecture Grading Option: Letter

AMST 662 Research Seminar in Comparative Ethnic Studies
Units: 4 Examination of the historical evolution and current status of comparative and relational ethnic studies. Original research project required. Instruction Mode: Lecture Grading Option: Letter

AMST 670 Interdisciplinary Research Seminar on Los Angeles
Units: 4 Introduces students to issues of - urban-based research concerning Los Angeles and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course on Los Angeles. Instruction Mode: Lecture Grading Option: Letter

AMST 680 Interdisciplinary Research Seminar in Cultural Studies
Units: 4 Explores theoretical approaches to cultural studies as an interdisciplinary field and guides students through the design and completion of a journal-quality research paper. *Recommended Preparation:* graduate reading course in cultural studies. Instruction Mode: Lecture Grading Option: Letter

AMST 700 Theories and Practices of Professional Development
Units: 4 Terms Offered: FaSpSm Offers students a structured environment in which to write their dissertation proposals and focuses on professional development. Completion of qualifying exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 701 Contemporary Theories of

American Studies and Ethnicity
Units: 4 Max Units: 8.0 Terms Offered: Sp Seminar in representative theoretical works in the fields of American Studies and Ethnic Studies published in the past fifteen years. Instruction Mode: Lecture Grading Option: Letter

AMST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the program. Instruction Mode: Lecture Grading Option: Credit/No Credit

AMST 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

AMST 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Anatomy

ANAT 321 Head and Neck Anatomy
Units: 2 Anatomy of the head and neck with lecture and laboratory demonstration for dental hygienists. Instruction Mode: Lecture Grading Option: Letter

ANAT 501 Functional Neuroanatomy-Neurophysiology
Units: 3 Structure and function of the human nervous system. Includes participation in neurology clinics at LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

ANAT 521 Head and Neck Anatomy
Units: 2 Terms Offered: Fa Detailed morphology of the head and neck emphasizing considerations applicable to dentistry; morphology of the thorax; osteology of the skull. Instruction Mode: Lecture Grading Option: Letter

ANAT 522 Systemic Human Anatomy
Units: 3 Structure and function of the human body; organ systems and morphology of the abdomen and pelvis; axilla and arm; osteology of the skull. Instruction Mode: Lecture Grading Option: Letter

ANAT 523 Head and Neck Dissection
Units: 1 Laboratory experience in dissection of the structures of the human head and neck with emphasis on the osteology and morphology of the face. Instruction Mode: Lecture Grading Option: Letter

ANAT 701 Advanced Head and Neck Anatomy
Units: 1 Detailed study of structure and function of the orofacial region including recent research and advances in dentistry. Instruction Mode: Lecture Grading Option: Letter

ANAT 722 Advanced Head and Neck Anatomy Laboratory
Units: 1 Dissection of the head and neck with emphasis on the osteology and morphology of the face. *Prerequisite:* ANAT 701 enrollment. Instruction Mode: Lecture Grading Option: Letter

Anesthesiology

ANST 500 Human Anatomy
Units: 3 Terms Offered: Fa Lectures and laboratory simulation in anatomy emphasizing structure and function of major organs to include brain, cardiovascular, lungs, liver, kidneys and musculoskeletal system. Instruction Mode: Lecture Grading Option: Letter

ANST 501 Advanced Pharmacology of Anesthesia Practice I
Units: 4 Terms Offered: Fa Pharmacokinetic and pharmacodynamic principles, uptake and distribution of inhalational anesthetics, and pharmacology of respiratory and cardiovascular drugs. Application of pharmacologic principles to anesthetic management. Instruction Mode: Lecture Grading Option: Letter

ANST 502 Principles of Nurse Anesthesia Practice
Units: 4 Terms Offered: Fa Basic theory of anesthesia administration, preanesthetic assessment, physical examination, monitoring. Case management including airway and blood/fluid management, anesthesia machine, and postoperative pain. Lecture/case study format. Instruction Mode: Lecture Grading Option: Letter

ANST 503 Advanced Pharmacology of Anesthesia Practice II
Units: 4 Terms Offered: Sp Pharmacokinetic/pharmacodynamic principles of drugs covering different organs systems (cardiovascular, CNS, hematology, endocrine), herbal therapies, chemotherapeutics, antimicrobials. Application of pharmacology to anesthetic management using problem-based learning. *Prerequisite:* ANST 501 and ANST 502. Instruction Mode: Lecture Grading Option: Letter

ANST 504 Advanced Pathophysiology Related to Anesthesia Practice
Units: 4 Terms Offered: Sp In-depth study of cardiovascular, respiratory, renal, liver, endocrine and neurophysiology and pathophysiology with application of these principles to anesthetic case management using problem-based learning. *Prerequisite:* ANST 501, ANST 502. Instruction Mode: Lecture Grading Option: Letter

ANST 505 Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. Registration Restriction: Open only to Nurse Anesthesia majors. Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 506 Advanced Principles of Nurse Anesthesia Practice
Units: 4 Terms Offered: Sm Advanced theory of anesthesia management for general and specialized procedures, diagnostic procedures, pediatrics and obstetrics. *Prerequisite:* ANST 503, ANST 504, ANST 505. Instruction Mode: Lecture Grading Option: Letter

ANST 507 Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. *Prerequisite:* ANST 503, ANST 504, ANST 505. Registration Restriction: Open only to Nurse Anesthesia majors. Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 508 Research: Investigative Inquiry
Units: 3 Terms Offered: Fa Utilization of research, which includes the evaluation of research, problem identification within the practice setting, awareness of practice outcomes and the clinical application of research. *Recommended Preparation:* research course; basic statistics. Instruction Mode: Lecture Grading Option: Letter

ANST 509 Advanced Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to geriatric, obstetrical, and pediatric anesthesia; anesthetic management to include medically compromised patients. *Prerequisite:* ANST 505, ANST 506, ANST 507. Registration Restriction: Open only to Nurse Anesthesia majors. Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 510 Leadership and Professional Aspects of Nurse Anesthesia
Units: 3 Terms Offered: Fa Emphasis on the professional components of nurse anesthesia practice, including socialization, regulation, culture, ethics, law, employment, advocacy, and contemporary practice issues. Instruction Mode: Lecture Grading Option: Letter

ANST 511 Advanced Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. Registration Restriction: Open only to Nurse Anesthesia majors. Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 512 Research Integration: Capstone Experience
Units: 2 Terms Offered: FaSpSm A capstone course that requires students to demonstrate ability to integrate theory, research, and practice through a mentored research experience with direct relevance to graduate

specialization. Registration Restriction: Open only to Nurse Anesthesia majors. Instruction Mode: Lecture Grading Option: Letter

ANST 513 Advanced Clinical Residency in Nurse Anesthesia III
Units: 2 Terms Offered: FaSpSm Correlation of advanced techniques of anesthesia administration with application of scientific and pharmacologic theory in diverse specialty anesthesia rotations. *Prerequisite:* ANST 511. Registration Restriction: Open only to Nurse Anesthesiology majors. Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 514 Specialty Fellowship
Units: 2 Terms Offered: Fa Optional internship to develop advanced skills and critical assessment of anesthesia specialty or clinical research. *Prerequisite:* ANST 513; graduate of an accredited nurse anesthesia program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in nurse anesthesia. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* ANST 508. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 591 Special Projects
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Supervised learning in functional and/or clinical area of focus reflecting current trends and development in the field of nurse anesthesia. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 600 Gateway Tools
Units: 2 Emphasize strategies that build critical skills for the transition from clinician to doctoral level scholarship and clinical practice. Discussions used to develop self awareness, self regulation, internal motivation, empathy, social skills and role transition. Acceptance into the USC Program of Nurse Anesthesia. Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

ANST 601 Professional Integration to the Clinical Environment
Units: 2 Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical environment with observation and supervised clinical instruction. Registration Restriction: Open only to Doctor of Nurse Anesthesia Practice students Instruction Mode: Lecture Grading Option: Letter

ANST 602 Analytical Methods for Evidence-Based Practice
Units: 3 Evaluation of the appropriateness of statistical methods applied to answer research questions and impact of statistical choice on applying evidence-based medicine to nurse anesthesia practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 603 Anatomy and Advanced Health Assessment
Units: 4 Lectures and laboratory simulation in anatomy emphasizing structure and function of major organs to include brain, cardiovascular, lungs, liver, kidneys and musculoskeletal systems. Acceptance into the USC Program of Nurse Anesthesia. Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 604 Healthcare Policy for Advocacy in Health Care
Units: 3 Examining the health care system focusing on policy development, health care costs, quality and patient safety, access to care, disparities, and future trends. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 605 Clinical Prevention and Population Health
Units: 3 Focuses on positive/protective social and behavioral factors influencing well-being of individuals and populations. Public health promotion strategies, clinical prevention and lifestyle choices will be reviewed. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 607 Advanced Health Assessment
Units: 2 Terms Offered: Sm Advanced health assessment of all human systems utilizing advanced assessment techniques, concepts and approaches. Registration Restriction: Open only to Nurse Anesthesia students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 611 Leadership and Collaborative Practice
Units: 3 Emphasis on the professional components of nurse anesthesia practice including scope of practice, organizational leadership, accountability, ethics and collaborative practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 613 Clinician-Technology Interface
Units: 3 Exploring informatics, the integration of computer science, cognitive science, and informational science to manage and communicate data, information, knowledge and wisdom in healthcare delivery. Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 614 Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. *Prerequisite:* ANST 501 and ANST 502 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 615 Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory in the clinical setting with observation and supervised clinical residency. *Prerequisite:* ANST 614 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 616 Advanced Clinical Residency in Nurse Anesthesia I
Units: 2 Terms Offered: FaSpSm Correlating techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to geriatric, obstetrical, and pediatric anesthesia; anesthetic management includes medically compromised patients. *Prerequisite:* ANST 614 and ANST 615 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 617 Advanced Clinical Residency in Nurse Anesthesia II
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 618 Advanced Clinical Residency in Nurse Anesthesia III
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 and ANST 617 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 619 Advanced Clinical Residency in Nurse Anesthesia IV
Units: 2 Terms Offered: FaSpSm Correlation of techniques of anesthesia administration with application of scientific and pharmacologic theory expanded to neuroanesthesia, cardiac anesthesia, trauma anesthesia, critical care and pain management. *Prerequisite:* ANST 614 and ANST 615 and ANST 616 and ANST 617 and ANST 618 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Lab Grading Option: Letter

ANST 620a Clinical Synthesis I
Units: 1 A two semester curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management, and delivery. *Prerequisite:* ANST 614 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 620b Clinical Synthesis I
Units: 1 A two semester curriculum promoting synthesis and mastery of topics integral to the art and science of nurse anesthesia planning, management, and delivery. *Prerequisite:* ANST 614 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 621a Clinical Synthesis II
Units: 1 A two semester curriculum promoting synthesis and mastery of topics integral to nurse anesthesia planning, management, and delivery. A continuation of ANST 620. *Prerequisite:* ANST 620a and ANST 620b Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 621b Clinical Synthesis II
Units: 1 A two semester curriculum promoting synthesis and mastery of topics integral to nurse anesthesia planning, management, and delivery. A continuation of ANST 620. *Prerequisite:* ANST 621a Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture, Discussion Grading Option: Letter

ANST 691 Doctoral Capstone Proposal
Units: 2 Preparation of capstone project proposal. Examination/analysis of research and literature to prepare and facilitate the student's area of focus culminating in the written capstone proposal and presentation. Instruction Mode: Lecture Grading Option: Letter

ANST 694a Doctoral Capstone Project
Units: 1 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 691 Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694b Doctoral Capstone Project
Units: 1 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694a Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694c Doctoral Capstone Project
Units: 1 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694b Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Credit/No Credit

ANST 694d Doctoral Capstone Project
Units: 1 Terms Offered: FaSpSm Mentored research on an individualized topic of interest leading to the professional doctorate. The project will culminate in a formal written research paper or presentation. *Prerequisite:* ANST 694c Registration Restriction: Open to Doctor of Nurse Anesthesia Practice students only Instruction Mode: Lecture Grading Option: Credit/No Credit

Anthropology

ANTH 101g Body, Mind and Healing: Introduction to Medical Anthropology
Units: 4 Terms Offered: FaSp The body, illness and healing from a cultural perspective, including comparative studies of folk healing systems, curing rituals and Western biomedical practices. Instruction Mode: Lecture Grading Option: Letter

ANTH 105g Culture, Medicine and Politics
Units: 4 Terms Offered: Fa Survey of the impact of public institutions, the private sector, and cultural practices on health and the delivery of health care in the United States. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as OT-105

ANTH 125g Social Issues in Human Sexuality and Reproduction
Units: 4 Terms Offered: FaSp Examination of the "natural" (biological) and "unnatural" (social and cultural) dimensions of human sexuality and reproduction. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 140g Mesoamerican Cosmovision and Culture
Units: 4 Terms Offered: Sp An exploration of the nature and contributions of pre-Columbian high civilizations (Maya, Aztecs, etc.) and their descendants as they resist and assimilate to the modern world. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 200Lg The Human Animal
Units: 4 Max Units: 12.0 (Enroll in HBIO 200Lg) Instruction Mode: Lecture Grading Option: Letter

ANTH 201g Principles of Human Organization
Units: 4 Terms Offered: FaSpSm Major culture types, nomadic hunters and herders, peasant and tribal societies, sophisticated kingdoms; social, political, economic, and religious institutions. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 202g Archaeology: Our Human Past
Units: 4 Terms Offered: FaSp Archaeology as the means of investigating our shared human past, from the origins of humanity to the foundations of current civilization. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLAS 202, ARCG 202

ANTH 205g Introduction to Global Studies and Overseas Research
Units: 4 Terms Offered: Sp Cultural differences and social processes examined in global and regional networks. Issues are studied ethnographically, using materials from several disciplines. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 225 Gender, Sex, and Science: A Gender Studies Approach
Units: 4 (Enroll in SWMS 225)

ANTH 235g The Changing Pacific: History, Culture, Politics
Units: 4 Terms Offered: Fa Current social and political developments in the South Pacific analyzed from the perspective of the historical relationship between indigenous cultures and the West. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

ANTH 240gm Representing 9/11 and Hurricane Katrina
Units: 4 Terms Offered: FaSp Critical examination of visual, textual, and performative representations of culture and identity anchored by discussion of the terrorist attacks of 9/11 and Hurricane Katrina . *Recommended Preparation:* ANTH 263g Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 240

ANTH 250g Race and Sexual Politics in Southeast Asia
Units: 4 Southeast Asia is studied as a meeting place of different races and cultural traditions, with emphasis on the precolonial heritage of sexual equality and postcolonial reinterpretations of men's and women's worlds. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 263g Exploring Culture through Film
Units: 4 Terms Offered: FaSpSm Concepts of social anthropology using filmic representations of societies throughout the world in contrast to written ethnography. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 273g Shamans, Spirits and Ancestors: Non-Western Religious Traditions
Units: 4 Terms Offered: Fa An intensive study of local systems of belief and knowledge in selected societies in the Pacific, Asia, Africa, the Caribbean and Latin America with emphasis on ideas of the spirit world. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option:

Letter

ANTH 300 Evolution, Ecology, and Culture
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm (Enroll in HBIO 300) Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 301 The Performance of Healing
Units: 4 Survey of the performance of healing in cross-cultural perspective. The course culminates in field research to Spiritist centers outside the United States. Instruction Mode: Lecture Grading Option: Letter

ANTH 302 Humans and Ancient Environments
Units: 4 Terms Offered: FaSp Examine ways that humans have caused and adapted to environmental change in the past. *Recommended Preparation:* ANTH 202 and GEOL 105Lg or GEOL 150Lg. Instruction Mode: Lecture Grading Option: Letter

ANTH 303 Exploring Ancient Ways of Living: Experimental Archaeology
Units: 4 (Enroll in REL 303)

ANTH 304 Prehistoric Archaeology
Units: 4 Examination of the rise of human social complexity from the first Homo Sapiens through the development of agriculture, chiefdoms, states and empires. *Recommended Preparation:* HBIO 200Lg. Instruction Mode: Lecture Grading Option: Letter

ANTH 305 Childhood, Birth and Reproduction
Units: 4 Terms Offered: Fa Cross-cultural analysis and comparison of the experience and cultural conception of birth, maternity, parenthood, and childhood in western and non-western societies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-305

ANTH 306 Primate Social Behavior and Ecology
Units: 4 Terms Offered: FaSpSm (Enroll in HBIO 306)

ANTH 307 Trojan Archaeology: Excavating USC
Units: 4 Archaeological excavation on USC's campus features training in research design, digging, survey, mapping, archive use, artifact analysis, public communication, and confronting political and ethical challenges. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ARCG 307

ANTH 308 Origins and Evolution of Human Behavior
Units: 4 (Enroll in HBIO 308)

ANTH 309L Virtual and Digital Culture, Heritage and Archaeology
Units: 4 (Enroll in ARCG 305L)

ANTH 310 Archaeology of the Americas
Units: 4 Terms Offered: Irregular Pre-Columbian culture from early hunters to the Spanish conquest in major geographical areas of Mexico, Central America, Peru, or the United States. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 310

ANTH 311 Old World Archaeology
Units: 4 Terms Offered: Irregular Neolithic revolution and origins of civilization in major culture centers such as Mesopotamia, Egypt, India, or China. Instruction Mode: Lecture Grading Option: Letter

ANTH 314g The Nature of Maya Civilization
Units: 4 A seminar forum on Maya culture from the earliest form to present; problems of origins, classic florescence, systems collapse, conquests, persistence, and transformation today. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 315g North American Indians
Units: 4 Terms Offered: Fa North American Indian societies, their major cultural themes, ethnological significance, and comparability with Western European cultural forms; lectures, visuals, and indigene demonstrations. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 316gmp North American Indians in American Public Life
Units: 4 Terms Offered: Sp Role of American Indians in American public life from colonial times to the present; native American forms of government; relations between tribes and the U.S. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-317

ANTH 317 Imaging Indians: From Warriors to Windtalkers
Units: 4 Terms Offered: Fa An historical and anthropological overview of 500 years of the presentation of differing and, often, contradictory perceptions of Native American life and character in popular and academic media. Instruction Mode: Lecture Grading Option: Letter

ANTH 318 Ethics and Global Heritage
Units: 4 (Enroll in REL 304)

ANTH 320 Male and Female in Pacific Society
Units: 4 Terms Offered: Sp Cultural variations in gender systems and historical changes due to colonialism and development in Polynesia, Melanesia, Indonesia, and other Pacific Rim cultures. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-320

ANTH 322 Anthropology of Bali
Units: 4 Terms Offered: Sp An introduction to the methodology of social anthropology, focusing on the culture of the Indonesian island of Bali. Instruction Mode: Lecture Grading Option: Letter

ANTH 323 Southeast Asian Cultures Today: Globalization and Multiple Modernities
Units: 4 The cultural and social diversity of Southeast Asia today, focusing on globalization, modernity, and change. Instruction Mode: Lecture Grading Option: Letter

ANTH 324 Regional Ethnology: China
Units: 4, 2 years Terms Offered: Sp Anthropological perspective of the ordinary citizens of the Peoples' Republic of China: peasants, workers, bureaucrats, students, and women. Instruction Mode: Lecture Grading Option: Letter

ANTH 325 Global Studies Research Methods
Units: 4 Terms Offered: Fa Methods for field research in international settings include ethnography, archival work, surveying and documentation; preparation for overseas research and senior thesis. *Recommended Preparation:* ANTH 205. Instruction Mode: Lecture Grading Option: Letter

ANTH 326 Ethnography of European Culture
Units: 4 Terms Offered: Irregular Europe as a geographic area in terms of its linguistic, ethnic, racial, and cultural diversity; particular focus on peasant society and the Little Tradition. Instruction Mode: Lecture Grading Option: Letter

ANTH 327 Anthropology of the Middle East and Islam
Units: 4 Terms Offered: Sp Explores written and visual ethnography for study of Middle East community, sociopolitical forms and religious life. Examines scriptural and living Islam and dynamics of contemporary Islamic revival. Instruction Mode: Lecture Grading Option: Letter

ANTH 328m Culture Change and the Mexican People
Units: 4 Terms Offered: Irregular Culture change theories and methods (archaeology, community studies, participant- observation) used to examine the varied experiences of peoples in Mexico and the U.S. Southwest. Instruction Mode: Lecture Grading Option: Letter

ANTH 329 Archaeology and Global Cultural Heritage
Units: 4 Exploration of the role archaeology plays in the creation of modern national, ethnic, racial and other types of identities worldwide. Instruction Mode: Lecture Grading Option: Letter

ANTH 330m Culture, Gender and Politics in South Asia
Units: 4 Terms Offered: Fa Examination of violence, identity, law, religion, nationalism, development, caste, kinship, gender, and the South Asian diaspora. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-330

ANTH 332g Anthropology and Narrative Medicine
Units: 4 Terms Offered: Fa Exploration of illness, disability, and healing narratives, how narratives are culturally shaped, and their significance for western biomedical practices. Satisfies New General Education in Category C: Social Analysis Instruction

Mode: Lecture, Discussion Grading Option: Letter

ANTH 333gm Forms of Folklore
Units: 4 Terms Offered: Fa Introduction to folklore as a discipline, including folklore research methods and theory. Core course for the minor in Folklore and Popular Culture. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 335 Comparative Muslim Societies
Units: 4 Terms Offered: Irregular Examines issues of nationality, religion, and culture among Muslim peoples in the Middle East, Africa, East Asia, and the Soviet Union from an anthropological perspective. Instruction Mode: Lecture Grading Option: Letter

ANTH 336 Health, Gender and Ethnicity
Units: 4 Terms Offered: Sp (Enroll in SWMS 336)

ANTH 337 Anthropology of Warfare
Units: 4 Examination of the origins of warfare, its evolution and the changes it brought to human civilization. *Recommended Preparation:* ANTH 202, ANTH 304. Instruction Mode: Lecture Grading Option: Letter

ANTH 345 Politics, Social Organization, and Law
Units: 4, 2 years Terms Offered: Sp Political and legal systems of primitive societies, social control, and structure. Instruction Mode: Lecture Grading Option: Letter

ANTH 355 Urban Anthropology
Units: 4 Terms Offered: Irregular Exploration of empirical and analytical approaches employed by anthropologists in studying urban phenomena cross-culturally; urban origins, structure, and social processes. Instruction Mode: Lecture Grading Option: Letter

ANTH 357g Cultures of Genocide
Units: 4 Terms Offered: FaSp The comparative analysis of genocide in different cultures and historical moments in order to understand the processes through which genocide has been perpetuated, as well as different cultural responses to it. *Prerequisite:* ANTH 100 *Recommended Preparation:* ANTH 200Lg. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ANTH 360 Symbolic Anthropology
Units: 4 Terms Offered: Fa The role of symbols in the evolution of culture; symbolic aspects of myth, ritual, and social life. *Prerequisite:* sophomore standing. Instruction Mode: Lecture Grading Option: Letter

ANTH 365 Life History in Anthropological Perspective
Units: 4 Terms Offered: Irregular Examination of one's life within its sociocultural context; study of family history, autobiography, diary, journal, and film; research and writing of a life history. Instruction Mode: Lecture Grading Option: Letter

ANTH 370 Sex, Love, and Marriage: An Introduction to Kinship
Units: 4 Terms Offered: Sp Comparative examination of family and kinship in tribal, peasant, and complex societies, emphasizing non-Western cultures, societal and normative consequences of forms and functions in family. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 370

ANTH 371gm Cross-Cultural Research on Urban Gangs
Units: 4 Terms Offered: FaSpSm Youth gang dynamics and their effects on institutions. Comparative analysis of Asian, African, and Mexican American gangs. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

ANTH 372 Interpretation of Myth and Narrative
Units: 4 Terms Offered: Fa Oral narratives from non-Western cultures; communications about deeply-held beliefs, psychological tensions, social problems, and the structure of the mind. Instruction Mode: Lecture Grading Option: Letter

ANTH 373 Magic, Witchcraft and Healing
Units: 4 Analysis of the practices of witches and witch doctors, priests, diviners and traditional healers in Western and non-Western societies, relating their practices to religion and medicine. Instruction Mode: Lecture Grading Option: Letter

ANTH 375 Applied Anthropology
Units: 4, 2 years Terms Offered: Sp Evaluation of cultural impact of policy and program designed to stimulate change in traditional communities. Fieldwork assignments in education, health, and development. Instruction Mode: Lecture Grading Option: Letter

ANTH 376 Scientific Analysis in Archaeology
Units: 4 Examination of the range of scientific techniques and technologies used for the analysis and interpretation of material culture recovered during archaeological excavations. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 376

ANTH 377 Archaeological Interpretation of Complex Societies
Units: 4 Archaeologists translate raw data sets into broader understanding through interpretation. Students engage specific examples and develop their own perspectives on past societies. (Block semester) *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 377

ANTH 380 Sex and Gender in Anthropological Perspective
Units: 4 Cultural construction of gender in a number of non-Western societies is compared to ideas of sex and sexual differences in American society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-380

ANTH 385m Men and Masculinity
Units: 4 (Enroll in SWMS 385m)

ANTH 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ANTH 395m African American Humor and Culture
Units: 4 (Enroll in AMST 395m)

ANTH 400 Maya Resilience: Constructing Past and Present Identities
Units: 4 Terms Offered: Sm Examination of how the Maya, past and present, have forged their cultural identity. Issues are explored through visits to sites and communities in Guatemala. *Recommended Preparation:* ANTH 202g, ANTH 310, ANTH 314g or another anthropologically based archaeology course Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 400

ANTH 405 Evolutionary Medicine
Units: 4 Terms Offered: Fa (Enroll in HBIO 405)

ANTH 406 Theory and Method in Human Evolutionary Biology
Units: 4 Terms Offered: FaSpSm (Enroll in HBIO 406)

ANTH 407 Peasant Society
Units: 4 Terms Offered: Sp Comparative study of the social, economic, political, and religious characteristics of peasant societies as they have existed and continue to exist in Asia, Africa, and Latin America. Instruction Mode: Lecture Grading Option: Letter

ANTH 409 Indigenous Languages in the Contemporary World
Units: 4 Terms Offered: Sm Examination of indigenous languages in Northern Ireland, with a focus on the sociopolitical dimension of revitalization movement. Instruction Mode: Lecture Grading Option: Letter

ANTH 410a Ethnographic Field Methods and Practicum
Units: 4 Terms Offered: FaSp Survey of anthropological methods for acquiring and analyzing data. Ethnographic research methods and modes of analysis; development of a field research project. *Prerequisite:* ANTH 201. Instruction Mode: Lecture Grading Option: Letter

ANTH 410b Ethnographic Field Methods and Practicum
Units: 4 Terms Offered: FaSp Survey of anthropological methods for acquiring and analyzing data. Implementation of the field project. *Prerequisite:* ANTH 201. Instruction Mode: Lecture Grading Option: Letter

ANTH 415 Global Studies Senior Seminar
Units: 4 Terms Offered: Fa Preliminary analysis for research data for overseas research to compare results, discuss writing strategies and gain comparative perspective to prepare a senior thesis. *Recommended Preparation:* ANTH 205, ANTH 325. Instruction Mode: Lecture Grading Option: Letter

ANTH 425 Peoples and Cultures of Latin America
Units: 4 Terms Offered: Irregular Cultures of the indigenous peoples of South America; results of Spanish conquest and colonization;

present folk societies and their cultures. Instruction Mode: Lecture Grading Option: Letter

ANTH 435x Ethnic Diversity in China/ Inner Asia
Units: 4 Tibetans, Mongols, Muslims and other minorities on the China and Inner Asian frontier will be surveyed through ethno histories, lectures, films and guest lectures. Instruction Mode: Lecture Grading Option: Letter

ANTH 440 History of Anthropological Theory
Units: 4 Terms Offered: Sp Ideas about man, culture, and society which have formed the field of anthropology as a research discipline; present trends and problems. Instruction Mode: Lecture Grading Option: Letter

ANTH 445 African American Anthropology
Units: 4 Terms Offered: FaSp An examination of anthropological research on race and African American culture, from the 18th century to the present. *Recommended Preparation:* AMST 385, ANTH 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-445

ANTH 450 Field Research in Maya Archaeology
Units: 4 Terms Offered: Sm Hands on research experience at a Maya ruin in Guatemala, including archaeological survey and excavation in the jungle. *Prerequisite:* ANTH 202g or ANTH 310 or ANTH 314g *Corequisite:* ANTH 400 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 482

ANTH 460 Economic Anthropology
Units: 4 Terms Offered: Fa Comparative study of human systems of production, distribution, and consumption; anthropological approaches to study of economic behavior; economic systems of primitive, peasant, and developing societies. Instruction Mode: Lecture Grading Option: Letter

ANTH 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 465)

ANTH 470 Multidisciplinary Seminar in Visual Anthropology
Units: 2 or 4 Terms Offered: Irregular Application of broad cast journalism, cinema, and anthropology to ethnographic film making. Instruction Mode: Lecture Grading Option: Letter

ANTH 472 Visual Techniques in Anthropology: Stills
Units: 4 Terms Offered: Fa Visual techniques for data collection and analysis in anthropological research. Visual anthropology research using 35 mm. photography skills, fieldwork procedures, data analysis, and presentation formats. Instruction Mode: Lecture Grading Option: Letter

ANTH 475 Ethnographic Film Analysis
Units: 4 Terms Offered: Irregular Analysis of film as a tool for investigating primitive and modern cultures and societies. Instruction Mode: Lecture Grading Option: Letter

ANTH 476 Ethnographic Film Theory from an Historical Perspective
Units: 4 Technologies and uses of, theoretical frameworks for, and the presentation styles of ethnographic materials are examined from an historical perspective. Instruction Mode: Lecture Grading Option: Letter

ANTH 481L GIS for Investigating the Past
Units: 4 Training of archaeology students in the use of GIS through the understanding of basic principles and theoretical restrictions of geospatial sciences. *Recommended Preparation:* ANTH 202g, SSCI 382L Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 481

ANTH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ANTH 491 Directed Research for Honors
Units: 4 Terms Offered: Irregular Individually guided research and readings culminating in the production of an honors thesis. *Prerequisite:* 3.0 GPA; ANTH 201 plus 8 units of upper-division anthropology courses. Instruction Mode: Lecture Grading Option: Letter

ANTH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Current literature: social change, comparative institutions, urbanization, ideology. Instruction Mode: Lecture Grading Option: Letter

ANTH 501 History and Foundations of Anthropology
Units: 4 Terms Offered: Fa An historical survey of the development of theory and methods in social anthropology. Instruction Mode: Lecture Grading Option: Letter

ANTH 502 Contemporary Theory in Anthropology
Units: 4 Terms Offered: Sp Continuation of ANTH 501, focusing on current models, methods, and issues in social anthropology. Instruction Mode: Lecture Grading Option: Letter

ANTH 503 Regional Ethnography
Units: 4 Terms Offered: Sp An intensive analysis of the anthropology of a major culture area. Instruction Mode: Lecture Grading Option: Letter

ANTH 506 Primate Behavior and Sociobiology
Units: 4 Advanced course on the behavior, ecology and socio - biology of living primates. Takes a Darwinian approach to behaviors such as parenting, mating, diet and feeding, competition, and demography. Instruction Mode: Lecture Grading Option: Letter

ANTH 509 Key Topics in Linguistic Anthropology
Units: 4 Terms Offered: FaSp Introduction to key topics in linguistic anthropology with special focus on interrelations between language, identity, culture, gender, and power in the U.S. and beyond. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-509

ANTH 510 Urban Anthropology
Units: 4 Terms Offered: Fa Intensive ethnographic analysis of specialized urban niches, microsettings, ethnicity, community studies. Instruction Mode: Lecture Grading Option: Letter

ANTH 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554)

ANTH 562 The Practice of Ethnography
Units: 4 Terms Offered: Sp Major approaches to ethnographic fieldwork are explored in classic cases. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-562

ANTH 575 Seminar in Ethnographic Film
Units: 4 Terms Offered: Fa A survey of ethnographic film using both the dimensions of natural history descriptions and process, contrasted with naturalism and structuralism as tools of controlled comparison and analysis. Instruction Mode: Lecture Grading Option: Letter

ANTH 576L Anthropological Media Seminar
Units: 4 Max Units: 8.0 A hands-on laboratory-based survey of preproduction techniques in video and audio production, including exercises to prepare students to shoot their own documentaries. *Recommended Preparation:* visual anthropology background. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ANTH 577L Advanced Anthropological Media Seminar
Units: 4 Max Units: 8.0 A hands-on laboratory-based survey of post-production technologies, including editing both new and older footage. Students should be finishing their own documentaries. *Prerequisite:* ANTH 576. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ANTH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593) Grading Option: Graded CR/NC.

ANTH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 599 Special Topics

Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

ANTH 601 Feminist Issues in Anthropology
Units: 4 Terms Offered: FaSpSm Feminist concerns in both Western and Non-Western societies are examined in relation to globalization; the practice of ethnography and issues of power. Instruction Mode: Lecture Grading Option: Letter

ANTH 602 The Anthropology of Popular Culture
Units: 4 Terms Offered: FaSpSm The relationship between anthropology and popular culture is explored through a critical examination of the category "popular culture." Instruction Mode: Lecture Grading Option: Letter Crosslisted as LBST-502

ANTH 603 Experiments in Ethnographic Writing
Units: 4 Terms Offered: FaSpSm The problems of representation involved in rendering experience into narrative are examined in a number of contemporary "experiments." Instruction Mode: Lecture Grading Option: Letter

ANTH 604 Bodies and Practices
Units: 4 Terms Offered: FaSpSm The cultural construction of body image, embodied practice, race, sexuality and healing. Instruction Mode: Lecture Grading Option: Letter

ANTH 605 Race: Performance, Politics, Cultural Production
Units: 4 Terms Offered: FaSpSm Focuses on the performance and social construction of race and its intersection with gender, sexuality, class, place, nation and empire. Instruction Mode: Lecture Grading Option: Letter

ANTH 606 Seminar on Nationalism and Ethnicity
Units: 4 Cross-cultural analysis of nationalism and ethnicity from an ethnographic perspective. Instruction Mode: Lecture Grading Option: Letter

ANTH 650 Seminar in Ethnography and Interpretation
Units: 4 A seminar where issues in contemporary ethnography and interpretation are discussed, grouped around a theme of current concern, such as power and resistance, colonialism, Marxist approaches, feminism, etc. *Prerequisite:* ANTH 501. Instruction Mode: Lecture Grading Option: Letter

ANTH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Minimum 8 units, maximum number of units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ANTH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ANTH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Arabic

ARAB 122 Arabic I
Units: 4 Terms Offered: FaSpSm Introduction to Modern Standard Arabic: Development of speaking, listening, reading, and writing skills in contemporary cultural contexts. Duplicates Credit in former MDES 122. Instruction Mode: Lecture Grading Option: Letter

ARAB 152 Arabic II
Units: 4 Terms Offered: FaSp Continuation of Arabic I. *Prerequisite:* ARAB 122. Duplicates Credit in former MDES 152. Instruction Mode: Lecture Grading Option: Letter

ARAB 222 Arabic III
Units: 4 Terms Offered: FaSp Intermediate Modern Standard Arabic. Continued development of speaking, listening, reading, and writing skills. *Prerequisite:* ARAB 152. Duplicates Credit in former MDES 222. Instruction Mode: Lecture Grading Option: Letter

ARAB 252 Arabic IV
Units: 4 Terms Offered: FaSp Continuation of Arabic III. Continued development of speaking, listening, reading, and writing skills in Modern Standard Arabic. *Prerequisite:* ARAB 222. Duplicates Credit in former MDES 252. Instruction Mode: Lecture Grading Option: Letter

ARAB 300 Introduction to Translation
Units: 4 Introduces students to the fundamentals of Arabic-English translation and offers analytical, linguistic and cross-cultural factors affecting interpreting and translation. *Prerequisite:* ARAB 222 Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING 300

ARAB 322 Advanced Arabic I
Units: 4 Advanced expression in written and spoken Arabic, including reading of original texts, understanding different registers, and exposure to modern Arabic cultures. *Prerequisite:* ARAB 252. Duplicates Credit in former MDES 322. Instruction Mode: Lecture Grading Option: Letter

ARAB 333 Colloquial Arabic: Regional Dialects
Units: 4 Max Units: 8 Introduction to a regional Arabic dialect, focusing primarily on verbal skills. *Prerequisite:* ARAB 152 *Recommended Preparation:* ARAB 222 or ARAB 252 Duplicates Credit in the former MDES 333 Instruction Mode: Lecture Grading Option: Letter

ARAB 334 Media Arabic
Units: 4 Terms Offered: FaSp Introduction and development of language skills encountered in print and broadcast media Arabic. *Prerequisite:* ARAB 222. Duplicates Credit in former MDES 334. Instruction Mode: Lecture Grading Option: Letter

ARAB 352 Advanced Arabic II
Units: 4 Terms Offered: FaSp Continuation of Advanced Arabic I. *Prerequisite:* ARAB 322. Duplicates Credit in former MDES 352. Instruction Mode: Lecture Grading Option: Letter

Archaeology

ARCG 202g Archaeology: Our Human Past
Units: 4 Terms Offered: FaSp (Enroll in ANTH 202)

ARCG 298aL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp (Enroll in ENST 298a)

ARCG 298bL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp (Enroll in ENST 298b)

ARCG 304 Ethics and Global Heritage
Units: 4 (Enroll in REL 304)

ARCG 305L Virtual and Digital Culture, Heritage and Archaeology
Units: 4 In-depth exploration of design, techniques and evaluation of immersive, virtual and augmented reality and digital visualizations of cultural heritage, archaeology, historical sites and artifacts. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ANTH 309, REL 305

ARCG 306L Maritime Archaeology Survey and Technology
Units: 4 Introduction to the use of remote sensing technologies for underwater archaeology, mapping and research on submerged cultural heritage remains whether ancient sites or sunken ships. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCG 307 Trojan Archaeology: Excavating USC
Units: 4 (Enroll in ANTH 307)

ARCG 308 Techniques and Issues in 3D Imaging and Modeling
Units: 2 In-depth exploration of applications, techniques and standards involved in stereoscopic imaging and photogrammetric modeling. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCG 310 Archaeology of the Americas
Units: 4 Terms Offered: Irregular (Enroll in ANTH 310)

ARCG 321 Greek Art and Archaeology

Units: 4 Terms Offered: Fa (Enroll in AHIS 321)

ARCG 322 Roman Art and Archaeology
Units: 4 Terms Offered: Fa (Enroll in AHIS 322)

ARCG 370 Digs and Dispute: Religion and Archaeology in Israel
Units: 4 Terms Offered: FaSp (Enroll in JS 370)

ARCG 376 Scientific Analysis in Archaeology
Units: 4 (Enroll in ANTH 376)

ARCG 377 Archaeological Interpretation of Complex Societies
(Enroll in ANTH 377)

ARCG 378 Jewish Magic in the Ancient World
Units: 4 Terms Offered: Sp (Enroll in JS 378)

ARCG 400 Maya Resilience: Constructing Past and Present Identities
Units: 4 Terms Offered: Sm (Enroll in ANTH 400)

ARCG 415 Object-Worlds: Histories and Theories of Things
Units: 4 (Enroll in AHIS 415)

ARCG 465 Archaeology and Society
Units: 3 Terms Offered: Fa (Enroll in CLAS 465)

ARCG 481L GIS for Investigating the Past
Units: 4 (Enroll in ANTH 481)

ARCG 482 Field Research in Maya Archaeology
Max Units: 4 Terms Offered: Sm (Enroll in ANTH 450)

ARCG 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research and readings. Not available for graduate credit. *Recommended Preparation:* ANTH 202g or ANTH 307 or REL 494 Instruction Mode: Lecture Grading Option: Letter

ARCG 494 Lab Methods and Theories in Archaeology
Units: 4 (Enroll in REL 494)

Architecture

All courses must be taken in *sequential* order, *a* before *b*.

ARCH 102a Architectural Design I
Units: 4 Terms Offered: FaSpSm Introduction to principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the design of simplified architectural projects. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 102bL Architectural Design I
Units: 4 Terms Offered: FaSpSm Introduction to principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the design of simplified architectural projects. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 105L Fundamentals of Design Communication
Units: 2 Terms Offered: Fa Visual communication techniques applicable to the design of the built environment; drawing, photography, modeling. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 106x Workshop in Architecture
Units: 2 Terms Offered: FaSp Introduction to the ways architecture is created and understood, for minors and non-majors. Hands-on discussion and laboratory session with some drawing and model building. Instruction Mode: Lecture Grading Option: Letter

ARCH 114 Architecture: Culture and Community
Units: 2 Terms Offered: Fa Introduction to the ways architecture represents aspirations of culture, satisfies practical and spiritual needs, shapes the social and urban environment, and helps preserve the planet. Instruction Mode: Lecture Grading Option: Letter

ARCH 202aL Architectural Design II
Units: 6 Terms Offered: FaSpSm Continuing development of principles and processes; sequence of projects selected to broaden awareness of design issues at various scales in the urban context. *Prerequisite:* ARCH 102bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 202bL Architectural Design II
Units: 6 Terms Offered: FaSpSm Continuing development of principles and processes; sequence of projects selected to broaden awareness of design issues at various scales in the urban context. *Prerequisite:* ARCH 102bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 203 Visualizing and Experiencing the Built Environment
Units: 4 Methods for direct observation and recording of the directly experienced built environment through drawing, diagramming, photographing, and writing. Course includes exercises and field experience. Instruction Mode: Lecture Grading Option: Letter

ARCH 205aL Building Science I
Units: 4 Terms Offered: FaSp The process and communication of building design: physical building shell, systems for structure, enclosure, and space ordering. *Prerequisite:* CE 106L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 205bL Building Science I
Units: 4 Terms Offered: FaSp The process and communication of building design: physical building shell, systems for structure, enclosure, and space ordering. *Prerequisite:* CE 106. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 207 Computer Applications in Architecture
Units: 2 Terms Offered: Fa Introduction for the non-programmer to the uses of the computer in architecture, including the application of existing programs and their implications for design. Overview and use of software types. Instruction Mode: Lecture Grading Option: Letter

ARCH 211 Materials and Methods of Building Construction
Units: 3 Terms Offered: Sp Basic considerations and design implications of the problem of determination of the materials and construction details and processes for buildings. Instruction Mode: Lecture Grading Option: Letter

ARCH 213a Building Structures and Seismic Design
Units: 3 Terms Offered: FaSp Investigation and design of elements and systems for building structures; applied mechanics, strength of materials, structural investigation as a design tool. *Recommended Preparation:* PHYS 125 and MATH 108g. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

ARCH 213b Building Structures and Seismic Design
Units: 3 Terms Offered: FaSp Investigation and design of structure systems: their resistance to seismic and wind forces and integration with architectural design for synergy of form and structure. *Recommended Preparation:* PHYS 125 and MATH 108g. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 214ag World History of Architecture
Units: 3 Terms Offered: Sp A world-wide perspective of architectural history as a product of social, cultural, religious, and political dimensions, 4500 BCE to 1500 CE. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ARCH 214bg World History of Architecture
Units: 3 Terms Offered: Fa A world-wide perspective of architectural history as a product of social, cultural, religious, and political dimensions, 1500 CE to present. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

ARCH 215 Design for the Thermal and Atmospheric Environment
Units: 3 Terms Offered: Fa Ideas, problems, and computations related to the design of buildings in response to the thermal and atmospheric environment; passive solar systems, mechanical control systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 220 The Architect's Sketchbook
Units: 2 Terms Offered: FaSp The architect's sketchbook as a portable laboratory for perceiving and documenting space introduces the study of the built environment. On-site sessions develop drawing, observation, and visualization skills. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 302aL Architectural Design III
Units: 6 Terms Offered: FaSp Special integrative year including design issues relating to housing. *Prerequisite:* ARCH 202bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 302bL Architectural Design III
Units: 6 Terms Offered: FaSp Special

integrative year including design issues relating to housing. *Prerequisite:* ARCH 202bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 303 Principles of Spatial Design I
Units: 4 Introduction to design principles and processes; sequence of exercises emphasizing development of basic skills, ideas, and techniques used in the creation of simplified urban space design projects. *Prerequisite:* ARCH 203. Instruction Mode: Lecture Grading Option: Letter

ARCH 304x Intensive Survey: Prehistory to the Present
Units: 4 Terms Offered: Fa An intensive historical overview of architecture from prehistory to the present, emphasizing interrelationships of various global cultures and how social considerations were translated into form. Instruction Mode: Lecture Grading Option: Letter

ARCH 305aL Building Science II
Units: 4 Terms Offered: FaSp The design of a building as a complex of interacting systems; relations of subsystems; influences of production and marketing on design. *Prerequisite:* ARCH 205aL, ARCH 205bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 305bL Building Science II
Units: 4 Terms Offered: FaSp The design of a building as a complex of interacting systems; relations of subsystems; influences of production and marketing on design. *Prerequisite:* ARCH 205aL, ARCH 205bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 306m Shelter
Units: 4 Terms Offered: Sp Investigation of issues, processes, and roles of individuals, groups and communities in relation to present and future shelter needs and aspirations. Instruction Mode: Lecture Grading Option: Letter

ARCH 307 Digital Tools for Architecture
Units: 3 Exploration of digital tools with an emphasis on building information modeling (BIM), parametric modeling, and interoperability including special topics in Architecture/Engineering/Construction (AEC) and sustainable design. *Recommended Preparation:* basic computer skills. Instruction Mode: Lecture Grading Option: Letter

ARCH 313 Design of Building Structures
Units: 3 Terms Offered: Fa Problems and processes of design of building structures; structural investigation for design; codes and standards; design of elements and systems of wood, steel, masonry, and concrete for gravity and lateral loads. *Prerequisite:* ARCH 213a. Instruction Mode: Lecture Grading Option: Letter

ARCH 314 History of Architecture: Contemporary Issues
Units: 3 Terms Offered: Fa Examination of the buildings, issues and images, the polemics and personalities that are animating current architectural discourse and practice. *Prerequisite:* ARCH 214bg. Instruction Mode: Lecture Grading Option: Letter

ARCH 315 Design for the Luminous and Sonic Environment
Units: 3 Terms Offered: Sp Ideas, problems, and computations related to the design of buildings in response to the luminous and sonic environment. Instruction Mode: Lecture Grading Option: Letter

ARCH 316 Place and Culture
Units: 3 Terms Offered: FaSpSm (Study abroad programs only) Study of the relationships between places and culture through readings, lectures, discussion and weekly field trips. Instruction Mode: Lecture Grading Option: Letter

ARCH 326 The Modern Movement in Architecture
Units: 4 Terms Offered: Sp Major theories of modern architecture are presented by studying the work of masters such as: Gropius, Mies van der Rohe, Corbusier, and Kahn. Instruction Mode: Lecture Grading Option: Letter

ARCH 341 History of Italian Architecture 1400–1990
Units: 4 Terms Offered: Sp Introduction to the important buildings, architects and architectural movements in Italy from the Renaissance to the present. Instruction Mode: Lecture Grading Option: Letter

ARCH 370 Architectural Studies — Expanding the Field
Units: 2 Survey of opportunities, specializations, and professions related to architecture provides a resource for professional growth for architecture majors, and introduction to the field for non-majors. Instruction Mode: Lecture Grading Option: Letter

ARCH 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ARCH 402aL Architectural Design IV
Units: 6 Terms Offered: FaSpSm Selected areas of specialization; three projects chosen with advisement from a variety of studio offerings that concentrate on different areas of vital concern. *Prerequisite:* ARCH 302bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 402bL Architectural Design IV
Units: 6 Terms Offered: FaSpSm Selected areas of specialization; three projects chosen with advisement from a variety of studio offerings that concentrate on different areas of vital concern. *Prerequisite:* ARCH 302bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 403 Principles of Spatial Design II
Units: 4 Emphasis on developing advanced urban spatial design solutions set within contemporary urban conditions, with a particular emphasis on ecology, public space, neighborhoods and districts. *Prerequisite:* ARCH 303. Instruction Mode: Lecture Grading Option: Letter

ARCH 404 Topics in Modern Architecture in Southern California
Units: 3 Terms Offered: Sp Investigation of modern architecture in southern California within its cultural and historic contexts. Instruction Mode: Lecture Grading Option: Letter

ARCH 405aL Building Science III
Units: 4 Terms Offered: FaSp Design of building systems as an experimental process. *Prerequisite:* ARCH 305aL, ARCH 305bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 405bL Building Science III
Units: 4 Terms Offered: FaSp Design of building systems as an experimental process. *Prerequisite:* ARCH 305aL, ARCH 305bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 406 Global Studies: Topics in Architecture, Urbanism, History and Art
Units: 2 Max Units: 6.0 Offered for particular geographic areas of study. Required prerequisite for all full semester undergraduate global programs. Also intended for general interest in focused study on particular geographic area. *Prerequisite:* ARCH 214ag, ARCH 214bg or ARCH 304. Instruction Mode: Lecture Grading Option: Letter

ARCH 407 Advanced Computer Applications
Units: 4 Terms Offered: Sp Investigation of computer graphic applications, emphasizing the role of computers in helping designers create and communicate using color (rendering), form (modeling), and time (animation) and the implications of future technological advancements. *Prerequisite:* ARCH 207. Instruction Mode: Lecture Grading Option: Letter

ARCH 409L Design Foundation
Units: 2 Terms Offered: Fa Introduction to basic architectural design principles for problem solving scenarios; foundational architectural design course for systematic thinking. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 410 Computer Transformations
Units: 2 Terms Offered: FaSpSm To explore the potential of computer-integrated design software; to develop techniques for critical analysis of architectural precedents; to expand the ability to visualize options; to expand perception; and to learn the basics of computer-integrated design. Instruction Mode: Lecture Grading Option: Letter

ARCH 411 Architectural Technology
Units: 3 Terms Offered: Sp Architectural design considered as a technological problem; influence of technology on design; buildings as integrated sets of subsystems. *Prerequisite:* ARCH 313. Instruction Mode: Lecture Grading Option: Letter

ARCH 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp (Enroll in SSCI 412L)

ARCH 414 Perspectives in History and Theory in Architecture
Units: 2 Max Units: 6.0 Perspectives in Architecture and Urbanism is an advanced course that allows students to delve deeply into one aspect of world history, theory and/or contemporary issues to develop more

focused and critical understanding of that discourse. *Prerequisite:* ARCH 214ag, ARCH 214bg or ARCH 304. Instruction Mode: Lecture Grading Option: Letter

ARCH 417 Computer Programming in Architecture
Units: 3 Terms Offered: Fa Principles underlying computer programming, emphasizing algorithms, procedures, and program structures applicable to architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 418 Designing with Natural Forces
Units: 3 Terms Offered: Fa Investigation of natural force effects and their relationships to architecture; laboratory work includes drawing, photography, model building and tests on models. Instruction Mode: Lecture Grading Option: Letter

ARCH 419 Architectural Sustainability Tools and Methods
Units: 3 Terms Offered: Sp Lectures, comparative studies and exercises on international architectural sustainability rating and certification systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 420 Visual Communication and Graphic Expression
Units: 3 Terms Offered: Fa An exploratory study of fundamental and innovative visual communication principles and graphic expression techniques to facilitate the design enquiry process for architects. *Prerequisite:* ARCH 302b. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 421 Digital Architectural Photography
Units: 2 Terms Offered: FaSp Perceiving and documenting the built environment through the perspective and frame of the digital camera. Mastering the basic principles of the digital image through an understanding of frame, light, exposure, color correction, and printing output. Instruction Mode: Lecture Grading Option: Letter

ARCH 422L Architectural Photography — Film and Digital
Units: 3 Terms Offered: FaSp See how light alters the visual impact of architectural forms; master high-resolution images both with film and digital; become a professional image developer/processor utilizing photographic software. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 423 Light, Color and the Character of Material
Units: 2 Terms Offered: Sp Color theory, constructed drawings, constructed shadows, descriptive geometry, constructed perspective drawing, and layered wash techniques lead to experimentation with methods representing materiality and construction in design projects. *Prerequisite:* ARCH 105L. Instruction Mode: Lecture Grading Option: Letter

ARCH 424L Field Studies in Architecture
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in architecture. *Prerequisite:* Department approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 425L Field Studies in Urbanism
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in urbanism. *Prerequisite:* Departmental approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 426L Field Studies in Tectonics
Units: 2 Terms Offered: FaSpSm (Study abroad programs only.) Field studies using direct observation, site recordings/documentation, analysis and evaluation supplemented by discussions and readings in tectonics. *Prerequisite:* Departmental approval. *Recommended Preparation:* core curriculum. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 430 Design Teaching Methods
Units: 2 The teaching of architectural design is introduced through readings, seminar discussions, and the observation of teaching in action. In addition to a one hour per week seminar, each student will participate in a design practicum. *Prerequisite:* ARCH 302L. Instruction Mode: Lecture Grading Option: Letter

ARCH 432 People, Places and Culture: Architecture of the Public Realm
Units: 4 Terms Offered: Sp Critical observation of the architecture of public buildings and places and the importance of design in promoting a better contemporary public life. Instruction Mode: Lecture Grading Option: Letter

ARCH 439 Landscape Architecture Media Workshop
Units: 1 Terms Offered: Fa Introductory media workshop for new landscape architecture students in the 3-year graduate program. Topics include: hand drawing, measuring, architectural drawings, computer software tutorials, and field trips. Registration Restriction: Open only to master students in Landscape Architecture Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 440m Literature and the Urban Experience
Units: 4 Terms Offered: Sp Post-industrial revolution urban environments and dynamic relationships in cities such as Manchester, Paris, St. Petersburg, New York, and Los Angeles, as revealed in novels, architecture, and urban forms. Instruction Mode: Lecture Grading Option: Letter

ARCH 442m Women's Spaces in History: "Hussies," "Harems" and "Housewives"
Units: 4 Terms Offered: Fa Methods for studying patterns of spatial differentiation of women throughout history from home to city embodied in gender specific language and gendered spaces. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-442

ARCH 444 Great Houses of Los Angeles
Units: 4 Terms Offered: FaSp An introduction to the architectural philosophies of seven influential California architects through readings and site visits to significant case studies. Duplicates Credit in former ARCH 322. Instruction Mode: Lecture Grading Option: Letter

ARCH 447 Ecological Factors in Design
Units: 3 Lectures, laboratory exercises and field trips introduce basic knowledge of incorporating ecological factors in urban design and interaction of landscape science with the human environment. Duplicates Credit in former ARCH 361 Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 454 Contemporary Asian Architecture
Units: 4 Terms Offered: Fa Exploration of various "Asian" architectures, comparisons of areas, identifying current trends and impact of Asia on Southern California and Los Angeles. Instruction Mode: Lecture Grading Option: Letter

ARCH 465 The Landscape Imaginary
Units: 4 A cross-cultural introduction to ideas about and attitudes toward nature, landscape and the environment. Instruction Mode: Lecture Grading Option: Letter

ARCH 470a Architectural Studies Capstone
Units: 1 Introduction to methods of inquiry, research framework, and scholarly writing necessary to develop a comprehensive foundation for the Architectural Studies Capstone (ARCH 470b). Registration Restriction: Open only to seniors in Architectural Studies Duplicates Credit in former ARCH 470 Instruction Mode: Lecture Grading Option: Letter

ARCH 470b Architectural Studies Capstone
Units: 3 Collaborative research project and research paper in an area of concentration. *Prerequisite:* ARCH 470a Registration Restriction: Open only to seniors in Architectural Studies Duplicates Credit in former ARCH 470 Instruction Mode: Lecture Grading Option: Letter

ARCH 481 Furniture Design
Units: 3 Terms Offered: FaSp An investigation into 20th century furniture design and its relationships to architecture, art and design. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ARCH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 500aL Comprehensive Architectural Design
Units: 6 Terms Offered: Fa Selected areas of specialization; projects chosen from a variety

of studio offerings, all with an emphasis on the comprehensive design of buildings. *Prerequisite:* ARCH 402a and ARCH 402b *Corequisite:* ARCH 501. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 500zL Comprehensive Architectural Design
Units: 0 Terms Offered: Fa Selected areas of specialization; projects chosen from a variety of studio offerings, all with an emphasis on the comprehensive design of buildings. *Prerequisite:* 402abL; *Corequisite:* ARCH 501. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ARCH 501 Critical Topics in Architecture
Units: 2 Terms Offered: Fa Seminar supporting the research, development, and writing of Degree Project Paper provides a comprehensive base of information for the final Bachelor of Architecture studio. *Prerequisite:* ARCH 402bL. Instruction Mode: Lecture Grading Option: Letter

ARCH 502aL Architectural Design V
Units: 6 Terms Offered: Sp The final comprehensive architectural project under the guidance of a faculty adviser to demonstrate architectural knowledge, skills, and professional interests and goals. *Prerequisite:* ARCH 500aL and ARCH 501 Registration Restriction: Open only to Architecture seniors Instruction Mode: Lecture, Lab Required Grading Option: In Progress/Letter

ARCH 502zL Architectural Design V
Units: 0 Terms Offered: Sp The final comprehensive architectural project under the guidance of a faculty adviser to demonstrate architectural knowledge, skills, and professional interests and goals. Instruction Mode: Lecture, Lab Required Grading Option: In-progress & Letter Grade

ARCH 505aL Graduate Architecture Design I
Units: 6 Terms Offered: FaSp A general introduction to architectural principles, intended to develop design and critical thinking skills and proficiency to communicate those ideas effectively. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 505bL Graduate Architecture Design I
Units: 6 Terms Offered: FaSp A general introduction to architectural principles, intended to develop design and critical thinking skills and proficiency to communicate those ideas effectively. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 507 Theories of Computer Technology
Units: 3 Terms Offered: FaSp Fundamental theories and meanings of computation as a technique in architectural design. Instruction Mode: Lecture Grading Option: Letter

ARCH 510 Independent Degree Project Preparation
Units: 1 Terms Offered: Fa Research and analysis, including written and graphic components, that tests a question/proposition in detail in preparation for Independent Degree Project Document. *Corequisite:* ARCH 501. Instruction Mode: Lecture Grading Option: Letter

ARCH 511L Building Systems: Materials and Construction
Units: 4 Terms Offered: Fa Studies of construction system development within the architectural design context; processes and issues of selection, evaluation, optimization, integration, design control, and innovation. *Prerequisite:* Departmental approval. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 512 Material + Process: Material Systems
Units: 2 Confronts the conventional concepts behind modern building science and material applications, reapplying the processes of fabrication and methods of construction to investigate materiality. *Prerequisite:* ARCH 211 or ARCH 511L. Instruction Mode: Lecture Grading Option: Letter

ARCH 513L Seminar: Advanced Structures
Units: 4 Terms Offered: Fa Issues and problems in the development of structural systems for buildings; design criteria, system choice, design development, optimization, subsystem integration. Instruction Mode: Lab Required Grading Option: Letter

ARCH 514a Global History of Architecture
Units: 3 Terms Offered: FaSp A historical survey of global architecture, analyzed as a product of social, cultural, religious and political forces. 4500 BCE to 1500 CE. Instruction Mode: Lecture Grading Option: Letter

ARCH 514b Global History of Architecture
Units: 3 Terms Offered: FaSp A historical survey of global architecture, analyzed as a product of social, cultural, religious and political forces. 1500 CE to present. Instruction Mode: Lecture Grading Option: Letter

ARCH 515L Seminar: Advanced Environmental Systems
Units: 4 Terms Offered: Fa A compressed course in design criteria and calculation methods for mechanical and passive solar systems (loads, plant system, duct, and storage sizing) and lighting and acoustics (CIE and IES methods, dBA and NC systems). Instruction Mode: Lab Required Grading Option: Letter

ARCH 517 Current Topics in Building Science
Units: 1 Max Units: 6.0 Critical studies in building science ranging from sustainability, lighting, acoustics, materials and methods, structures, energy issues, digital media, and fabrication. Students focus on minimum of two topics. Instruction Mode: Lecture Grading Option: Letter

ARCH 518 Advanced Surface Tectonics: Methods in Material and Enclosure
Units: 2 Terms Offered: Fa Studies in contemporary building systems through analysis, research, and computational methods leading to the design of a prototypical building surface. *Recommended Preparation:* A prior knowledge of fundamental building systems and 3D modeling. Instruction Mode: Lecture Grading Option: Letter

ARCH 519 Sustainability in the Environment: Infrastructures, Urban Landscapes, and Buildings
Units: 3 Terms Offered: Fa Methodologies and exercises on contextual design and environmentally sound technologies (EST's) applications for the sustainability of urban infrastructures, operative landscapes, and building integration in the urban system. Instruction Mode: Lecture Grading Option: Letter

ARCH 520 Housing and Community Design for an Aging Population
Units: 2 Exploration of the role design plays in enhancing independence and well-being for older people by examining cross-cultural models of housing and community design. Instruction Mode: Lecture Grading Option: Letter

ARCH 521 Health and the Designed Environment: Landscape, Place, and Architecture
Units: 4 Case study-oriented course presenting critical relationships between human health and well-being and architectural and landscape architectural design at three scales: buildings, public space, and the urban landscape. Instruction Mode: Lecture Grading Option: Letter

ARCH 523aL Structural Design and Analysis
Units: 3 Terms Offered: FaSp Introduction to behavior and analysis of building structures. Structural loading, materials, and element types will be explored to understand the basic building blocks of buildings. *Recommended Preparation:* One-semester college-level course in physics or calculus. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 523bL Structural Design and Analysis
Units: 3 Terms Offered: FaSp Investigation and design of building structural systems for gravity, wind and seismic loading. Comprehensive design exploration of framing type, materials, detailing, layout, form and integration. *Recommended Preparation:* One-semester college-level course in physics or calculus. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 524 Professional Practicum
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Comparative studies of professional practice between U.S. firms and firms in other countries. Registration Restriction: Open to international upper-division undergraduate and graduate architecture students only Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 525 Professional Practice: Pre-Design, Project and Office Administration
Units: 3 Design methodology, typology programming, site analysis, budget

formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. Instruction Mode: Lecture Grading Option: Letter

ARCH 526 Professional Practice: Legal and Economic Context, Project Documentation
Units: 3 Terms Offered: Sp Design methodology, typology programming, site analysis, budget formulation and pro-forma procedures. Office management, emphasizing professional service and professional ethics as well as project management focusing on the architect's responsibilities during construction. *Prerequisite:* ARCH 500a or ARCH 605b. Instruction Mode: Lecture Grading Option: Letter

ARCH 527 Case Studies: The Development of Urban Housing
Units: 2 Terms Offered: Fa An exploration of the various elements and stages of the housing development process. *Recommended Preparation:* a preliminary understanding of real estate or housing. Instruction Mode: Lecture Grading Option: Letter

ARCH 528 Urban Housing: Types and Typologies
Units: 2 Terms Offered: Fa Applications and precedents for the architect interested in designing multi-family housing. Review of the sources of modern housing types, the impact of building codes and technology on the form and construction of housing, and study of housing densities; comparative analysis of multi-family residential patterns. Major emphasis on critical knowledge of historic housing typologies as they are applied to site conditions and groupings, building form, section, organization, and the design of individual dwellings. *Recommended Preparation:* two years of undergraduate architectural studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 529 Urban Housing: Programs, Precedents, and Recent Case Studies
Units: 2 Terms Offered: Sp Historical overview of the major domestic and international housing developments and innovations since the early 20th century. Case study format examining a wide range of issues that determine the form of urban housing in various cultures. Major emphasis on the detail analysis of social, technical, and design factors affecting recent housing developments. *Recommended Preparation:* two years of undergraduate architectural studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 530 Landscape Architecture Practice
Units: 3 Terms Offered: FaSp Introduction to the principles and ethics, scope and activities, and types of organization for landscape architecture practice. Duplicates Credit in former ARCH 630. Instruction Mode: Lecture Grading Option: Letter

ARCH 531 The Natural Landscape
Units: 3 Terms Offered: FaSp Lectures, laboratory exercises and field trips introducing basic knowledge of the continually transforming landscape as a base for human settlement. Instruction Mode: Lecture Grading Option: Letter

ARCH 532 Elements of the Urban Landscape
Units: 2 Terms Offered: Fa Study of the basic spatial and infrastructure elements of the city, and how urban places are formed. Typological analysis of buildings, open space, and urban patterns. Instruction Mode: Lecture Grading Option: Letter

ARCH 533 Urban Landscape Case Studies
Units: 2 Terms Offered: Sp Lectures, discussion, and individual research on the physical, formal, and spatial characteristics of historical urban centers. Instruction Mode: Lecture Grading Option: Letter

ARCH 534 Landscape Construction: Topographic Design
Units: 3 Terms Offered: Sp Techniques, strategies, materials, and standards to topographic design and construction in landscape architecture. In-class labs practice basic grading, drainage design, and stormwater management. Instruction Mode: Lecture Grading Option: Letter

ARCH 535 Landscape Construction: Performance Approaches
Units: 3 Terms Offered: Fa Develop tools and knowledge to expand the performative boundaries of landscape architecture beyond common typologies. Topics range from ecological infrastructure to design with weather patterns. A systematic approach to case studies, landscape technologies, and field trips seeds the knowledge base and respresentational methods necessary to design and build these complex landscape performances. Instruction Mode: Lecture Grading Option: Letter

ARCH 536 The Landscape Planning Process
Units: 3 Terms Offered: FaSp Methods of assessing urban places regarding natural, social, cultural and political factors; identification of landscape architecture planning and project implementation issues and strategies. Instruction Mode: Lecture Grading Option: Letter

ARCH 537 Urban Plant Ecology: Environmental Perspectives
Units: 3 Terms Offered: Fa Principles and concepts of plant ecology for urban planting design; introduction to California native plant species and communities with field trips and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 538L Urban Plant Ecology: Cultural Perspectives
Units: 4 Cultural perspectives of urban planting design and plant species found in Southern California emphasizing aesthetic, functional and ecological designs. *Prerequisite:* ARCH 537. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 539L Media for Landscape Architecture
Units: 3 Terms Offered: Fa Development of methods and skills for the study of landscape architecture design and for project presentation, including natural resource and urban mapping. Registration Restriction: Open only to Planning and Landscape Architecture majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 540 Topics in Media for Landscape Architecture
Units: 2 Max Units: 6.0 Terms Offered: FaSp Exploration of emerging techniques for landscape architecture study, presentation and documentation; topics vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 541aL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects on urban sites with emphasis on cultural and ecological purpose and on urban place and form; use of traditional and digital media. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 541bL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects in urban settings with emphasis on landscape continuities as well as development of integrative schematic proposals and detailed open space design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 542aL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Project strategies for urban infrastructure repair and intervention, phasing, and design of initial catalytic projects. *Prerequisite:* ARCH 541bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 542bL Landscape Architecture Design
Units: 6 Terms Offered: FaSp Projects for the public realm with emphasis on urbanity and connectivity, place and meaning. *Prerequisite:* ARCH 541bL. Instruction Mode: Lab Required, Lecture Grading Option: Letter

ARCH 543 Research Methods
Units: 1 Terms Offered: Fa Introduction to methods of inquiry and documentation including critical review of published materials, techniques for systematic observation, generating findings from comparative studies of relevant precedents and problems, and legible presentation of outcomes. Instruction Mode: Lecture Grading Option: Letter

ARCH 544 Urban Landscape: Process and Place
Units: 3 Terms Offered: Fa Projects are examined as incremental interventions in the formation and qualities of the evolving urban landscape. Case studies are explored to understand purposes, typologies, catalytic capacities, and strategies for urban landscape design. Instruction Mode: Lecture Grading

Option: Letter

ARCH 545 Urban Landscape: Contemporary History and Prospect
Units: 3 Terms Offered: Sp Explores contemporary landscape architecture propositions and projects in the context of cities. The exploration methodology includes the study of epochal projects and theoretical texts organized by central themes of nature and culture. Instruction Mode: Lecture Grading Option: Letter

ARCH 546 Topics in Landscape Architecture: Issues and Practices
Units: 2 Max Units: 06 A broad range of developing urban landscape conditions and issues, both domestic and global, are given focused attention. Instruction Mode: Lecture Grading Option: Letter

ARCH 547 Urban Nature
Units: 3 Terms Offered: Sp Interactions of cities and nature: introduction to the ecology of cities; major threats to urban biodiversity interacting with human attitudes; review of restoration and conservation projects. *Recommended Preparation:* ARCH 531. Instruction Mode: Lecture Grading Option: Letter

ARCH 548 Media for Landscape Architecture: 3D Design
Units: 3 Developing and communicating landscape architecture design intent using visualization tools for three-dimensional studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 549 Fundamentals of Heritage Conservation
Units: 3 Terms Offered: FaSm Concepts and strategies for conservation of significant elements of the built environment: buildings, sites and communities as revealed by readings, site visits, and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 550 Heritage Conservation Policy and Planning
Units: 3 Terms Offered: Sp Conservation practice within an economic, political, and cultural context looking at the regulatory environment, public advocacy and policy, real estate development, heritage tourism, environmental sustainability, cultural diversity, and interpretation. *Recommended Preparation:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 551 Conservation Methods and Materials
Units: 3 Terms Offered: Sp Concepts and techniques for building conservation including identification of treatments, recordation and research, material properties and behavior, building forensics, and project implementation. *Recommended Preparation:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 552 Introduction to Historic Site Documentation
Units: 2 Terms Offered: Sp Survey of basic guidelines and standards for documentation in historic preservation, including cultural resource surveys, historic structures reports and Historic American Building Survey and Historic American Engineering Record recordation. Instruction Mode: Lecture Grading Option: Letter

ARCH 553 History of American Architecture and Urbanism
Units: 3 Terms Offered: Fa History of American architecture and urbanism from prehistory to World War II examined in relation to European influences and indigenous developments. Instruction Mode: Lecture Grading Option: Letter

ARCH 554 Heritage Conservation Practicum — Advanced Documentation
Units: 3 Max Units: 12.0 Terms Offered: FaSp Heritage conservation practicum utilizing in-depth documentation methodology to explore the historic built environment of greater Los Angeles. Topics will vary from year to year; may be repeated for credit when subjectmatter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 555 Global Perspectives in Heritage Conservation
Units: 2 Max Units: 4.0 Terms Offered: Fa In-depth analysis of international heritage conservation practice with a focus on a single country, continent, or world region outside the United States. Topics will vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 556 Readings in Heritage Conservation Theory
Units: 2 Terms Offered: Fa Trans-disciplinary intensive reading and discussion course related to issues in contemporary heritage conservation. *Prerequisite:* ARCH 549. Instruction Mode: Lecture Grading Option: Letter

ARCH 557 Sustainable Conservation of the Historic Built Environment
Units: 2 Terms Offered: Fa Analysis of the intersection between "green building" and historic resources with an emphasis on stewardship and sustainability. Instruction Mode: Lecture Grading Option: Letter

ARCH 558 Fundamentals of Place-Making
Units: 2 Concepts and strategies for urban design and place-making for heritage conservation as revealed by place-making exercises, site visits, and case studies. Instruction Mode: Lecture Grading Option: Letter

ARCH 560 A History of Architectural Theory: 1400-1914
Units: 2 A seminar on architectural history from Alberti to Scott, reviewing primary texts and subsequent criticisms. Duplicates Credit in former ARCH 441 Instruction Mode: Lecture Grading Option: Letter

ARCH 561 Urbanism Themes and Case Studies
Units: 2 Terms Offered: Fa Examines urbanism through case studies in theory and design to understand the impacts of globalization, technology, and sustainability on the contemporary city. Instruction Mode: Lecture Grading Option: Letter

ARCH 562 Architecture Themes and Case Studies
Units: 2 Terms Offered: Fa Architectural themes and case studies focusing on the design and development of architecture, from the industrial city to today. Instruction Mode: Lecture Grading Option: Letter

ARCH 563 Contemporary Architectural Theory
Units: 2 Terms Offered: Sp Investigates, compares, and critiques modern and contemporary theories of the designed and built environment by focusing on key figures, movements, and texts. Instruction Mode: Lecture Grading Option: Letter

ARCH 564 Descriptive and Computational Architectural Geometry
Units: 2 Terms Offered: Sp Introduction to the history, methods, and cases of descriptive and computational geometry impacting representational, modeling, and historically significant paradigms of architectural design. Introduces a range of geometric first principles, technologies and techniques through contemporary design tools. Instruction Mode: Lecture Grading Option: Letter

ARCH 565 Global History of Landscape Architecture
Units: 3 Terms Offered: Fa Understanding of the global history of landscape design in relation to social, political, religious, environmental and aesthetic principles; current design theory, projects and their historical references are critically reviewed and analyzed. *Corequisite:* ARCH 414 Duplicates Credit in ARCH 465 Instruction Mode: Lecture Grading Option: Letter

ARCH 566 Cross Cultural Topics in Landscape Architecture History
Units: 3 Max Units: 6.0 Terms Offered: FaSp Comparative analysis and appreciation of landscape architecture as a manifestation of nature, society, and design. Topics and world regions vary from year to year; may be repeated for credit when subject matter is different. Instruction Mode: Lecture Grading Option: Letter

ARCH 567L Landscape Architecture Vertical Workshop and Debate Series
Units: 0.5 Max Units: 3 Terms Offered: FaSp A dynamic and topical supplement that provides critical content in the form of a post-mid review workshop and series of debates led by distinguished guests. *Corequisite:* ARCH 541aL and ARCH 541bL and ARCH 542aL and ARCH 542bL and ARCH 642L and ARCH 698bL Registration Restriction: Open only to master students in Landscape Architecture Instruction Mode: Lab Required Grading Option: Letter

ARCH 573 Seismic Design
Units: 2 Terms Offered: Fa Theory, design methodology and practice of how seismicity affects architecture and structural system selection required for robust earthquake performance and seismic sustainability. *Prerequisite:* ARCH 313; *Recommended Preparation:* basic knowledge of physics and exposure to architectural design and building structures. Instruction Mode: Lecture Grading Option: Letter

ARCH 574 Parametric Design
Units: 3 An in depth and critical look into the reasons and uses for parametric design and its relationship to contemporary form, fabrication, and construction of the built environment. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 575a Systems
Units: 3 Terms Offered: Sp Application of the scientific principles governing the thermal environment and human physiology to contemporary issues of environmentally responsive building energy concepts and systems. *Recommended Preparation:* ARCH 505aL, ARCH 505bL. Instruction Mode: Lecture Grading Option: Letter

ARCH 575b Systems
Units: 3 Terms Offered: Sp The fundamental scientific principles governing light and sound in the built environment will be examined in the context of human physiological, psychological and biological needs. *Prerequisite:* ARCH 575a *Recommended Preparation:* ARCH 505aL, ARCH 505bL Instruction Mode: Lecture Grading Option: Letter

ARCH 576 Sustainable Design for Healthy Indoor Environments
Units: 3 Course outlines the building design and its performance diagnostic processes required to assure indoor environmental quality and the building occupants' environmental health, productivity, and physiological comfort. Instruction Mode: Lecture Grading Option: Letter

ARCH 577L Lighting Design
Units: 4 Terms Offered: FaSp The physics, technical knowledge, professional knowledge, design, and documentation processes used in architectural lighting design, including first principles, manual calculations and computer simulations. *Recommended Preparation:* Some knowledge of physics and exposure to the design process and design presentation skills. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 579 Sustainable Building and Environment using LEED Metrics
Units: 3 Fundamental knowledge of sustainable building concepts, current environmental design building rating systems, building performance and diagnostics metrics, as well as reference standards related to sustainable design. Instruction Mode: Lecture Grading Option: Letter

ARCH 580L Field Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Off-campus field studies using direct observation, site recordings/ documentation, analysis and evaluation supplemented by discussions and readings. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 581 Techniques in Digital Fabrication
Units: 3 A practical introduction to digital fabrication. Covered topics include 3D surface milling, thermoforming, materials, casting and shop technology as applied to repeatable surfaces in architecture. Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 585 Visual Storytelling and Entrepreneurship in Media
Units: 2 Investigating visual stories as an active tool to critically explore and express design ideas; positions social media and crowdfunding as a foundation for creative action. Registration Restriction: Not open to Freshmen and Sophomores. Instruction Mode: Lecture Grading Option: Letter

ARCH 586 City Cine: Visuality, Media and Urban Experience
Units: 4 Explores the relationship between urban experience and visual media (from the photographic, to the filmic, to the digital) from circa 1880 to the present. Duplicates Credit in the former ARCH 434 Instruction Mode: Lecture Grading Option: Letter

ARCH 588 Physical Computing: Linking Architectural Computing with the Physical World
Units: 3 Provides hands-on prototyping experience with environmental sensing, actuation, and embedded computing technologies. *Recommended Preparation:* While no experience working with electronics is required, basic knowledge and willingness to learn programming and physical prototyping is assumed. Registration Restriction: Not open to freshmen and sophomores Instruction Mode: Lecture, Lab Grading Option: Letter

ARCH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 596 Building Science Thesis Preparation
Units: 1 Terms Offered: Fa Exploration of topics leading to the development of a thesis prospectus. Topics may be in the areas of building structures, seismic design, environmental control, passive and active energy, or other relevant topics. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of architecture. Instruction Mode: Lecture Grading Option: Letter

ARCH 605zL Graduate Architecture Design II
Units: 0 Terms Offered: Sm Advanced topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. *Prerequisite:* ARCH 605b

ARCH 605aL Graduate Architecture Design II
Units: 6 Terms Offered: Fa Basic principles of structural (seismic/wind and gravity), HVAC, building envelope, access/egress, building service systems; and sustainable strategies are critical to the proper execution of performative goals. The integration of building systems will be delineated to demonstrate the tectonic viability a design solution. *Prerequisite:* ARCH 505b. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 605bL Graduate Architecture Design II
Units: 6 Terms Offered: Sp Comprehensive project emphasizing the interaction between general principles and local sites, building technologies and total building design. *Prerequisite:* ARCH 505b. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 606 Advanced Architectural Theory
Units: 2 Terms Offered: Fa Interrogates the architectural and cultural landscape of our contemporary cities through a combination of lectures and seminars on theories of place, identity, aesthetics, and technology. Instruction Mode: Lecture Grading Option: Letter

ARCH 607 Advanced Computation
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Introduction to a range of new technologies and techniques examining their technical and theoretical implications including advanced computational design techniques and geospatial design tools. Instruction Mode: Lecture Grading Option: Letter

ARCH 608 Urban Theory: Los Angeles Case Study
Units: 2 Terms Offered: Fa Critically investigates the urban condition of Los Angeles through lectures, readings, and field visits. Aims to heighten awareness of the entwinement of environment, culture, architecture and the contemporary city. Instruction Mode: Lecture Grading Option: Letter

ARCH 609 Advanced Fabrication
Units: 2 Max Units: 6.0 Terms Offered: FaSm Introduction to a range of new technologies and techniques examining technical and theoretical implications including a range of digital fabrication technologies, robotics and film-making techniques. Instruction Mode: Lecture Grading Option: Letter

ARCH 610L Advanced Graduate Architecture Design
Units: 6 Terms Offered: FaSpSm Elective advanced design and research studio investigations. As faculty-led topical themes, the design-based projects will engage critical topics engaging diverse areas of specialization. *Prerequisite:* ARCH 605b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 611 Advanced Building Systems Integration
Units: 4 Terms Offered: Sp Design criteria development, material and construction process methods, occupancy based load

profiles, performance/material life-cycle-mandates, durability for advanced building systems including integrity in sustainable urban systems. Instruction Mode: Lecture Grading Option: Letter

ARCH 613L Seminar: Structures Research
Units: 4 Terms Offered: Sp An overview of research topics in building structures; detailed investigation of selected major issues. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 614 Contemporary Issues in Architecture: A Critical Dialectic
Units: 3 Terms Offered: Fa Issues that are important to the contemporary built environment are explored using a dialectical format to encourage debate, augmented by invited speakers and topical readings. *Prerequisite:* ARCH 214a, ARCH 214b and ARCH 514a, ARCH 514b. Instruction Mode: Lecture Grading Option: Letter

ARCH 615L Seminar: Environmental Systems Research
Units: 4 Terms Offered: Sp A detailed examination of current issues in the thermal, acoustical, and radiant environment; recent developments in criteria, systems, controls, design tools and simulations; an understanding of the relationships between environmental factors, economics, and architectural goals. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 635 Landscape Construction: Assembly and Documentation
Units: 3 Terms Offered: Sp Learn and practice the process by which a landscape design is assembled through materials systems and design documentation. Instruction Mode: Lecture Grading Option: Letter

ARCH 642L Landscape Architecture Design
Units: 6 Terms Offered: Fa Fully integrated landscape place design; reclamation sites at significant urban or natural locations. *Prerequisite:* ARCH 542aL, ARCH 542bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 690aL Directed Research
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 690bL Directed Research
Units: 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 691a Heritage Conservation Thesis Preparation and Thesis
Units: 1 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 Registration Restriction: Open only to Master of Heritage Conservation students. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

ARCH 691b Heritage Conservation Thesis Preparation and Thesis
Units: 4 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 Registration Restriction: Open only to master students in Heritage Conservation Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

ARCH 691z Heritage Conservation Thesis Preparation and Thesis
Units: 0 Terms Offered: Sp Introduction to, and exploration of, topics leading to the development of a thesis prospectus and directed research towards the completion of the master's thesis in heritage conservation. *Prerequisite:* ARCH 549 and ARCH 553. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 692aL Building Science Thesis
Units: 6 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 596. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 692bL Building Science Thesis
Units: 6 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 692aL Registration Restriction: Open only to Master of Building Science students. Instruction Mode: Lecture, Lab Grading Option: In Progress/Credit/No Credit

ARCH 692zL Building Science Thesis
Units: 0 Terms Offered: FaSpSm Research and thesis for the Master of Building Science degree. *Prerequisite:* ARCH 596. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693aL M.Arch. Thesis, Option I
Units: 2 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693bL M.Arch. Thesis, Option I
Units: 8 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 693zL M.Arch. Thesis, Option I
Units: 0 Terms Offered: FaSpSm Directed research option for M.Arch. degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 694 Research Publication Methods for Building Science
Units: 2 Technical documentation, graphic representation, and verbal presentation for writing and presenting journal articles and conference presentations in building science. *Recommended Preparation:* completion of MBS Core Seminars Registration Restriction: Open only to Master of Building Science students. Instruction Mode: Lecture Grading Option: Letter

ARCH 695aL M.Arch. Thesis, Option II
Units: 2 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Registration Restriction: Open only to Master's level Architecture students. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 695bL M.Arch. Thesis, Option II
Units: 8 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 695zL M.Arch. Thesis, Option II
Units: 0 Terms Offered: FaSpSm Design thesis for the Master of Architecture degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696a Building Science Thesis
Units: 1 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696b Building Science Thesis
Units: 6 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696c Building Science Thesis
Units: 8 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 696zL Building Science Thesis
Units: 0 Research and thesis for the Master of Building Science degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697aL MLArch Thesis, Option II
Units: 2 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697bL MLArch Thesis, Option II
Units: 8 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 697zL MLArch Thesis, Option II
Units: 0 Terms Offered: FaSpSm Field studies and thesis for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 698aL MLArch Thesis
Units: 2 Terms Offered: FaSpSm Directed research option for the MLArch degree. Registration Restriction: Open only to master students in Landscape Architecture and in Planning/Landscape Architecture Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

ARCH 698bL MLArch Thesis
Units: 8 Terms Offered: FaSpSm Directed research option for the MLArch degree. *Prerequisite:* ARCH 698a Registration Restriction: Open only to master students

in Landscape Architecture and in Planning/ Landscape Architecture Instruction Mode: Lecture, Lab Grading Option: In Progress/ Credit/No Credit

ARCH 698zL MLArch Thesis, Option I
Units: 0 Terms Offered: FaSpSm Directed research option for the MLArch degree. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 702L Advanced Graduate Architecture Design – Themes
Units: 6 Advanced thematic topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 705L Advanced Graduate Architecture Design – Topics
Units: 6 Max Units: 12.0 Terms Offered: FaSm Advanced topical investigations emphasizing diverse areas of specialization. Projects will be faculty-led research investigations that concentrate on diverse areas of vital concern. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ARCH 790 Doctoral Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the School of Architecture. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 791 Proposal for Doctoral Dissertation
Units: 1 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 793aL Architecture Directed Design Research Option I
Units: 2 Terms Offered: FaSp Directed Design Research option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 793bL Architecture Directed Design Research Option I
Units: 6 Terms Offered: FaSp Directed Design Research option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 793z Architecture Directed Design Research Option I
Units: 0 Directed Design Research option for graduate level architecture degree. Credit on acceptance of research project. *Prerequisite:* ARCH 793b. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARCH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ARCH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ARCH 795aL Architecture Thesis Option II
Units: 2 Terms Offered: FaSp Thesis option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ARCH 795bL Architecture Thesis Option II
Units: 6 Terms Offered: FaSp Thesis option for graduate level architecture degree. *Prerequisite:* ARCH 605bL or ARCH 702L. Registration Restriction: Open only to Architecture majors. Instruction Mode: Lecture, Lab Required Grading Option: In-progress to Credit/No Credit

ARCH 795z Architecture Thesis Option II
Units: 0 Thesis option for graduate level architecture degree. Credit on acceptance of research project. *Prerequisite:* ARCH 795b. Instruction Mode: Lecture Grading Option: Credit/No Credit

Art

ART 105 Art and Design Studio I
Units: 4 Terms Offered: FaSp Introduction to the fundamental elements in art making, design creation and thinking, including key principles of process and critical analysis. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DES 105

ART 106 Art and Design Studio II
Units: 4 Terms Offered: FaSp Introduction to the fundamental elements in art making, design creation and thinking, including the key principles of process and critical analysis. Instruction Mode: Lecture Grading Option: Letter

ART 110 Drawing for Art and Design
Units: 4 Terms Offered: FaSpSm An introduction to drawing, both skill and perception oriented, as the basic tool for all the visual arts and design. Duplicates Credit in former FADW 101 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as DES 110

ART 120 Painting I
Units: 4 Terms Offered: FaSpSm Practical introduction to oil and acrylic pigments, painting equipment, processes, and media. Primary experience in: color, composition and perception through representational and abstract painting. Duplicates Credit in former FAPT 105 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 130 Ceramics
Units: 4 Terms Offered: FaSpSm Practical and theoretical exploration of the nature of surface, form, volume and mass as fundamental elements of clay sculpture and the ceramic object. Duplicates Credit in former FACE 112 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 140 Sculpture I
Units: 4 Terms Offered: FaSp Practical and theoretical introduction to sculpture as dimensional manipulation. Primary exploration of form, mass, gravity, surface, structure and associative recognition in three-dimensional art. Duplicates Credit in former FASC 106 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 141Lg Creating and Understanding Visuals
Units: 4 Terms Offered: FaSpSm Lecture-studio course on the theory and history behind contemporary art, design, and visual communication; students also create work, informed by ideas from the lecture. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Lab Required Grading Option: Letter

ART 142 Modeling and Mold Making
Units: 2 Terms Offered: FaSp Introduction to plaster mold making using clay and wax for both ceramics and sculpture. Exploration of various casting materials. Duplicates Credit in former FASC 136 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 150 Introduction to Photography
Units: 4 Terms Offered: FaSp Introduction to the practice of photographic image-making within fine arts. Emphasis on developing technical skills in relation to personal vision. Work in black and white. Duplicates Credit in former FAPH 209 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 151 Digital Photography
Units: 4 Terms Offered: FaSp An introductory course exploring the processes and practices of digital capture, imaging and printing, from web-based image posting to large-scale printing. Duplicates Credit in former FAIN 210 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 207ax Two-Dimensional Art Workshop
Units: 2 Max Units: 08 Terms Offered: FaSpSm Studio practice to develop standards of judgment and appreciation of the visual arts. Credit Restriction: Not available for credit to studio majors Duplicates Credit in former FA 207a Instruction Mode: Lecture Grading Option: Letter

ART 207bx Two-Dimensional Art Workshop
Units: 2 Max Units: 08 Continuation of ART 207ax. *Prerequisite:* ART 207ax Credit Restriction: Not available for credit to studio majors Duplicates Credit in former FA 207b Instruction Mode: Lecture Grading Option:

Letter

ART 208a Three-Dimensional Art Workshop
Units: 2 Terms Offered: FaSpSm Studio practice to develop standards of judgment and appreciation of the visual arts. Duplicates Credit in former FA 208a Instruction Mode: Lecture, Lab Grading Option: Letter

ART 208b Three-Dimensional Art Workshop
Units: 2 Terms Offered: FaSpSm Continuation of ART 208a. *Prerequisite:* ART 208a Duplicates Credit in former FA 208b Instruction Mode: Lecture, Lab Grading Option: Letter

ART 210 Drawing II
Units: 4 Terms Offered: FaSpSm Drawing methods and concepts, with emphasis on observing and rendering the human form and anatomy. Continued acquisition of skills, with compositional, gestural, and interpretive elements. *Prerequisite:* ART 110 or FADW 101 Duplicates Credit in former FADW 201 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 220 Painting II
Units: 4 Terms Offered: FaSpSm Continuation of practical and theoretical skills introduced in Painting I. Color in personal expression, perception, and content; cultural subjects/objects and symbols signifying a personal language. *Prerequisite:* ART 120 or FAPT 105 Duplicates Credit in former FAPT 205 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 230 Wheel Throwing
Units: 4 Terms Offered: FaSp An introductory course using wheel throwing techniques for ceramics to explore a variety of forms through three-dimensional exercises. Duplicates Credit in former FACE 212 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 240 Sculpture II
Units: 4 Terms Offered: FaSp Continued examination of the concepts of three-dimensional art: interrelation of material and image, public, human and intimate scale. *Prerequisite:* ART 140 or FASC 106 Duplicates Credit in former FASC 206 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 242 Metal
Units: 2 Terms Offered: FaSp Introduction to metal in fine art. Emphasis on technical proficiencies and effective solutions working in a variety of metals. *Recommended Preparation:* ART 140 Duplicates Credit in former FASC 236 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 243 Construction Techniques
Units: 2 Terms Offered: FaSp Exploration of art fabrication and the techniques and philosophies of working with a variety of materials. *Recommended Preparation:* ART 140 Duplicates Credit in former FASC 246 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 250 Photography II
Units: 4 Terms Offered: FaSp Continued examination of the conceptual, technical, aesthetic and historical tools necessary for a well-informed deliberate art practice with an emphasis on color photography. Work is in digital or analog. *Prerequisite:* ART 150 or ART 151 or FAIN 210 or FAPH 209 Duplicates Credit in former FAPH 309a Instruction Mode: Lecture, Lab Grading Option: Letter

ART 260 Video and Time-based Media
Units: 4 Terms Offered: FaSp An introductory course exploring contemporary processes and practices of video experimentation including the camera, desktop production, and editing. Experimentation with multiple modes of execution, presentation, and distribution. Duplicates Credit in former FAIN 220 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 280 Studio Critique I
Units: 2 Terms Offered: Sp Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Instruction Mode: Lecture Grading Option: Letter

ART 300 Professional Practices
Units: 2 Terms Offered: FaSpSm Instruction on producing written and visual documentation of art/design work, proposals, statements, and portfolios; applications for art/design employment opportunities, grants, research projects, and graduate school. Registration Restriction: Open only to sophomores, juniors and seniors Duplicates Credit in former FA 300 Instruction Mode: Lecture Grading Option: Letter

ART 310 Advanced Drawing
Units: 4 Terms Offered: FaSpSm Directed examination of personal approaches in drawing; emphasis on making visual and artistic decisions and developing an appropriate attitude towards individual expression. *Prerequisite:* ART 210 or FADW 201 Duplicates Credit in former FADW 301 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 311 Anatomical Drawing from Life
Units: 2 An advanced, concentrated study of the human figure; expands on skills depicting and visualizing the human form. *Prerequisite:* ART 110 or FADW 101 *Recommended Preparation:* ART 210 or permission of instructor Duplicates Credit in former FADW 321 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 312 Comics Project
Units: 4 Terms Offered: FaSp All aspects of comics will be covered, from writing and composition to inking and marketing through the production of an individual 15-page comic creation. *Recommended Preparation:* Any drawing, graphic design or creative writing course Instruction Mode: Lecture Grading Option: Letter

ART 315 Studies in Drawing and Painting
Units: 4 Max Units: 12 Terms Offered: FaSp A studio examination of rotating topics in drawing/painting, either media-based or content-driven, with individual and collaborative projects; topics change each semester. *Recommended Preparation:* ART 310 or ART 320 or permission of instructor Registration Restriction: Open only to sophomores, juniors, and seniors Duplicates Credit in former FADW 331 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 320 Advanced Painting
Units: 4 Terms Offered: FaSpSm Directed examination of aesthetic concepts; investigation into personal ideas related to the development of a creative visual language in painting. *Prerequisite:* ART 220 or FAPT 205 Duplicates Credit in former FAPT 305 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 330 Advanced Ceramics
Units: 4 Terms Offered: FaSpSm Directed examination of aesthetic concepts and investigation into personal ideas as they relate to the development of a creative visual language in ceramics. *Prerequisite:* ART 130 or FACE 112 Duplicates Credit in former FACE 312 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 331 Clay and Glazes
Units: 2 Terms Offered: Sp A foundation in the formulation of clay bodies and glaze materials through lectures and studio exercises to suit specific needs with the artist in mind. *Recommended Preparation:* ART 130 or ART 230 Duplicates Credit in former FACE 313 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 340 Advanced Sculpture
Units: 4 Terms Offered: FaSp Directed examination of three-dimensional aesthetic concepts; development of an individual creative vision. *Prerequisite:* ART 240 or FASC 206 Duplicates Credit in former FASC 306 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 350 Advanced Photography
Units: 4 Terms Offered: FaSpSm Continued examination of the conceptual, technical, aesthetic and historical tools necessary for a well-informed deliberate art practice with an emphasis on color photography. Work is in digital or analog. *Prerequisite:* ART 250 or FAPH 309a Duplicates Credit in former FAPH 309b Instruction Mode: Lecture, Lab Grading Option: Letter

ART 360 Video Studio
Units: 4 Terms Offered: FaSp An intensive video studio in the understanding and method of timebased, narrative and non-narrative art. *Prerequisite:* ART 260 or FAIN 220 Duplicates Credit in former FAIN 320 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 361 Internet Studio and Online Experimentation
Units: 4 Terms Offered: FaSp A technically and conceptually intensive studio exploring contemporary processes and practices of Internet art and online expression. Duplicates Credit in former FAIN 315 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 362 Ideas in Intermedia
Units: 4 Max Units: 08 Terms Offered: FaSp An examination of the impact of

digital media on contemporary culture, with attention to a particular, changing topic each semester. Duplicates Credit in former FAIN 330 Instruction Mode: Lecture, Discussion Grading Option: Letter

ART 370 Printmaking
Units: 4 Terms Offered: FaSp Introductory course in various printmaking techniques; necessary skills and inherent expressive qualities of different printmaking methods are explored. Duplicates Credit in former FAPR 311 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 380 Studio Critique II
Units: 2 Terms Offered: Sp A continuation of ART 280 for third-year students, providing an interdisciplinary forum for artistic practice and a deepening critique of one's work and the work of peers. Instruction Mode: Lecture Grading Option: Letter

ART 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former FA 390 Instruction Mode: Lecture Grading Option: Letter

ART 410 Topics in Advanced Drawing
Units: 4 Max Units: 12 Terms Offered: FaSpSm Continued directed examination of personal approaches in drawing, emphasis on making visual and artistic decisions and developing an appropriate attitude toward visual expression. *Prerequisite:* ART 310 or FADW 301 Duplicates Credit in former FA 401 and FADW 401 Instruction Mode: Lecture Grading Option: Letter

ART 418 Independent Studies in Studio Arts
Units: 1, 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Independent research of specific topics under the direction of a faculty member. Administrative and faculty approval required. *Recommended Preparation:* appropriate 300-level course work Duplicates Credit in former FA 418 Instruction Mode: Lecture Grading Option: Letter

ART 419 Professional Internship in the Arts
Units: 2 Max Units: 04 Terms Offered: FaSpSm An experiential/academic opportunity in a museum, gallery, community cultural center, or related facility. Lectures, seminars, written analysis, and working internship. Registration Restriction: Open only to upper-division fine arts majors Duplicates Credit in former FA 419 Instruction Mode: Lecture Grading Option: Letter Crosslisted as DES 419

ART 420 Topics in Advanced Painting
Units: 4 Max Units: 12 Terms Offered: FaSpSm Directed painting with continued emphasis on personal choices regarding appropriation of conceptual images and arrangement, material processes, scale, number of paintings. Ongoing critical response to painting. *Prerequisite:* ART 320 or FAPT 305 Duplicates Credit in former FAPT 405 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 430 Topics in Advanced Ceramics
Units: 4 Max Units: 12 Terms Offered: FaSpSm Continued directed examination of aesthetic concepts and investigation into personal ideas as they relate to the development of a creative visual language in ceramics. *Prerequisite:* ART 330 or FACE 312 Duplicates Credit in former FACE 412 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 434 Sound Art
Units: 2 Terms Offered: Sp A survey of developments in non-traditional musical instrument making in clay including design, fabrication and composition, culminating in a musical performance. *Recommended Preparation:* ART 130 or FACE 112 Duplicates Credit in former ART 414 Instruction Mode: Lecture Grading Option: Letter

ART 440 Topics in Advanced Sculpture
Units: 4 Max Units: 12 Terms Offered: FaSp Individual direction of the study of aesthetic issues in sculpture; investigation of an individual creative vision. *Prerequisite:* ART 340 or FASC 306 Duplicates Credit in former FASC 406 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 442 Art and Technology
Units: 4 Terms Offered: Sp An interdisciplinary course between art and engineering that addresses creative thinking in the manipulation of media and the communication of ideas. Duplicates Credit in former FASC 436 Instruction Mode: Lecture Grading Option: Letter

ART 450 Topics in Advanced Photography
Units: 4 Max Units: 12 Terms Offered: FaSp In-depth exploration of photographic and artistic concepts as they apply to the articulation of personal work. *Prerequisite:* ART 350 or FAPH 309b Duplicates Credit in former FAPH 409 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 460 Post-Material Studio
Units: 4 Max Units: 08 Terms Offered: FaSp Advanced studio and discussion course that affords the student a conceptual and practical platform from which to discuss and realize a major work or series. Duplicates Credit in former FAIN 440 Instruction Mode: Lecture, Lab Grading Option: Letter

ART 470 Topics in Advanced Printmaking
Units: 4 Max Units: 12 Terms Offered: FaSp Directed examination of specific printmaking media in relation to personal aesthetic goals and expressive concepts. *Prerequisite:* ART 370 or FAPR 311 Duplicates Credit in former FAPR 411 Instruction Mode: Lecture Grading Option: Letter

ART 480 International Art Study Tour
Units: 2 Max Units: 02 Terms Offered: FaSp An immersive experience in the artistic culture of a specific city or region that includes a short (less than two weeks) international trip. Instruction Mode: Lecture Grading Option: Letter

ART 484 Contemporary Issues in Art
Units: 4 Max Units: 12 Terms Offered: FaSp An advanced studio and discussion course aims to expand a student's relationship to, and understanding of, contemporary artistic dissemination, discourse, and display via a series of rotating topics. *Recommended Preparation:* junior status or permission of instructor Instruction Mode: Lecture Grading Option: Letter

ART 485 Studio Capstone
Units: 4 Terms Offered: Sp A faculty-mentored course supporting advanced conceptual exploration and the development of an ambitious, self-defined series or body of work, culminating in an exhibition. Registration Restriction: Open only to seniors in Art and Fine Arts majors Instruction Mode: Lecture Grading Option: Letter

ART 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Credit Restriction: Not available for graudate credit Duplicates Credit in former FA 490 Instruction Mode: Lecture Grading Option: Letter

ART 494a Senior Thesis
Units: 2 Max Units: 04 Terms Offered: FaSp Individual research under guidance of faculty member for senior-level BFA students, leading to a substantial paper or other project. Registration Restriction: Open only to seniors in Fine Arts Instruction Mode: Lecture Grading Option: Letter

ART 494b Senior Thesis
Units: 2 Terms Offered: FaSp Individual research under the guidance of faculty for senior level BFA students, leading to a substantial paper or project. *Prerequisite:* ART 494a Registration Restriction: Open only to seniors in Fine Arts Instruction Mode: Lecture Grading Option: Letter

ART 499 Special Topics
Units: 2, 3, 4 Max Units: 04 Terms Offered: FaSpSm Comprehensive exploration of particular aspects of visual art. Duplicates Credit in former FA 499 Instruction Mode: Lecture Grading Option: Letter

ART 515 Visiting Artist and Scholar Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp Lecture and discussion course in the professional practice of art featuring formal presentations by visiting artists and scholars. Duplicates Credit in FA 515 . Instruction Mode: Lecture Grading Option: Letter Crosslisted as CRIT 515

ART 520 Individual Studies
Units: 2 Max Units: 8.0 Terms Offered: FaSp Investigation of creative problems through various media. Course may be repeated. Duplicates Credit in former FA 520. Instruction Mode: Lecture Grading Option: Letter

ART 525 Making and Curating Art: Pedagogy and Praxis
Units: 4 Terms Offered: Sp (Enroll in CRIT 525)

ART 530 Global Art Seminar: the Globalization of Art and Culture
Units: 4 Terms Offered: Sm An examination of the emergence of the idea of "globalism" through the lens of art practice and theory. Instruction Mode: Lecture Grading Option:

Letter Crosslisted as CRIT 530

ART 535 Group Critique
Units: 2 Max Units: 8 Terms Offered: FaSp Presentation and critique which builds students' skills in presenting and contextualizing their artwork for peer review; analytic discussion regarding directions in contemporary art. Instruction Mode: Lecture Grading Option: Letter

ART 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to graduate degree. Maximum units which may be applied to degree determined by department. Duplicates Credit in former FA 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

ART 594a Master's Thesis
Units: 2 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 594b Master's Thesis
Units: 2 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 594z Master's Thesis
Units: 0 Credit on acceptance of Thesis. Registration Restriction: Open only to masters students. Duplicates Credit in former FA 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ART 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Comprehensive exploration of particular aspects of the history of art. Duplicates Credit in former FA 599. Instruction Mode: Lecture Grading Option: Letter

Arts and Letters

ARLT 100g Arts and Letters
Units: 4 Terms Offered: FaSp Critical analysis of significant works of literature, philosophy, visual arts, music and/or film; intensive reading and writing to develop knowledge of analytical techniques in the humanities. Limited to freshmen and sophomores. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 101 and in former LTA 100 and in former LTA 101. Instruction Mode: Lecture Grading Option: Letter

ARLT 101g Studies in Arts and Letters
Units: 4 Terms Offered: FaSp Critical analysis of significant works of literature, philosophy, visual arts, music and/or film; intensive reading and writing to develop knowledge of analytical techniques in the humanities. Limited to students with sophomore status or higher. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 100 and in former LTA 100 and in former LTA 101. Instruction Mode: Lecture, Discussion Grading Option: Letter

ARLT 105g First Year Seminar: Arts and Letters
Units: 4 Terms Offered: FaSpSm Critical analysis of significant literary, philosophical, and artistic texts; intensive reading and writing to develop analytical skills in interpreting and responding to original works. Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 100g and ARLT 101g. Instruction Mode: Lecture Grading Option: Letter

Arts Leadership

ARTL 310 Music and Dance In Paris Salon Culture
Units: 2 Terms Offered: Sp During this twenty-four day Maymester course in Paris, students will explore moments in Parisian salon culture as sites of artistic inspiration and collaboration. Registration Restriction: Priority will be given to majors in Thornton and Kaufman, then minors in Thornton and Kaufman, then the general USC population. Instruction Mode: Lecture Grading Option: Letter

ARTL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

ARTL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

ARTL 500 Arts Leadership and Arts Entrepreneurship
Units: 2 Terms Offered: FaSp Introduction to key issues involved in both managing an arts organization and creating sustainable enterprise. For students in music, arts, public policy, and related fields. Instruction Mode: Lecture Grading Option: Letter

ARTL 501 Executive Leadership in the Arts
Units: 2 Terms Offered: FaSp Investigation into a variety of leadership approaches within an arts organization, with a focus on the development of the student's own leadership capacity. Instruction Mode: Lecture Grading Option: Letter

ARTL 502 Issues in the Arts and the Contemporary World
Units: 2 Terms Offered: FaSp Examination of major environmental trends including changing demographics, new business models, rapidly developing technology and globalization, and understanding their implications for the arts. Instruction Mode: Lecture Grading Option: Letter

ARTL 503 Arts Organizations: Innovation and New Models
Units: 2 Terms Offered: FaSp Designed for current and future arts leaders interested in looking critically at organizational practice and bringing innovative solutions to old problems in a contemporary context. Instruction Mode: Lecture Grading Option: Letter

ARTL 504 Arts and the Community: Current Practice and New Visions
Units: 2 Terms Offered: FaSp Exploration of a range of ideas, ideologies and strategies that have historically been used to connect arts organizations to their communities. Instruction Mode: Lecture Grading Option: Letter

ARTL 510 Arts Leadership Practicum
Units: 2 Max Units: 4.0 Terms Offered: FaSp Year-long practicum which puts ideas and concepts into practice. Each student will conceptualize, develop, and complete an arts project of his/her own choosing. Instruction Mode: Lecture Grading Option: Letter

ARTL 512 Essentials of Orchestra Management
Units: 2 Ten day seminar that provides in depth, participative instruction in orchestra management and the practicalities of being a successful leader of an arts organization. Instruction Mode: Lecture Grading Option: Letter

ARTL 520 Arts Leadership Intensive
Units: 1 Five-day, intensive course that serves as a deep-dive introduction to the field for all Arts Leadership students. Instruction Mode: Lecture Grading Option: Letter

ARTL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ARTL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

ARTL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Communication and Journalism

ASCJ 020x Annenberg Skills
Units: 1 Intensive skills boot camps teach the verbal, written, and digital skills needed for "real world" jobs. Not available for degree credit. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASCJ 100 The Changing World of Communication and Journalism
Units: 2 Survey of major themes in media and communication; exploring what it means to be a professional in the fields of communication, journalism, and public relations. Instruction Mode: Lecture Grading Option: Letter

ASCJ 200 Navigating Media and News in the Digital Age
Units: 4 Terms Offered: FaSp Students will be engaged as discriminating media/news consumers and contributors. Emphasis on critical skills needed to understand, employ, enjoy and help shape our media landscape. Instruction Mode: Lecture, Lab Grading Option: Letter

ASCJ 210 Contours of Change in Media and Communication

Units: 4 Provides an introduction to cultivating a curious, critical, and proactive approach to the challenges of social change. Students will be encouraged to develop an expansive and critical definition and understanding of change as it relates to the role of media and communication in producing and responding to political and cultural transformations that shape our status as citizens and our ideas of citizenship. Instruction Mode: Lecture, Discussion Grading Option: Letter

ASCJ 220x Annenberg Experimental
Units: 0, 1, 2 Max Units: 6.0 Cutting-edge, experimental, experiential, interdisciplinary, results-based classes taught in new ways and places. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASCJ 420 Annenberg Collaboratory
Units: 0, 1, 2, 3, 4 Max Units: 8.0 Collaborative, cutting-edge, experimental, experiential, interdisciplinary, results-based classes taught in new ways and places. *Recommended Preparation:* ASCJ 220. Instruction Mode: Lecture Grading Option: Letter

Astronautics and Space Technology

ASTE 101L Introduction to Astronautics
Units: 4 Terms Offered: Fa Gateway to the Astronautical Engineering major. Introduction to space, space exploration and the space business. Elements of orbits, spacecraft systems, rocket propulsion, and communications. Laboratory: introduction to graphics, computation and simulation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ASTE 280 Foundations of Astronautical Engineering
Units: 3 Terms Offered: Sp Coordinate systems and transformations. Spherical trigonometry. Orientation angles. Spacecraft orbits and orbital maneuvers. Introduction to rocket propulsion, spacecraft attitude dynamics and control, and space environment. *Prerequisite:* MATH 226 and PHYS 152L. *Recommended Preparation:* Skill in MATLAB programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 291 Team Projects I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Participation in ASTE undergraduate student team projects. Intended for lower-division students or those with little prior project experience. Instruction Mode: Lecture Grading Option: Letter

ASTE 301a Thermal and Statistical Systems
Units: 3 Terms Offered: FaSp Thermodynamics and statistical mechanics; kinetics of atoms, molecules, and photons; compressible fluid dynamics. *Prerequisite:* MATH 245, PHYS 153L. Duplicates Credit in former AME 311ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 301b Thermal and Statistical Systems
Units: 3 Terms Offered: FaSp Thermodynamics and statistical mechanics; kinetics of atoms, molecules, and photons; compressible fluid dynamics. *Prerequisite:* MATH 245, PHYS 153L. Duplicates Credit in former AME 311ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 330 Introduction to Spacecraft Systems and the Space Environment
Units: 3 Terms Offered: Fa Spacecraft systems: attitude determination and control, power, thermal, command and data handling, telecommunication, structures and mechanisms, propulsion. Space environment: atmosphere, gravity gradients, radiation. *Prerequisite:* ASTE 280 and PHYS 153. Instruction Mode: Lecture Grading Option: Letter

ASTE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only.

ASTE 421x Space Mission Design
Units: 3 Terms Offered: Sp Space systems engineering process: requirements definition; trade studies; system integration; technical reviews; cost and schedule development; case studies; ethics. Capstone design experience. *Prerequisite:* ASTE 330. Registration Restriction: Open only to seniors. Instruction Mode: Lecture Grading Option: Letter

ASTE 445 Molecular Gas Dynamics
Units: 3 Physical description of kinetic nature of gas flows; distribution function; introduction to the Boltzmann equation; free-molecule flow; surface and molecular reflection properties; Monte Carlo flow calculations. *Recommended Preparation:* AME 309 or ASTE 301b. Duplicates Credit in former AME 485. Instruction Mode: Lecture Grading Option: Letter

ASTE 470 Spacecraft Propulsion
Units: 3 Introduction to rocket engineering. Space missions and thrust requirements. Compressible gas dynamics. Propellant chemistry and thermodynamics. Liquid- and solid-fueled rockets. Nuclear and electric propulsion. *Prerequisite:* senior or graduate standing. Instruction Mode: Lecture Grading Option: Letter

ASTE 480 Spacecraft Dynamics
Units: 3 Two-body motion, rigid-body motion, attitude dynamics and maneuvers, spacecraft stabilization: gravity gradient, reaction wheels, magnetic torques, thruster attitude control. *Prerequisite:* senior standing. Instruction Mode: Lecture Grading Option: Letter

ASTE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ASTE 491 Team Projects II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Participation in ASTE undergraduate student team projects. Intended for students with prior project experience. Instruction Mode: Lecture Grading Option: Letter

ASTE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from current developments in astronautics, space technology, and related fields. Instruction Mode: Lecture Grading Option: Letter

ASTE 501a Physical Gas Dynamics
Units: 3 Terms Offered: FaSp Molecular structure; radiative processes; microscopic description of gas phenomena; translational, rotational, vibrational, and electronic freedom degrees; particle energy distributions; microscopic representation of thermodynamic functions. *Prerequisite:* graduate standing or departmental approval. Instruction Mode: Lecture Grading Option: Letter

ASTE 501b Physical Gas Dynamics
Units: 3 Terms Offered: FaSp Kinetic concepts in gas physics; thermal non-equilibrium; intermolecular potentials; transport of radiation and particles in high-temperature gas; dissociation and ionization equilibrium; energy relaxation. *Prerequisite:* ASTE 501a. Instruction Mode: Lecture Grading Option: Letter

ASTE 505a Plasma Dynamics
Units: 3 Terms Offered: FaSp Charged particle dynamics. Kinetic fluid theories. Rarefied and collisional plasma flows. Plasma-surface interactions. Waves, instabilities, turbulence. Applications in engineering and space technology. *Recommended Preparation:* Graduate standing in engineering or physics. Duplicates Credit in EE 572ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 505b Plasma Dynamics
Units: 3 Terms Offered: FaSp Charged particle dynamics. Kinetic fluid theories. Rarefied and collisional plasma flows. Plasma-surface interactions. Waves, instabilities, turbulence. Applications in engineering and space technology. *Recommended Preparation:* Graduate standing in engineering or physics. Duplicates Credit in EE 572ab. Instruction Mode: Lecture Grading Option: Letter

ASTE 520 Spacecraft System Design
Units: 3 System components; vehicle structure, propulsion systems, flight dynamics, thermal control, power systems, telecommunication. Interfaces and tradeoffs between these components. Testing, system reliability, and integration. Instruction Mode: Lecture Grading Option: Letter

ASTE 523 Design of Low Cost Space Missions
Units: 3 Terms Offered: Sp Reviews all aspects of space mission design for practical approaches to reducing cost. Examines "LightSat" mission experience and potential applicability to large-scale missions. Graduate standing in engineering or science. *Recommended Preparation:* ASTE 520 or some experience in space engineering. Instruction Mode: Lecture Grading Option: Letter

ASTE 524 Human Spaceflight
Units: 3 Engineering, technologies, and systems for human spaceflight. Life support, space environments, crew accomodations. Mission operations, safety. Astrodynamics, launch and space vehicles, space stations, palnetary bases. Instruction Mode: Lecture Grading Option: Letter

ASTE 527 Space Studio Architecting
Units: 3 Terms Offered: Sp Programmatic/ conceptual design synthesis/choice creation methods for complex space missions. Aerospace system engineering/architecture tools to create innovative projects. Evaluated by faculty/industry/NASA experts. *Recommended Preparation:* ASTE 520 or experience in space industry. Instruction Mode: Lecture Grading Option: Letter

ASTE 528 Reliability of Space Systems
Units: 3 Terms Offered: Fa Reliable space system design and operations for human and robotic space, applications, and commercial space. Reliability of space systems, subsystems, hardware, software and human reliability. *Recommended Preparation:* ASTE 520 or equivalent course on fundamentals of space systems Registration Restriction: Open only to graduate students in science or engineering Instruction Mode: Lecture Grading Option: Letter

ASTE 529 Safety of Space Systems and Space Missions
Units: 3 Engineering methodology and analysis techniques for safety certification and mission assurance of robotic and human space systems and space missions by government and commercial industry. *Recommended Preparation:* ASTE 520 or some experience in space engineering. Registration Restriction: Open only to Engineering graduate students. Instruction Mode: Lecture Grading Option: Letter

ASTE 535 Space Environments and Spacecraft Interactions
Units: 3 Space environments and interactions with space systems. Vacuum, neutral and ionized species, plasma, radiation, micrometeoroids. Phenomena important for spacecraft operations. Instruction Mode: Lecture Grading Option: Letter

ASTE 545 Computational Techniques in Rarefied Gas Dynamics
Units: 3 Terms Offered: Irregular Particle-based computational simulation methods for rarefied, high-speed flows. Molecular collision kinetics. Monte Carlo direct simulation and related techniques. *Recommended Preparation:* ASTE 501a and skill in FORTRAN programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 546 Computational Plasma Dynamics
Units: 3 Terms Offered: Sp Plasma simulation techniques; particle-in-cell (PIC); PIC with Monte Carlo; computational electromagnetics; computational magnetohyrdodynamics. Parallelization. Applications in engineering and space plasma physics. *Prerequisite:* ASTE 505a. Instruction Mode: Lecture Grading Option: Letter

ASTE 552 Spacecraft Thermal Control
Units: 3 Terms Offered: Sp Spacecraft and orbit thermal environments; design, analysis, testing of spacecraft thermal control system and components; active and passive thermal control, spacecraft and launch vehicle interfaces. Instruction Mode: Lecture Grading Option: Letter

ASTE 553 Systems for Remote Sensing from Space
Units: 3 The operation, accuracy, resolution, figures of merit, and application of instruments which either produce images of ground scenes or probe the atmosphere as viewed primarily from space. Instruction Mode: Lecture Grading Option: Letter

ASTE 554 Spacecraft Sensors
Units: 3 Terms Offered: Fa Spacecraft sensors from concept and design to building, testing, interfacing, integrating, and operations. Optical and infrared sensors, radiometers, radars, phased arrays, signal processing, noise reduction. *Recommended Preparation:* ASTE 520. Instruction Mode: Lecture Grading Option: Letter

ASTE 555 Space Cryogenic Systems and Applications
Units: 3 Terms Offered: Fa Theory and practice in cryogenic engineering as applied to space systems, emphasizing sensor cooling techniques; cryostats; cryoradiators; mechanical cryocoolers; introductions to superfluidity and superconductivity. *Recommended Preparation:* ASTE 520 or equivalent course on fundamentals of space systems Registration Restriction: Graduate standing in science or engineering Instruction Mode: Lecture Grading Option: Letter

ASTE 556 Spacecraft Structural Dynamics
Units: 3 Applied analytical methods (vibrations of single and multidegree of freedom systems, finite element modeling, spacecraft applications); requirements definition process; analytical cycles; and design verification. Instruction Mode: Lecture Grading Option: Letter

ASTE 557 Spacecraft Structural Strength and Materials
Units: 3 Spacecraft structural strength analysis and design concepts overview; spacecraft material selection; analysis of composite materials; finite element method; spacecraft configuration; structural testing; bolted joint design. Instruction Mode: Lecture Grading Option: Letter

ASTE 570 Liquid Rocket Propulsion
Units: 3 Terms Offered: Sp Liquid-propelled rocket propulsion systems. Capillary devices for gas-free liquid acquisition in zero gravity. Ground and in-orbit operations. Propellant life predictions and spacecraft end-of-life de-orbiting strategies. *Prerequisite:* ASTE 470 Instruction Mode: Lecture Grading Option: Letter

ASTE 572 Advanced Spacecraft Propulsion
Units: 3 Terms Offered: Sp Nuclear, electric, sails, and far-term propulsion systems. Overviews of nozzles, heat transfer, electromagnetics, rarefied gases, and plasma physics. Analysis of electrothermal, electrostatic and electromagnetic thrusters. Graduate standing in engineering or science. *Prerequisite:* ASTR 470 Instruction Mode: Lecture Grading Option: Letter

ASTE 574 Space Launch Vehicle Design
Units: 3 Terms Offered: Fa Fundamentals, technologies, and design of space launch vehicles. Propulsion, trajectory analysis and optimization, static and dynamic structural loads, stability, control, and safety. *Recommended Preparation:* ASTE 470 or equivalent course work in spacecraft propulsion Instruction Mode: Lecture Grading Option: Letter

ASTE 577 Entry and Landing Systems for Planetary Surface Exploration
Units: 3 Terms Offered: Sp Multi-disciplinary engineering theory, simulation techniques, and unique technologies for landing robotic and human space vehicles on the surface of planets and moons. *Recommended Preparation:* ASTE 520 or similar course in fundamentals of space systems Registration Restriction: Open only to engineering students Instruction Mode: Lecture Grading Option: Letter

ASTE 580 Orbital Mechanics I
Units: 3 Physical principles; two-body and central force motion; trajectory correction maneuvers; position and velocity in conic orbits; Lambert's problem; celestial mechanics; orbital perturbations. Instruction Mode: Lecture Grading Option: Letter

ASTE 581 Orbital Mechanics II
Units: 3 Terms Offered: Fa Theory of perturbations of orbits; numerical methods in orbital mechanics; satellite dynamics; averaging methods; resonance; mission analysis. *Prerequisite:* ASTE 580. Instruction Mode: Lecture Grading Option: Letter

ASTE 583 Space Navigation: Principles and Practice
Units: 3 Terms Offered: Sp Statistical orbit determination: (weighted) least squares, batch and sequential (Kalman) processing, illustrative examples; online ephemeris generation: potentially hazardous asteroids, comets, satellites; launch: vehicles, payloads, staging. Graduate standing in engineering or science. *Recommended Preparation:* ASTE 580. Instruction Mode: Lecture Grading Option: Letter

ASTE 584 Spacecraft Power Systems
Units: 3 Terms Offered: Sp Introduction to solar arrays, batteries, nuclear power sources, mechanical energy storage. Application theory of operation, practical considerations. Subsystem topologies and performance. Design optimization techniques. Instruction Mode: Lecture Grading Option: Letter

ASTE 585 Spacecraft Attitude Control
Units: 3 Terms Offered: SpSm Review of attitude dynamics, gravity gradient stabilization, attitude stabilization with a spin, attitude maneuvers, control using momentum exchange devices, momentum-biased stabilization, reaction thruster control. *Prerequisite:* AME 451 or EE 482; *Recommended Preparation:* a course in dynamics. Instruction Mode: Lecture Grading Option: Letter

ASTE 586 Spacecraft Attitude Dynamics
Units: 3 Dynamics of systems of particles and rigid bodies; spacecraft attitude systems; attitude maneuvers (spin, precession, nutation, etc.); attitude stabilization and attitude determination; simulation methods. Instruction Mode: Lecture Grading Option:

Letter

ASTE 589 Solar System Navigation
Units: 3 Terms Offered: Fa Free-return trajectories for exploration of the moon, optimization and control of interplanetary trajectories, and mission design using the Interplanetary Superhighway. *Prerequisite:* ASTE 580 *Recommended Preparation:* Proficiency in use of MATLAB for exercises on standard desktop and laptop computers. Registration Restriction: graduate standing in engineering of physics Instruction Mode: Lecture Grading Option: Letter

ASTE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the division. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ASTE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content to be selected each semester from current developments in astronautics, space technology, and related fields. Instruction Mode: Lecture Grading Option: Letter

ASTE 683 Advanced Spacecraft Navigation
Units: 3 Advanced topics in spacecraft navigation: rendezvous, frozen/sun synchronous orbits, stationkeeping. Nonlinear filtering for orbit and attitude determination. Optical navigation. Mission applications. *Prerequisite:* ASTE 580 and ASTE 583; *Recommended Preparation:* skill in MATLAB programming. Instruction Mode: Lecture Grading Option: Letter

ASTE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory studies of specific problems by candidates for the degree Engineer in Astronautical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 694a Thesis
Units: 2 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 694b Thesis
Units: 2 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 694z Thesis
Units: 0 Terms Offered: FaSpSm Required for the degree Engineer in Astronautical Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the division. Instruction Mode: Lecture Grading Option: Credit/No Credit

ASTE 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ASTE 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ASTE 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Astronomy

ASTR 100Lgx The Universe
Units: 4 Terms Offered: FaSp Survey of the universe: planets, satellites, comets, stars, nebulae, galaxies. Practical component includes planetary observations and dark-sky field trip. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

ASTR 104L Special Laboratory
Units: 1 Terms Offered: FaSp Laboratory component for ASTR 100Lgx for transfer students with equivalent lecture credit from another institution. For transfer students only. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ASTR 200Lg Life in the Universe
Units: 4 Terms Offered: FaSp Survey of the prospects for life in our solar system and beyond, based on the evolution of life on Earth. Satisfies New General Education in Category E: Physical Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

ASTR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ASTR 400 The Solar System
Units: 4, 2 years Terms Offered: Fa Earth's motions; planets and their satellites; comets; meteorites; interplanetary matter; elementary celestial mechanics. *Prerequisite:* MATH 226. Instruction Mode: Lecture Grading Option: Letter

ASTR 422 Galaxies and Large-Scale Structures in the Universe
Units: 4, 2 years Terms Offered: Sp Galaxies and clusters of galaxies: their content, structure, dynamics, distribution, and motions; the cosmic microwave background: theory and observation; elements of observational cosmology. *Prerequisite:* PHYS 153L or PHYS 163L. Instruction Mode: Lecture Grading Option: Letter

ASTR 424 Cosmology
Units: 4, 2 years Terms Offered: Sp Concepts of space-time, general relativity applied to an homogeneous and expanding universe. Universe's content and thermal history. Introduction to current observational tests of cosmology. *Prerequisite:* PHYS 153L or PHYS 163L. Instruction Mode: Lecture Grading Option: Letter

ASTR 450 Stellar Astrophysics
Units: 4, 2 years Terms Offered: Fa Observation and theory of stellar atmospheres and stellar interiors. Theory of stellar evolution. Physical and astronomical significance of the end states of stellar evolution. *Prerequisite:* PHYS 153L or PHYS 163L. Instruction Mode: Lecture Grading Option: Letter

ASTR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. *Prerequisite:* one upper-division course in astronomy and departmental approval. Instruction Mode: Lecture, Lab Grading Option: Letter

ASTR 540 Advanced Cosmology
Units: 3 Perturbed Einstein's and Boltzman equations, Universe's content, anisotropies: initial conditions, linear evolution, comparison with observations. *Prerequisite:* PHYS 504, PHYS 508a, PHYS 508b, PHYS 510, PHYS 518. Instruction Mode: Lecture Grading Option: Letter

ASTR 740 Selected Topics in Astrophysics
Units: 3 Max Units: 6.0 Selected topics in cosmology. Course content includes dark matter, dark energy, gravitational lensing, the cosmic microwave background, inflation, galaxy and galaxy cluster surveys. *Prerequisite:* ASTR 540 Instruction Mode: Lecture Grading Option: Letter

Business Entrepreneurship

BAEP 310 Launching Disruptive Ventures
Units: 4 Terms Offered: FaSp Fundamentals of entrepreneurship tracing new venture evolution, including recognition of disruptive opportunities, entrepreneurial financial analysis, and understanding the innovator's and investor's mindsets. *Prerequisite:* ACAD 181 or BUAD 201x. Duplicates Credit in

BAEP 423, BAEP 450, BAEP 451, BUAD 301. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-310

BAEP 423 Management of Small Businesses
Units: 4 Terms Offered: FaSp Strategic, organizational, financial, and human issues facing the small business. Duplicates Credit in BAEP 310 and BAEP 450 and BAEP 451 and BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 450 Fundamentals of Entrepreneurship
Units: 4 Terms Offered: FaSpSm Starting and managing one's own business: developing a viable concept, organizing the enterprise, market and financial planning, and controlling the organization. Duplicates Credit in BAEP 310, BAEP 423, BAEP 451, BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 451 The Management of New Enterprises
Units: 4 Terms Offered: FaSpSm Development of analytical and conceptual skills in entrepreneurship and venture management. Duplicates Credit in BAEP 310, BAEP 423, BAEP 450, BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 452 Feasibility Analysis
Units: 4 Terms Offered: FaSp Students develop, analyze, and validate entrepreneurial concepts (including marketing, operational, and financial considerations) using customer feedback and risk assessment to conclude worthiness to pursue. *Prerequisite:* BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301. Instruction Mode: Lecture Grading Option: Letter

BAEP 453 Venture Management
Units: 4 Terms Offered: FaSp Design and application of organization structures and systems in management of new ventures. *Prerequisite:* BAEP 310 or BAEP 423 or BAEP 450 or BAEP 451 or BUAD 301 Instruction Mode: Lecture Grading Option: Letter

BAEP 454 Venture Initiation: Launching and Scaling Your Startup
Units: 4 Terms Offered: Sp Learn to build a startup from concept to reality. Focus on real-world entrepreneurial action and execution. *Prerequisite:* BAEP 452. Instruction Mode: Lecture Grading Option: Letter

BAEP 455 Founder's Dilemmas
Units: 4 Terms Offered: FaSp Prepares potential founders, hires, and investors for the decisions they will face both before and during their involvement with new ventures. Registration Restriction: Open only to sophomores, juniors, and seniors Instruction Mode: Lecture Grading Option: Letter

BAEP 460 Seminar in Entrepreneurship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Perspectives into the art and science of entrepreneurship under the guidance of a master instructor. Specific topics vary. Instruction Mode: Lecture Grading Option: Letter

BAEP 465 Digital Playbook for Entrepreneurs: Creating a Tech Startup
Units: 2 Terms Offered: FaSp Learn to use digital tools and technologies, such as social media, mobile, cloud computing, and e-commerce, to start and grow entrepreneurial ventures. Instruction Mode: Lecture Grading Option: Letter

BAEP 469 Growth Hacking: Scaling Startups
Units: 2 Terms Offered: FaSp Accelerate the growth of an entrepreneurial business with applied analytics tools and methods. *Prerequisite:* BAEP 452 Instruction Mode: Lecture Grading Option: Letter

BAEP 470 The Entrepreneurial Mindset — Taking the Leap
Units: 2 Terms Offered: Sp A deeper insight into the entrepreneurial mind, how it approaches opportunities and challenges and gives leadership to an organization. Instruction Mode: Lecture Grading Option: Letter

BAEP 471 Social Innovation Design Lab
Units: 4 Terms Offered: Sp Introduction to design thinking as applied to innovation and entrepreneurship. Hands-on projects to create solutions to specific societal problems faced by underprivileged communities. Registration Restriction: Open only to sophomores, juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

BAEP 472 The Science of Peak Performance
Units: 2 Terms Offered: Sp Ingrains expertise and application of the science of peak performance, broadens preparation for personal challenge, and builds business-centered critical thinking and applied analytical skills. Registration Restriction: Open only to sophomores, juniors and seniors Instruction Mode: Lecture Grading Option: Letter

BAEP 475 Entertainment Entrepreneurship
Units: 2 Terms Offered: FaSp Explore the current entrepreneurial trends and opportunities in the entertainment industry and uncover the key success factors for entrepreneurs in this industry. Instruction Mode: Lecture Grading Option: Letter

BAEP 480 Entrepreneurial Family Business
Units: 4 Terms Offered: FaSp Explores the dynamics of family and privately held businesses. Exploring generational and extended family issues, opportunities and obstacles faced in today's environment. Instruction Mode: Lecture Grading Option: Letter

BAEP 491 Introduction to Social Entrepreneurship
Units: 4 Terms Offered: FaSp Analysis of social enterprise models from micro-finance to job development. Analysis of basic issues regarding the difference between socially responsible companies, for-profit, and non-profit-run enterprises. Instruction Mode: Lecture Grading Option: Letter

BAEP 495 Practicum in Business Issues (Internship)
Units: 1 Terms Offered: FaSpSm Combined classroom discussion and field application of business theories and practices; part-time internship employment. Project to be jointly defined by student, employer and professor. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 496 The Digital Startup Launchpad
Units: 2 Terms Offered: FaSp Real-life challenge of imagining, prototyping, testing and iterating, building, pricing, marketing, distributing and selling a digital product or service. *Prerequisite:* BAEP 452 and ITP 466 and ITP 476 *Corequisite:* ITP 496 Instruction Mode: Lecture Grading Option: Letter

BAEP 497 Field Project in Entrepreneurship
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Individual or team projects solving real problems for an enterprise. Situation analyses; research proposal composition; field research techniques; statistical analysis; oral and written presentations. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Current developments in the field of entrepreneurship: topics to be selected each semester. Instruction Mode: Lecture Grading Option: Letter

BAEP 549 The Entrepreneurial Journey
Units: 2 Terms Offered: FaSpSm An introduction to entrepreneurship with a focus on opportunity recognition and the entrepreneurial mindset. Development of knowledge and skills in launching new ventures. Registration Restriction: Online registration open only to BUSV, ENTR, MMM and SOCE majors Duplicates Credit in BAEP 550 and BAEP 551 and GSBA 550a and GSBA 550b and the former GSBA 586. Instruction Mode: Lecture Grading Option: Letter

BAEP 550 Entrepreneurship and Venture Management
Units: 1.5 Terms Offered: FaSp Develop conceptual and practical knowledge in entrepreneurship and new venture management. Registration Restriction: Open only to graduate students. Duplicates Credit in BAEP 549, BAEP 551, GSBA 550a and GSBA 550b, and the former GSBA 586. Instruction Mode: Lecture Grading Option: Letter

BAEP 551 Introduction to New Ventures
Units: 3 Terms Offered: FaSp Study and development of analytical and conceptual skills in the management of new enterprises and new ventures within large organizations. Registration Restriction: Open only to graduate business and accounting majors. Duplicates Credit in BAEP 549, BAEP 550, GSBA 550a and GSBA 550b, and the former GSBA 586. Instruction Mode: Lecture Grading Option: Letter

BAEP 552 Cases in Feasibility Analysis
Units: 3 Terms Offered: FaSpSm Study of analytical techniques used to evaluate

business concepts and new business development. *Corequisite:* BAEP 549 or BAEP 550 or BAEP 551 or (GSBA 550a andGSBA 550b) Registration Restriction: Online registration open only to graduate business and accounting majors. Duplicates Credit in BAEP 566 Instruction Mode: Lecture Grading Option: Letter

BAEP 553 Cases in New Venture Management
Units: 1.5, 3 Terms Offered: FaSpSm Cases and readings expose students to the challenges of developing long-range strategies for entrepreneurial ventures. Case work emphasizes developing new industries, growth through strategic alliances, and issues involved in the long-term strategic positioning of emerging companies. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 554 Venture Initiation
Units: 3 Terms Offered: Sp Learn to launch and scale a new business through entrepreneurial action and execution. *Prerequisite:* BAEP 552 or BAEP 556 or BAEP 566. Instruction Mode: Lecture Grading Option: Letter

BAEP 555 Founder's Dilemmas: Anticipate and Avoid Startup Pitfalls
Units: 3 Terms Offered: Sp Delves into founders' early decisions about when and whether to found, co-founders, hires, and investors that tend to get them into trouble down the road. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 556 Technology Feasibility
Units: 3 Terms Offered: Fa Learn critical thinking and analytical skills they need to evaluate, value, and manage technology as intellectual property. Understand the technology commercialization process, use data mining and assessment techniques for patent databases, and study the unique business issues facing high technology start-ups. Registration Restriction: Online registration open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BAEP 557 Technology Commercialization
Units: 3 Terms Offered: Sp Identification, evaluation and commercialization of new technologies. Emphasis will be placed on the legal, financial and marketing aspects of technology transfer and development. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BAEP 558 The Entrepreneurial Advisor: Problem Solving for Early-Stage Companies
Units: 1.5, 3 Terms Offered: FaSp Experiential course designed to develop skills in framing and solving complex problems in young companies. Apply skills to real ventures participating in course projects. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 559 Investing in New Ventures
Units: 3 Terms Offered: FaSp Focus on the entrepreneurial skill set applied to new venture opportunities. Taught from the business plan reader's point of view; focus on selecting opportunities, structuring the relationship, adding value and realizing the value of that investment. Registration Restriction: Online registration open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BAEP 560 Acquiring Your Own Business or Opportunity
Units: 3 Terms Offered: Sp Issues faced by the entrepreneur who wishes to acquire an enterprise; appropriateness of an enterprise, understanding funding sources and valuation methods, developing a plan for due diligence, negotiating and consummating the transaction. The acquisition process, approaches to valuation, and the roles of the various parties in negotiating and consummating an acquisition of an existing business. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 561 Entrepreneurship in Innovative Industries: Life Sciences
Units: 1.5 Terms Offered: Sp The challenges of new venture creation in the biotechnology, medical device, and healthcare areas; experience, evaluate, and analyze profits of current impact in the life sciences. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 562 Entrepreneurship in eCommerce
Units: 1.5 Terms Offered: FaSp Introduction to building, funding, and running an entrepreneurial eCommerce venture. Registration Restriction: Online registration open to only graduate and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 563 Corporate Entrepreneurship
Units: 3 Terms Offered: Fa How established organizations build successful new businesses through corporate venturing and intrapreneurship. Learn to apply an entrepreneurial mindset and entrepreneurial frameworks within an established organization. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BAEP 564 Investing in Impact Ventures
Units: 3 Terms Offered: Sp Exploring the field of social impact investing, learn how social entrepreneurs attract for-profit investors and how conscious investors are utilizing investments to achieve social impact. Registration Restriction: Online registration open only to graduate business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

BAEP 566 Cases in Feasibility Analysis for Social Ventures
Units: 3 Terms Offered: FaSp Study of analytical techniques used to evaluate business concepts with a specific focus on the development of a new social venture. *Corequisite:* BAEP 591 Duplicates Credit in BAEP 552 Instruction Mode: Lecture Grading Option: Letter

BAEP 567 Social Entrepreneurship: Design, Develop, and Deliver
Units: 3 Terms Offered: Sp Develop the analytical, conceptual, and practical skills required to design, develop, and deliver a new social business concept and opportunity. *Prerequisite:* BAEP 556 Registration Restriction: Open only to master students in Social Entrepreneurship Instruction Mode: Lecture Grading Option: Letter

BAEP 571 Social Innovation Design
Units: 3 Terms Offered: Fa Use innovative problem-solving approaches to design radically affordable solutions to challenges faced by under-resourced communities. Engage in early-stage market and rapid prototyping. Registration Restriction: Open only to master students in Social Entrepreneurship Instruction Mode: Lecture Grading Option: Letter

BAEP 575 Entrepreneurship in the Media and Entertainment Industry
Units: 1.5 Terms Offered: FaSp Introduction to the ever-evolving field of media and entertainment with a focus on entrepreneurial opportunities within the industry. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

BAEP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 591 Social Entrepreneurship
Units: 2, 3 Terms Offered: FaSp Lead and manage with entrepreneurial methodology for charities, non-government organizations, social oriented enterprises and not for profit organizations. Registration Restriction: Online registration open only to graduate business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

BAEP 592 Field Research in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12 Terms Offered: FaSpSm Individual or team projects studying the business practices of an entrepreneurial industry, company, government agency, country, etc. Proposal, data collection, analyses, and written report. (Recommended Preparation: completion of required MBA, MAcc, MBT, MKT, MSEI or MSSE course work) *Recommended Preparation:* Completion of required MBA, MAcc, MBT, MKT, MSEI or MSSE course work Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 593 Independent Research in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4, Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 595 Internship in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) Recommended preparation: completion of required MBA, MAcc, MBT, MKT, MSEI, or MSSE course work. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, MKT, MSEI, or MSSE course work. Registration Restriction: Application required. Open only to specified graduate accounting and business students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 596 Research Practicum in Business Entrepreneurship
Units: 0.5-2, Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a faculty member in the Lloyd Greif Center for Entrepreneurial Studies on an ongoing research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 597 Consulting Project in Business Entrepreneurship
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of entrepreneurship: topics to be selected each semester. Graded CR/NC. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

BAEP 599 Special Topics
Units: 1.5, 2, 2.5, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of entrepreneurship: topics to be selected each semester. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

Biochemistry

BIOC 501 Recent Advances in Biochemistry
Units: 2, 3, 4 Max Units: 16 Terms Offered: FaSpSm Lectures on areas of intermediary metabolism and the chemistry of natural products. *Prerequisite:* BISC 435 and CHEM 431 Instruction Mode: Lecture Grading Option: Letter

BIOC 502 Biochemistry Seminar
Units: 1 Max Units: 12.0 Terms Offered: FaSp Formal presentations and discussion by students of material from research literature. Instruction Mode: Lecture Grading Option: Letter

BIOC 504 Molecular Biology of Cancer
Units: 4 Terms Offered: Sp (Enroll in INTD 504)

BIOC 510 Introductory Molecular Biology
Units: 2 Terms Offered: Sp Principles of molecular biology with applications to the medical sciences. Nucleic acid structure, function, and analysis. *Recommended Preparation:* a course in biochemistry. Instruction Mode: Lecture Grading Option: Letter

BIOC 522 Applications of Physical Methods in Biochemistry
Units: 2 Terms Offered: FaSp Applications of physical analytical methods commonly utilized in research in biochemistry and molecular biology. *Concurrent Enrollment:* Concurrent enrollment: CHEM 521. (Langen) Instruction Mode: Lecture Grading Option: Letter

BIOC 531 Cell Biology
Units: 4 (Enroll in INTD 531)

BIOC 536 Molecular Biology of Cellular Communication in the Nervous System
Units: 2 Terms Offered: Sp Discussion of cellular communications in the nervous system through neurotransmitters and their receptors, neuromodulators; biochemical changes during development and the impact of human genomic research. *Recommended Preparation:* one year of general biochemistry or molecular biology. (Tokes) Instruction Mode: Lecture Grading Option: Letter

BIOC 542 Cellular and Molecular Basis of Animal Development
Units: 4 Terms Offered: Fa Processes of cell type specification, determination, and morphogenesis in metazoans from vertebrates to insects. Genetic, paragenetic and molecular biological approaches to developmental processes. *Prerequisite:* INTD 571. (Maxson) Instruction Mode: Lecture Grading Option: Letter

BIOC 543 Human Molecular Genetics
Units: 4 Terms Offered: Fa Comprehensive course covering basic principles of human genetics, genetic disease, the Human Genome Project, and gene therapy. *Recommended Preparation:* undergraduate genetics. (Allayee) Instruction Mode: Lecture Grading Option: Letter Crosslisted as PM-549

BIOC 549 Protein Chemistry – Structure and Function
Units: 4 Terms Offered: FaSpSm (Enroll in INTD 549)

BIOC 551 Procaryotic Molecular Genetics
Units: 4 Terms Offered: Fa (Enroll in MICB 551)

BIOC 555 Biochemical and Molecular Bases of Disease
Units: 4 (Enroll in INTD 555)

BIOC 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

BIOC 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

BIOC 573 Optimal Research Presentations by PhD Students
Units: 1 Max Units: 12 Terms Offered: FaSp Students will attend lectures by peers, and after their first year in the PhD program, prepare and present their own research to an audience of faculty and peers. Registration Restriction: Open only to Biochemistry and Molecular Medicine and Molecular Epidemiology majors Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 574 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

BIOC 575 Predictive and Prognostic Biomarkers in Cancer Treatment
Units: 2 Exploration of how appropriate biomarkers can predict response to cancer therapy, tumor recurrence after surgery, rapid detection of tumor response and overall prognosis. *Recommended Preparation:* INTD 571 and a basic understanding of molecular biology. Instruction Mode: Lecture Grading Option: Letter

BIOC 581 Toolbox for Biochemistry and Molecular Biology
Units: 4.0 Terms Offered: Fa Explores the principles and applications of traditional and state-of-the-art methods in molecular biology and biochemistry with live demonstrations of techniques when feasible. *Recommended Preparation:* Fundamental knowledge of DNA, RNA and protein *Concurrent Enrollment:* BIOC 571 Instruction Mode: Lecture Grading Option: Letter

BIOC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

BIOC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading

to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BIOC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BIOC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biological Sciences

BISC 101Lgx Cellular and Molecular Biology
Units: 4 Terms Offered: FaSp Cellular and molecular biology with examples related to human biology and diseases. Fundamental life processes examined at the genetic, cellular and molecular levels. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Credit Restriction: Not for major credit Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 102Lgx Humans and Their Environment
Units: 4 Terms Offered: FaSp An examination of the physical and biological laws that influence agriculture, pollution, population dynamics (including humans), climate, biodiversity and ecosystem structure and function. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 103Lgx General Biology for the Environment and Life
Units: 4 Study of common skills in biology, including basics of evolution, systematics, ecology, genetics, biochemistry and molecular biology, physiology, and anatomy. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Grading Option: Letter

BISC 104Lgx How the Body Works
Units: 4 Terms Offered: Fa Structure and function of the human body, including the role of organ systems, tissues, and cells in normal function. Malfunctions relating to disease, substance abuse and lifestyle. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 108L Special Laboratory I
Units: 1 Laboratory component for BISC 120 for entering freshmen or transfer students with advanced placement or equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 109L Special Laboratory II
Units: 1 Laboratory component for BISC 220 for entering freshmen or transfer students with advanced placement or equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 110g Good Genes, Bad Genes
Units: 4 Terms Offered: Sp Introduction to the scientific method; basic instruction in molecular biology with emphasis on how biological research advancement has impacted medicine, commerce and society in general. *Recommended Preparation:* High school biology Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 120Lg General Biology: Organismal Biology and Evolution
Units: 4 Terms Offered: Fa In-depth survey of key topics related to advances in our knowledge of the diversity of life and evolution; origin of life; eukaryotes/prokaryotes; ecology. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in BISC 112L, BISC 113L, and BISC 121L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 121Lg Advanced General Biology: Organismal Biology and Evolution
Units: 4 Terms Offered: Fa Equivalent to BISC 120 , but taught at a higher level for exceptionally well-prepared students. Admission to the course by departmental approval only. *Corequisite:* CHEM 115aLg. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in BISC 112L, BISC 113L, and BISC 120L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 140 Our Blue Planet in a Changing Climate
Units: 4 Terms Offered: Sp Introduction to biological oceanography and marine ecosystems. Impact of climate changes on marine ecosystems. Analysis of ocean-related case studies being discussed by mainstream media. Satisfies New General Education in D Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 150Lgx The Nature of Human Health and Disease
Units: 4 Terms Offered: FaSp The human organism; the nature of inherited and acquired diseases; the biological and societal basis for the AIDS epidemic; therapy, drug design and the future. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 180Lgx Evolution
Units: 4 Terms Offered: Sp Changes in the physical and biological universe over time; origins of life, dinosaurs, human evolution. Implications of evolutionary mechanisms and mass extinctions for human survival. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Credit Restriction: Not available for credit in any major. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 193 Freshman Colloquium I
Units: 1 Terms Offered: Fa A series of lectures and discussions at which faculty of the department introduce their research activities to students entering biology and related majors. *Corequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 194 Freshman Colloquium II
Units: 1 Terms Offered: Sp A series of lectures and discussions at which faculty of the department introduce their research activities to students entering biology and related majors. *Corequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 220Lg General Biology: Cell Biology and Physiology
Units: 4 Terms Offered: Sp In-depth survey of key topics related to advances in our knowledge of cellular biology and physiology; cell composition/metabolism; gene action; organism structure and function. *Recommended Preparation:* high school chemistry; BISC 120Lg or BISC 121Lg. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in BISC 110L, BISC 111L, and BISC 221L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 221Lg Advanced General Biology: Cell Biology and Physiology
Units: 4 Terms Offered: Sp Equivalent to 220L, but taught at a higher level for exceptionally well-prepared students. Admission to the course by departmental approval only. *Prerequisite:* BISC 120Lg or BISC 121Lg; *Corequisite:* CHEM 105bL or CHEM 115bL. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in BISC 110L, BISC 111L, and BISC 220L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 230Lgx The Biology of the Brain: Current Topics in Neuroscience
Units: 4 Terms Offered: Sp The structure and function of the mammalian brain including the role of the brain in regulating behavior, both in normal and diseased states; in relation to mind; and in comparison with machine forms of intelligence. Satisfies

New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Grading Option: Letter

BISC 290 Introduction to Biological Research
Units: 2 or 4 Max Units: 4.0 Terms Offered: FaSpSm Experience in basic techniques through supervised research in the research laboratory of a departmental faculty member. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; CHEM 105bL or CHEM 115bL; departmental approval. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 300L Introduction to Microbiology
Units: 4 Terms Offered: Sp Comparative approach to bacteria, Archaea and viruses; their structure, life cycles, geochemical activity, ecology and nutrition. Fundamentals of metabolism and microbial genetics. *Prerequisite:* BISC 320, CHEM 322aL or CHEM 325aL. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 305 Introduction to Statistics for Biologists
Units: 4 Terms Offered: Fa Statistical methods in biological science and medicine, including populations and samples, random sampling, confidence intervals, paired samples and regression. Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 307L General Physiology
Units: 4 Terms Offered: Sp Physiological functions of the circulatory, digestive, endocrine, integumentary, musculoskeletal, nervous, respiratory, and urogenital systems of animals. *Prerequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 312x Molecular Biochemistry
Units: 4 Terms Offered: FaSp Structure and function of biological macromolecules; major metabolic pathways including glycolysis and photosynthesis. DNA replication, repair, and recombination; gene expression, regulation and epigenetics. *Recommended Preparation:* BISC 220 or BISC 221 Instruction Mode: Lecture Grading Option: Letter

BISC 313L Evolution and Population Genetics
Units: 4 Terms Offered: Sp History of evolutionary thought; molecular basis for evolution; dynamics of genes in populations; speciation and macro evolution; patterns of evolution. *Prerequisite:* BISC 220Lg or BISC 221Lg; BISC 120Lg or BISC 121Lg; *Recommended Preparation:* BISC 320L, BISC 325, and familiarity with algebra, basic chemistry, and basic physics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 315L Introduction to Ecology
Units: 4 Terms Offered: Fa Organism-environment interactions; dynamics of populations, communities, and ecosystems; evolutionary forces. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 320L Molecular Biology
Units: 4 Terms Offered: Fa Structure and synthesis of nucleic acids and proteins; molecular biology of prokaryotes and eukaryotes; principles of genetics and cell biology. *Prerequisite:* CHEM 105bL or CHEM 115bL. Satisfies New General Education in D Life Sciences Duplicates Credit in BISC 311. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 321 Multidisciplinary Seminar: Science, Technology and Society
Units: 2 Terms Offered: Sp Builds upon a basic science background to provide students with an awareness of cutting edge scientific research, its technological applications and its societal ramifications. *Prerequisite:* (BISC 120Lg or BISC 121Lg or BISC 220Lg or BISC 221Lg) and (CHEM 105aLg or CHEM 115aLg) and (PHYS 135ag or PHYS 151Lg) Duplicates Credit in former MDA 321 Instruction Mode: Lecture Grading Option: Letter

BISC 325 Genetics
Units: 4 Terms Offered: Fa Transmission genetics and genotype/phenotype; mapping methods; complex traits; genetics of human disease and population genetics. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; BISC 320L; CHEM 322aL; *Corequisite:* CHEM 322bL or CHEM 325bL. Instruction Mode: Lecture Grading Option: Letter

BISC 330L Biochemistry
Units: 4 Terms Offered: FaSp Basic biochemical principles; classes of molecules - structure and function; cellular energetics. *Prerequisite:* CHEM 322aL Duplicates Credit in former BISC 316 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHEM 330

BISC 352 Conservation Biology
Units: 4 Terms Offered: Sp Principles of conservation science in marine and terrestrial ecosystems with emphasis on protecting biological diversity and balancing the needs of nature with those of humans. *Recommended Preparation:* Introductory course in biology such as BISC 103, BISC 120 or BISC 121, or AP Biology credit. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ENST-352

BISC 369L Ecology and the Natural History of California
Units: 4 Terms Offered: Sp Marine, freshwater, and terrestrial communities of California. Life histories, morphology, special evolutionary adaptations. Relationships between organisms and their biological-physical-chemical environment. Offered on Catalina. Emphasis on field biology. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 371L Molecular Approaches to the Diversity of Life
Units: 4 Patterns of evolutionary change investigating the molecular basis of heredity utilizing DNA data. History, principles and application of molecular systematics, and genetic variation. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* BISC 320L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BISC 403 Advanced Molecular Biology
Units: 4 Terms Offered: Fa Molecular mechanisms and control of DNA replication, DNA repair, recombination, gene expression, cell growth, and development in prokaryotic and eukaryotic organisms, from bacteria to humans. *Prerequisite:* BISC 320 *Recommended Preparation:* BISC 313 or BISC 325. Instruction Mode: Lecture Grading Option: Letter

BISC 405L General Embryology
Units: 4 Terms Offered: Fa Vertebrate and human development: cellular differentiation; germ cell development and growth; hormonal regulation of reproductive cycles; cleavage through neurulation and subsequent development of primary organs. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* two from BISC 313, BISC 320L, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 406L Biotechnology
Units: 4 Terms Offered: Fa Techniques in molecular biology and biochemistry applied to prokaryotic and eukaryotic model systems; applications of recombinant DNA and genomic technology. *Prerequisite:* BISC 320L; *Recommended Preparation:* BISC 313 or BISC 325. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 407 Cellular and Molecular Neuroscience
Units: 4 Terms Offered: FaSp An examination of individual nerve cell development, target location, and establishment of functional synapses; how dysfunction in these processes contributes to neurological and neuropsychiatric diseases. *Recommended Preparation:* BISC 421 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR 407

BISC 408 Systems Neuroscience: From Synapses to Perception
Units: 4 Terms Offered: Sp Sensory systems to illustrate basic concepts regarding the functional organization of the brain, from the microscopic arrangement of neural circuits to global processes such as perception. *Prerequisite:* BISC 421. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR-408

BISC 410 Applications of Molecular Biology to Medicine
Units: 4 Terms Offered: Sp Advances and trends in the understanding, diagnosis and

treatment of human diseases. *Prerequisite:* BISC 330L. Instruction Mode: Lecture Grading Option: Letter

BISC 411 Advanced Cell Biology
Units: 4 Terms Offered: FaSpSm The synthesis, transport and assembly of the complex structures that mediate eukaryotic cellular function. Electrical and biochemical mechanisms underlying intercellular communication. *Prerequisite:* BISC 220Lg or BISC 221Lg; BISC 320L. Instruction Mode: Lecture Grading Option: Letter

BISC 414 Biology of Cancer
Units: 4 Terms Offered: Sp Focus on the advances in molecular biology of cancer, from fundamental molecular signaling pathways to DNA repair to stem cell biology, through primary research literature reviews. *Prerequisite:* BISC 325. Instruction Mode: Lecture Grading Option: Letter

BISC 419L Environmental Microbiology
Units: 4 Terms Offered: FaSpSm Qualitative and quantitative appraisal of microbial activities in pure and contaminated environments; microbial community and its development; interspecific relationships; effects of microorganisms on their surroundings. *Prerequisite:* BISC 330L; *Recommended Preparation:* BISC 300L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 421 Neurobiology
Units: 4 Terms Offered: Fa Structure, function, and development of nervous systems; neural integration and mechanisms of behavior; organization and operation of brains. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as NEUR 421

BISC 422L Neurobiology Laboratory
Units: 2 Terms Offered: Sp Experimentation on excitable cells, synapses, and neural circuits; intracellular and extra cellular techniques for recording, stimulation, and identification of nerve and muscle cells. *Corequisite:* BISC 421. Instruction Mode: Lab Required Grading Option: Letter

BISC 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disorders
Units: 4 Terms Offered: Sp Examination of various neurological disorders originating from developmental signaling and/or anatomical abnormalities. *Prerequisite:* BISC 421 Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 423

BISC 424 Brain Architecture
Units: 4 Terms Offered: Sp How the parts of the brain are interconnected to form a complex biological computer, from historical, evolutionary, and developmental perspectives. *Prerequisite:* BISC 421 Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 424

BISC 425 Advanced Genetics through the Primary Scientific Literature
Units: 4 Terms Offered: Sp Literature-based seminar in current and classical topics in genetics. *Prerequisite:* BISC 325. Instruction Mode: Lecture Grading Option: Letter

BISC 426 Principles of Neural Development
Units: 4 Terms Offered: Sp Basic phenomena and principles of neural development, their relation to functional development of neural circuits, behavior, and disease. General concepts and experimental approaches are emphasized. *Prerequisite:* BISC 421. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR-426

BISC 427 The Global Environment
Units: 4 Terms Offered: FaSpSm Earth's development as a habitable planet, from origin to human impacts on global biogeochemical cycles in the ocean, land, atmosphere. Discussion of environmental alternatives. Open only to biological sciences, environmental sciences, and earth sciences majors. *Prerequisite:* BISC 120Lg or BISC 121Lg; CHEM 105bL or CHEM 115bL. Registration Restriction: Open only to Biological Sciences, Environmental Sciences, and Earth Sciences majors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-427, GEOL-427

BISC 428 The Biology of Tropical Diseases
Units: 4 Max Units: 8.0 Terms Offered: Sm Biological and biochemical approaches to the prevention and treatment of infectious and chronic tropical diseases. Course is offered off campus and summer only. Instruction Mode: Lecture Grading Option: Letter

BISC 431L Aquatic Microbiology
Units: 4 Terms Offered: FaSpSm Introduction to the habitat, phylogenetic, physiological and metabolic diversity of microbial life in aquatic environments. *Prerequisite:* BISC 220Lg or BISC 221Lg Duplicates Credit in BISC 419L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 434 Introduction to Genome Science
Units: 4 Terms Offered: Sp Characterization of the sequence, function and evolution of genomes; study of the molecular basis of phenotypes and the relationship between genomics and synthetic biology. *Recommended Preparation:* BISC 325 Instruction Mode: Lecture Grading Option: Letter

BISC 435 Advanced Biochemistry
Units: 4 Terms Offered: Sp Macro molecular structure and function; enzymology; metabolic regulation. *Prerequisite:* BISC 330L. Instruction Mode: Lecture Grading Option: Letter

BISC 437L Comparative Physiology of Animals
Units: 4 Terms Offered: Sp Control of the internal environment of animals in relation to their external environment. Thermal regulation, osmoregulation, excretion, and ion balance. Offered on Catalina. *Prerequisite:* BISC 120 or BISC 121; BISC 220 or BISC 221; *Recommended Preparation:* two from BISC 313, BISC 320L, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 438 Nutritional Biochemistry
Units: 4 Terms Offered: FaSpSm Digestion, absorption and assimilation of nutrients; metabolism of carbohydrates, proteins, fats; biochemistry of vitamins, minerals, trace elements; nutritional needs; medical aspects of nutrition. *Prerequisite:* BISC 330L Instruction Mode: Lecture Grading Option: Letter

BISC 440 Biodemography of Aging
Units: 4 (Enroll in GERO 440)

BISC 444 Practical Analysis of Biological Data in R
Units: 2 Terms Offered: FaSp Instruction in the open-source statistical program environment R to analyze biological data; manipulation of large datasets and customization of statistical tests using simulations. Instruction Mode: Lecture Grading Option: Letter

BISC 445L Fundamentals of Vertebrate Biology
Units: 4 Terms Offered: Sp Evolution and comparative anatomy of vertebrates. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* two from BISC 313, BISC 320L, BISC 325 and BISC 330L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 447L Island Biogeography and Field Ecology
Units: 4 Terms Offered: Sp Biogeography, geology, ecology, climate, flora, and fauna of terrestrial and marine environments of Catalina and the Channel Islands including laboratory and field techniques of ecology. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 450L Principles of Immunology
Units: 4 Terms Offered: Fa Immune processes, humoral and cellular; immunoglobulins; antibody formation; antigen-antibody interactions; immune dyscrasias; transplantation and tumor immunology; basic hematology and immuno-hematology. *Prerequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 455L Molecular Approaches to Microbial Diversity — Catalina Semester
Units: 4 Terms Offered: Fa Overview and practical application of genetic and immunological techniques for examining diversity and community structure of natural microbial assemblages in aquatic ecosystems. *Prerequisite:* BISC 320L; *Corequisite:* BISC 431L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 456L Conservation Genetics
Units: 4 Terms Offered: Sp Biological principles underlying conservation including ecology, evolution, genetics and biogeography. Covers both marine and terrestrial environment, with special emphasis on island biology. Catalina semester only. *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg; *Recommended Preparation:* BISC 320L; BISC 313 or BISC 325. Duplicates Credit in

BISC 373L. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENST-456

BISC 457L Methods in Marine Biology and Biological Oceanography
Units: 4 Terms Offered: Sp Introduction to standard methods used in oceanography and marine biology through a combination of lectures, laboratory exercises and field experiences. *Prerequisite:* BISC 103 or BISC 120 or BISC 121 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 460 Seminar in Marine and Environmental Biology
Units: 2 Max Units: 4.0 Terms Offered: FaSp Topical seminar in marine and environmental biology. Instruction Mode: Lecture Grading Option: Letter

BISC 461 Seminar in Molecular and Computational Biology
Units: 2 Terms Offered: FaSpSm Topical seminar in molecular and computational biology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GERO-461

BISC 462 Seminar in Neurobiology
Units: 2 Max Units: 04 Terms Offered: FaSp Topical seminar in neurobiology. Registration Restriction: Open only to juniors, seniors, master and doctoral students Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 462

BISC 469L Marine Biology
Units: 4 Terms Offered: Sp Oceanography and marine biology, sampling techniques, evolutionary adaptations, morphology, systematics. *Prerequisite:* BISC 103 or BISC 120 or BISC 121 Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 473L Biological Oceanography
Units: 4 Terms Offered: Fa Biological, physical, chemical dynamics and analysis of the ocean; primary production of phytoplankton, secondary production by zooplankton, bacterial remineralization; physiology, ecology of fishes, marine mammals. *Prerequisite:* BISC 103 or BISC 120 or BISC 121Lg Registration Restriction: Junior, Senior, or with permission from the instructor Instruction Mode: Lecture, Lab Grading Option: Letter

BISC 474L Ecosystem Function and Earth Systems
Units: 4 Terms Offered: Fa General principles of ecosystem function, energy flow and materials cycling in marine systems at various scales and the importance of microbial processes in these systems. Taught on Catalina Island. *Prerequisite:* BISC 120Lg or BISC 121Lg. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as GEOL-474

BISC 478 Computational Genome Analysis
Units: 4 Terms Offered: Sp Introduction to and applications of algorithms and statistics to genome analysis. Analysis of physical and genetic maps, DNA sequencing, sequence comparisons, DNA chips. Instruction Mode: Lecture Grading Option: Letter

BISC 480 Developmental Biology
Units: 4 Terms Offered: FaSp Basic mechanisms of animal development are considered at different levels of analysis. Emphasis is on molecular, genetic, and cellular processes underlying vertebrate and invertebrate development. General concepts and evolutionary mechanisms are emphasized. *Prerequisite:* BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture Grading Option: Letter

BISC 481 Structural Bioinformatics: From Atoms to Cells
Units: 4 Terms Offered: Fa Introduction to computational and experimental methods for structural bioinformatics. Analysis of macro molecules and their complexes. Instruction Mode: Lecture Grading Option: Letter

BISC 483 Geobiology and Astrobiology
Units: 4 Terms Offered: Sp Relationships between microbiota and the earth environment including the hydrosphere, lithosphere and atmosphere, with consideration of the potential for life on other planets. *Prerequisite:* BISC 120Lg, CHEM 105bL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL-483

BISC 485 Advanced Seminar in Bacterial Survival and Evolution
Units: 4 Terms Offered: Sp Literature-based seminar in current topics in microbial evolution and adaptation. *Prerequisite:* BISC 120 or BISC 121, BISC 220 or BISC 221, BISC 320, CHEM 322a or CHEM 325a. Instruction Mode: Lecture Grading Option: Letter

BISC 486 Regenerative Medicine: Principles, Paradigms and Practice
Units: 4 Terms Offered: Fa Examination of molecular and cellular processes that generate, maintain and repair body systems. Special emphasis on stem cell biology with clinical applications to regenerative medicine. *Prerequisite:* (BISC 220Lg or BISC 221Lg) or BISC 320L Instruction Mode: Lecture Grading Option: Letter

BISC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

BISC 493x Honors Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp *Prerequisite:* BISC 120Lg or BISC 121Lg; BISC 220Lg or BISC 221Lg. Instruction Mode: Lecture Grading Option: Letter

BISC 494x Honors Thesis
Units: 2 Terms Offered: FaSp *Prerequisite:* BISC 493. Instruction Mode: Lecture Grading Option: Letter

BISC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Lecture and discussion in specialized areas of the biological sciences. Students cannot register more than twice for this course. *Recommended Preparation:* BISC 220Lg or BISC 221Lg, BISC 320L, BISC 325 and BISC 330L. Instruction Mode: Lecture Grading Option: Letter

BISC 502a Molecular Genetics and Biochemistry
Units: 4 Terms Offered: FaSp Current genetic and biochemical analysis of replication, recombination, mutagenesis, and repair. Fundamentals of transcription and regulation of gene expression. Recent applications of genetic engineering and genome analysis. Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 502b Molecular Genetics and Biochemistry
Units: 4 Terms Offered: FaSp Current genetic and biochemical analysis of replication, recombination, mutagenesis, and repair. Fundamentals of transcription and regulation of gene expression. Recent applications of genetic engineering and genome analysis. Instruction Mode: Lecture, Discussion Grading Option: Letter

BISC 504L Laboratory Techniques in Cellular and Molecular Biology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Rotation of graduate students through Molecular Biology research laboratories to learn the major technological skills required in the field. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BISC 505 Genomics and Molecular Genetics
Units: 4 Terms Offered: Sp Molecular genetics (mutagenesis, repair, recombination, and gene regulation) from quantitative and mechanistic approaches. Simple and complex genome analysis using recombinant DNA, physical, and computational techniques. *Recommended Preparation:* BISC 502b. Instruction Mode: Lecture Grading Option: Letter

BISC 511 Integrative Biology
Units: 4 Terms Offered: Fa Current topics in integrative biology including form, function and energy use throughout the lifespan in the context of genetics, natural selection and ecology. Duplicates Credit in the former BISC 510a. Instruction Mode: Lecture Grading Option: Letter

BISC 512 Evolutionary Biology
Units: 4 Terms Offered: Sp Survey of current topics in evolutionary biology; genetics, natural selection, ecology; emphasis on higher order complex questions of lifespan, form, function, and energy use. Duplicates Credit in the former BISC 510b. Instruction Mode: Lecture Grading Option: Letter

BISC 515 Evolution and Human Biology
Units: 4 Terms Offered: Fa Topics in evolution and human biology with emphasis on life span, form, function and energy use in the context of genetics, natural selection and ecology. Instruction Mode: Lecture Grading Option: Letter

BISC 519 Recent Advances in Neurobiology and Endocrinology of Aging
Units: 2, 4 (Enroll in GERO 519)

BISC 520 Recent Advances in Neurobiology
Units: 2 or 4 Max Units: 12.0 Terms Offered: Fa Lectures on selected topics in neurobiology. Registration restricted to three semesters. *Prerequisite:* graduate status in departmental program or departmental approval. Instruction Mode: Lecture Grading

Option: Letter

BISC 521 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp A basic grounding in broad aspects of the neuroscience of hearing and vocal communication. *Prerequisite:* BISC 421 and NSCI 524 Instruction Mode: Lecture Grading Option: Letter Crosslisted as NSCI 521

BISC 522 Nonlinear Dynamical Systems, Vibrations, and Chaos
Units: 3 Terms Offered: Sp (Enroll in AME 520)

BISC 529 Seminar in Marine Biology
Units: 1 Max Units: 4.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 530 Advanced Seminar in Plankton Biology
Units: 2 Terms Offered: FaSp An overview of phytoplankton and zooplankton taxa, their morphologies and life histories using material collected from the local environment off LA and near the Phillip K. Wrigley Marine Science Center on Catalina Island. Instruction Mode: Lecture Grading Option: Letter

BISC 531 Advanced Seminar on the Physiology of Marine Organisms
Units: 2 Terms Offered: FaSp Physiological processes dictate survival potential, growth rates, and many other biological processes that affect the distribution of species in the oceans. Emphasis on the diverse environmental factors that influence physiological adaptations of marine organisms. Examples from a wide variety of marine organisms, from bacterial to animals, will be studied. Instruction Mode: Lecture Grading Option: Letter

BISC 532 Advanced Seminar in Molecular and Microbial Ecology
Units: 2 Terms Offered: FaSp Microorganisms dominate biological processes in the ocean. These species pose significant problems for estimating species diversity, abundance and activity. Examination of modern molecular biological approaches for analyzing aquatic microbial communities and their ecological roles. Instruction Mode: Lecture Grading Option: Letter

BISC 533 Advanced Seminar in Remote Sensing and Modeling
Units: 2 Modern oceanographic methods for making remote measurements of aquatic and terrestrial ecosystems using satellite imagery and other means. Integrating these data into models that describe ecosystem structure and enable interpretation of ecosystem function. Instruction Mode: Lecture Grading Option: Letter

BISC 534 Advanced Seminar in Population Genetics of Marine Organisms
Units: 2 An overview of the theory underlying population and quantitative genetics, with applications to marine systems. Basic evolutionary mechanisms (mutation, migration, drift, selection, nonrandom mating) and modern evidence for their roles in structuring genetic variation within and among marine populations. Instruction Mode: Lecture Grading Option: Letter

BISC 535 Seminar in Physiology
Units: 2 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

BISC 536 Advanced Seminar in Marine Biogeochemistry
Units: 2 Examination of the interplay between ocean biology and the cycling of carbon, nitrogen and other elements on a local, regional and global scale. Instruction Mode: Lecture Grading Option: Letter

BISC 537 Seminar in Cellular and Molecular Biology
Units: 2 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

BISC 538 Metals and Biology in Oceanic Regimes
Units: 2 Terms Offered: Sp Relationships between metals in reducing regimes and microbes that utilize them for metalloenzymes. Focus on biological availability of micronutrient and processes like chemoautotrophy or biomineralization. Instruction Mode: Lecture Grading Option: Letter

BISC 542 Seminar in Molecular Biology
Units: 1 Max Units: 6.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 543 Human Molecular Genetics
Units: 4 (Enroll in BIOC 543)

BISC 544 Advanced Reading in Molecular Biology
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Advanced training for molecular biology graduate students in reading primary journal articles. Emphasis on critical analyses of primary scientific literature. master and doctoral students in computational molecular biology, molecular biology, computational biology and bioinformatics majors. Registration Restriction: Open only to master's and doctoral students in Computational Molecular Biology, Molecular Biology, Computational Biology, and Bioinformatics majors. Instruction Mode: Lecture Grading Option: Letter

BISC 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp Statistical analyses of data sets, development of modeling frameworks, numerical models of varying complexity, and techniques for analyzing model results. *Recommended Preparation:* Suggested reading MATLAB Primer (Timothy Davis) Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL 545, OS 545

BISC 549 Seminar in Integrative and Evolutionary Biology
Units: 2 Max Units: 6.0 Terms Offered: FaSp Current topics in integrative and evolutionary biology. Instruction Mode: Lecture Grading Option: Letter

BISC 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

BISC 574 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

BISC 576 Practical Statistics and Bioinformatics
Units: 2 Terms Offered: Fa Practical experience in statistics and bioinformatics methods, software packages applicable to molecular biology, genomics analysis, and structural bioinformatics and their underlying principles. Instruction Mode: Lecture Grading Option: Letter

BISC 577a Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Sp Practical experience in computational molecular biology applications. Mathematical and statistical software packages relevant to genomic analysis. Retrieval and analysis of genomic data from databases. *Recommended Preparation:* higher level programming language. Duplicates Credit in former MATH 577ab. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MATH-577A

BISC 577b Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Fa Practical experience in computational molecular biology applications. Mathematical and statistical software packages relevant to genomic analysis. Retrieval and analysis of genomic data from databases. *Recommended Preparation:* higher level programming language. Duplicates Credit in former MATH 577ab. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MATH-577B

BISC 581L Current Problems in Marine Sciences
Units: 4 Max Units: 16.0 Terms Offered: Irregular In-depth studies on selected problems of current interest in the marine sciences. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BISC 582 Advanced Biological Oceanography
Units: 4 Terms Offered: Fa Aspects of physics and chemistry of the oceans. Qualitative and quantitative considerations of the ecology of pelagic and benthic communities. Instruction Mode: Lecture Grading Option: Letter Crosslisted as OS-582

BISC 583 Evolution and Adaptation of Marine Organisms
Units: 4 Terms Offered: Sp Fundamentals of evolutionary patterns and processes in the marine environment, with emphasis on rates of adaptation to a changing ocean. Instruction Mode: Lecture Grading Option: Letter

BISC 584 Faculty Lecture Series
Units: 2 Terms Offered: Sp Multi- instructor course designed to introduce students to the breadth and depth of faculty interests within the Marine Environmental Biology section of Biological Sciences and the Natural History

Museum. Instruction Mode: Lecture Grading Option: Letter

BISC 585 Scientific Writing and Reviewing
Units: 2 Terms Offered: Sp Hands-on experience writing and reviewing scientific literature. The review process and participation in writing and reviewing their own proposals. Instruction Mode: Lecture Grading Option: Letter

BISC 586 Biological Oceanographic Instrumentation
Units: 2 Terms Offered: Sp Survey of analytical principles, theory and application behind commonly used methodologies in biological oceanography. Instruction Mode: Lecture Grading Option: Letter

BISC 587 Communicating Ocean Science
Units: 4 Terms Offered: Sp Multi-instructor, interdisciplinary course focused on student awareness and improvement of cognitive processes used in research development, and communication of ocean literacy in the public sector. *Recommended Preparation:* Graduate level understanding of oceanographic principles. Instruction Mode: Lecture Grading Option: Letter

BISC 588L Quantitative Analysis for Biological and Earth Sciences
Units: 4 Terms Offered: Sp Basics of biometrics, biodiversity, quantitative methods in ecology, environmental impact assessments and other topics in quantitative analysis. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as GEOL-588

BISC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 593 Practicum in Teaching the Biological Sciences
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Instruction Mode: Lecture Grading Option: Letter

BISC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BISC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BISC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biokinesiology

BKN 504 Neuromuscular Systems
Units: 3 Terms Offered: Fa (Enroll in BME 504)

BKN 550 Neurobehavioral Basis of Movement
Units: 4 Terms Offered: Sp Introduction to the neurobehavioral and neurobiological basis of movement. Review of information processing, neural basis of perception/action, motor systems, and higher cognitive function and behavior. *Recommended Preparation:* biology and physiology. Instruction Mode: Lecture Grading Option: Letter

BKN 551 Musculoskeletal and Biomechanical Basis of Movement
Units: 4 Terms Offered: Fa Introduction to the mechanical properties of the musculoskeletal system. Review of connective tissue and muscle mechanics, arthrology, anatomical design and statics. Laboratory dissections illustrate biomechanical concepts. Instruction Mode: Lecture Grading Option: Letter

BKN 552 Physiological Basis of Voluntary Movement
Units: 4 Terms Offered: Sp Consideration of the neuromuscular and musculoskeletal physiology of voluntary movement. Instruction Mode: Lecture Grading Option: Letter

BKN 553 Experimental Methods for the Analysis of Human Movement
Units: 4 Terms Offered: Fa Introduces students to the techniques and hardware used to record movement, measure movement-related variables, and analyze those variables to address hypotheses. Instruction Mode: Lecture Grading Option: Letter

BKN 557L Functional Neuroanatomy with Lab Dissection
Units: 3 Terms Offered: FaSpSm Comprehensive survey of regional neuroanatomy covered in lecture and laboratory format with dissection. In-depth consideration is given to neuroanatomical basis of sensory and motor function. Topics include neuroanatomical basis of cellular function, somatosensation, special senses, movement and distributed motor control, and homeostasis regulation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 559 Readings in Biokinesiology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Independent review and synthesis of papers appearing in the current literature. Instruction Mode: Lecture Grading Option: Letter

BKN 563 Biomechanics
Units: 2, 2 years Terms Offered: Sp Advanced study of the kinematics of human motion. Emphasis on the inverse dynamics solution to qualify forces and moments of force. Instruction Mode: Lecture Grading Option: Letter

BKN 566 Neurobiology of Locomotion
Units: 2 Topics include developmental biology of embryonic motility, central pattern generators, descending neural regulation, sensory modulation, and perception/action influences on the motor control of locomotion. *Prerequisite:* BISC 524, BISC 525; *Recommended Preparation:* BKN 550. Instruction Mode: Lecture Grading Option: Letter

BKN 567 Advanced Topics in Biomechanics
Units: 2 Terms Offered: Sp Advanced examination of motion-analysis techniques, applications and data interpretation. Magnetic tracking techniques, upper-extremity kinematics, energy/work/impulse concepts, intersegmental dynamics, and EMG muscle modeling are examined. *Prerequisite:* BKN 563. Instruction Mode: Lecture Grading Option: Letter

BKN 573a Advanced Dissection Anatomy
Units: 2 Terms Offered: FaSpSm Advanced analysis of systems or structures with dissection. Emphasis on correlations with function. Instruction Mode: Lecture Grading Option: Letter

BKN 573b Advanced Dissection Anatomy
Units: 2 Terms Offered: FaSpSm Advanced analysis of systems or structures with dissection. Emphasis on correlations with function. Instruction Mode: Lecture Grading Option: Letter

BKN 575 Principles of Musculoskeletal Imaging
Units: 2 Terms Offered: Sm Basic principles of musculoskeletal imaging as it relates to biomechanics research. Topics include MRI physics, variable imaging parameters and selection of pulse sequences. Instruction Mode: Lecture Grading Option: Letter

BKN 578 Classic Readings in Biokinesiology
Units: 2 A seminar course in which students read and discuss classic scientific papers that have shaped the development of the movement sciences over the past 150 years. Instruction Mode: Lecture Grading Option: Letter

BKN 585 Systematic Research Writing
Units: 3 Terms Offered: Sm Development of analytical journal reading skills and proficiency in scientific writing. Lecture and tutorial format. Instruction Mode: Lecture Grading Option: Letter

BKN 587a Physiological Correlates of

Therapeutic Exercise
Units: 4 Terms Offered: FaSp Responses of the physically handicapped to exercise. Emphasis on muscle, energy metabolism, body temperature, environment, endocrine considerations. Strengthening, training, endurance, and evaluation of performance. Instruction Mode: Lecture Grading Option: Letter

BKN 587b Physiological Correlates of Therapeutic Exercise
Units: 4 Terms Offered: FaSp Responses of the physically handicapped to exercise, with emphasis on cardiovascular and respiratory adaptations and pathology. Instruction Mode: Lecture Grading Option: Letter

BKN 588 Physiology and Biomechanics of Resistance Exercise
Units: 2 Terms Offered: Sp Science of resistance-exercise prescription, adaptation, and outcome assessment. Topics include periodization, neuromuscular and connectivetissue adaptation, special populations, and biomechanical considerations. Instruction Mode: Lecture Grading Option: Letter

BKN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 593 Behavioral Basis of Motor Control and Learning
Units: 3 Terms Offered: Fa Seminar in movement science dealing with the behavioral basis of motor control and learning from an information processing perspective. *Recommended Preparation:* statistics; psychology. Instruction Mode: Lecture Grading Option: Letter

BKN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Studies of scientific theory in physical therapy. Instruction Mode: Lecture Grading Option: Letter

BKN 615 Principles of Skeletal Adaptation
Units: 4, 2 years Terms Offered: Sm Introduction to the integrative physiology of skeletal adaptation to mechanical loading. Emphasis on mechanical and chemical regulation of bone mass. Instruction Mode: Lecture Grading Option: Letter

BKN 617 Modeling the Motor System: An Introduction
Units: 2, 2 years Terms Offered: Sp Introduction of basic principles and models of the primate motor system. Emphasis on arm control. Instruction Mode: Lecture Grading Option: Letter

BKN 618L Modeling the Motor System: Laboratory
Units: 1, 2 years Terms Offered: Sp Introduction of computer programming and implementation of computational models in a laboratory setting. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BKN 621 Electromyography in Research and Practice
Units: 3, 2 years Terms Offered: Fa Physiology and electrophysiology of muscular contraction, how it is collected, quantified and processed. Uses of electromyographic information for research and clinical assessments. *Recommended Preparation:* human anatomy, skeletal muscle physiology. Instruction Mode: Lecture Grading Option: Letter

BKN 623 Neuroplasticity and Neural Repair
Units: 3, 2 years Terms Offered: Fa Integration of basic research on neuroplasticity and clinical research on central nervous system reorganization after brain injury. Implication for neurorecovery and rehabilitation. Instruction Mode: Lecture Grading Option: Letter

BKN 672 Advanced Independent Study in Biokinesiology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Examination of selected mechanisms underlying normal movement and pathological movement. Instruction Mode: Lecture Grading Option: Letter

BKN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BKN 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BKN 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Biomedical Engineering

BME 101 Introduction to Biomedical Engineering
Units: 4 Terms Offered: Fa Historical development and survey of major areas comprising biomedical engineering: theoretical neurobiology and systems physiology, biomedical instrumentation, artificial organ and prosthetic devices, biomedical computer applications. Instruction Mode: Lecture, Lab Grading Option: Letter

BME 201 Biomedical Engineering Practice
Units: 2 Terms Offered: Fa Examination of the technical and practical challenges involved in the development of medical devices, including neural implants, in industry and the clinical setting. *Recommended Preparation:* BME 101. Instruction Mode: Lecture Grading Option: Letter

BME 210 Biomedical Computer Simulation Methods
Units: 4 Terms Offered: Sp Computational methods for simulation of circulatory, respiratory, pharmacokinetic, and neural models. Quadrature, differential equations, systems of linear equations, simulation languages, experimental statistics. *Recommended Preparation:* BME 101 *Corequisite:* MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 302L Medical Electronics
Units: 4 Terms Offered: Sp Electronic design and measurements for medical applications. Use of integrated circuits, biopotential measurements, static and dynamic calibration of physiological transducers. *Prerequisite:* EE 202L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 (Enroll in ITP 308)

BME 350 Biomedical Engineering Industrial Project
Units: 3 Terms Offered: Sp Training in specific skills relevant to biomedical industry. Placement in summer internship following successful completion of the course. Junior standing. *Prerequisite:* BME 210. Instruction Mode: Lecture Grading Option: Letter

BME 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BME 402 Control and Communication in the Nervous System
Units: 4 Terms Offered: Sp An introduction to the structural and functional elements common to nervous systems, with emphasis on cellular dynamics, interneuronal communication, sensory and effector systems. *Prerequisite:* (BME 210 and MATH 245) and (BISC 110g or BISC 220Lg) Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 403L Physiological Systems

Units: 4 Terms Offered: Fa A thorough bioengineering treatment of the physiological properties of various mammalian organ systems: e.g., cardiovascular, respiratory, renal, and musculoskeletal. *Prerequisite:* BISC 220Lg and MATH 245 *Corequisite:* EE 202L Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 404 Biomechanics
Units: 3 Terms Offered: Fa Mechanical properties of biological tissues and fluid transport in physiological systems: blood rheology; bioviscoelastic solids and fluids; gas flow and mixing; prosthesis design. *Prerequisite:* PHYS 151Lg; MATH 245; AME 201. Instruction Mode: Lecture Grading Option: Letter

BME 405L Senior Projects: Measurements and Instrumentation
Units: 4 Terms Offered: FaSp Application of instrumentation and measurement techniques to biomedical engineering projects involving measurement, replacement or augmentation of biomedical systems. *Prerequisite:* BME 210, EE 202L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 410 Introduction to Biomaterials and Tissue Engineering
Units: 3 Terms Offered: Fa Application of principles of physical chemistry, biochemistry, and materials engineering to biomedical problems, e.g., materials selection and design for implants and tissue replacement. *Prerequisite:* CHEM 322aL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-410

BME 412 Craniofacial and Dental Technology
Units: 4 (Enroll in DENT 412)

BME 413 Bioengineering Signals and Systems
Units: 4 Terms Offered: Fa Introduction to concepts relating to linear signals and systems theory, time and frequency domain analysis, and application of these concepts to problems in Biomedical Engineering. *Prerequisite:* PHYS 152 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 414 Rehabilitation Engineering
Units: 3 Terms Offered: Sp An introduction to rehabilitation technology: limb and spinal orthoses; limb prostheses; functional electrical stimulation; sensory aids. *Recommended Preparation:* AME 201. Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 416 Development and Regulation of Medical Products
Units: 3 Terms Offered: Sp An introduction to the process of medical product development with emphasis on the regulations that govern the design, fabrication, and maintenance of medical products. Instruction Mode: Lecture Grading Option: Letter

BME 423 Statistical Methods in Biomedical Engineering
Units: 4 Terms Offered: Fa Applications of parametric and nonparametric tests, analysis of variance, linear regression, time-series analysis, and autoregressive modeling, with biomedical applications to statistical analysis of biomedical data. *Prerequisite:* MATH 245 Instruction Mode: Lecture, Discussion Grading Option: Letter

BME 425 Basics of Biomedical Imaging
Units: 3 Terms Offered: Fa Engineering, clinical applications and modern physics concepts underlying X-ray imaging, Computed Tomography (CT), nuclear medicine, positron emission tomography, Magnetic Resonance Imaging (MRI), ultrasound imaging. *Prerequisite:* PHYS 152L. Instruction Mode: Lecture Grading Option: Letter

BME 430 Principles and Applications of Systems Biology
Units: 3 Terms Offered: Fa Computational methods for simulation and analysis of metabolic networks, cellular signaling pathways, and gene regulatory networks. Biochemical kinetics, differential equations, stability analysis, sensitivity analysis. *Prerequisite:* MATH 245 and (BME 210 or CHE 205) *Recommended Preparation:* BISC 220Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE 430

BME 451 Fundamentals of Biomedical Microdevices
Units: 3 Terms Offered: Fa Introduction to biomedical microdevices with emphasis on microtechnologies and biomedical microelectromechanical systems (bioMEMS). Principles for measurement of small-scale biological phenomena and clinical applications. *Prerequisite:* EE 202L; *Recommended Preparation:* basic biology and electronics. Instruction Mode: Lecture Grading Option: Letter

BME 452 Introduction to Biomimetic Neural Engineering
Units: 3 Terms Offered: Fa Engineering principles, biology, technological challenges and state-of-the-art developments in the design of implantable biomimetic microelectronic devices that interface with the nervous system. *Prerequisite:* EE 202; *Recommended Preparation:* basic biology and electronics. Instruction Mode: Lecture Grading Option: Letter

BME 453 Engineering Biomedical Innovations
Units: 3 Terms Offered: Sp Engineering principles in design, modeling, and analysis of biomedical innovations will be presented to develop creative solutions for real-world medical problems or treatment implementation. *Recommended Preparation:* BME 416. *Corequisite:* BME 405L; Instruction Mode: Lecture Grading Option: Letter

BME 459 Introduction to Nanomedicine and Drug Delivery
Units: 3 Terms Offered: Sp Introduction to drug delivery and biomedical applications of nanoengineered materials, including nanotechnology-based drug delivery, imaging, and tissue engineering approaches. Nanotoxicology and regulatory landscape is included. *Prerequisite:* CHEM 322a *Recommended Preparation:* BISC 220 Instruction Mode: Lecture Grading Option: Letter

BME 489 Biochemical Engineering
Units: 3 Terms Offered: Sp (Enroll in CHE 489)

BME 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

BME 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current trends and developments in the field of biomedical engineering. Instruction Mode: Lecture Grading Option: Letter

BME 501 Advanced Topics in Biomedical Systems
Units: 4 Terms Offered: FaSp Advanced topics in selected biomedical systems: cardiopulmonary, neuromuscular, renal and endocrine. Instruction Mode: Lecture Grading Option: Letter

BME 502 Advanced Studies of the Nervous System
Units: 4 Terms Offered: Fa Advanced topics on the structure and function of the nervous system examined from the viewpoint of computational systems science. Instruction Mode: Lecture Grading Option: Letter

BME 504 Neuromuscular Systems
Units: 3 Terms Offered: Fa Introduces the fundamentals of mathematical, Newtonian, and robotic analysis applicable to multi-muscle biomechanical systems. Combines physiology with numerical simulations to understand and predict motor function. *Recommended Preparation:* Matlab programming, fundamentals of mechanics, linear algebra. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BKN-504

BME 505aL Laboratory Projects in Biomedical Engineering
Units: 4 Terms Offered: FaSpSm Integration of biomedical science, engineering principles and state-of-the-art technology for the study of selected physiological systems in the laboratory setting. Laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BME 505bL Laboratory Projects in Biomedical Engineering
Units: 4 Terms Offered: FaSpSm Integration of biomedical science, engineering principles and state-of-the-art technology for the study of selected physiological systems in the laboratory setting. Laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

BME 510 Cellular Systems Engineering
Units: 3 Terms Offered: Fa Introduction to the materials, tools, and techniques used to engineer functional biological tissues. Topics include stem cells, biomaterials, microfabrication, regenerative medicine, and Organs on Chips. *Recommended Preparation:* BISC 220L or equivalent; BISC 320L or equivalent; CHEM 322aL and CHEM 322bL or equivalent Instruction Mode: Lecture Grading Option: Letter

BME 511 Physiological Control Systems

Units: 3 Terms Offered: Fa Application of control theory to physiological systems; static analysis of closed-loop systems; time-domain analysis of linear control identification methods; nonlinear control. *Recommended Preparation:* BME 513. Instruction Mode: Lecture Grading Option: Letter

BME 513 Signal and Systems Analysis
Units: 3 Terms Offered: Fa Classification; representation; statistical analysis; orthogonal expansions; least-squares estimation; harmonic analysis; Fourier, Laplace, and Z transforms; the linear system; filtering; modeling and simulation; linear control theory. Instruction Mode: Lecture Grading Option: Letter

BME 520 Modeling of Bio-Systems
Units: 3 Terms Offered: Sp (Enroll in AME 520)

BME 523 Measurement and Processing of Biological Signals
Units: 3 Terms Offered: Sp Acquisition, analysis, and display of biological data using digital computers; laboratory applications of digital signal processing and real time analysis. *Prerequisite:* BME 513. Instruction Mode: Lecture Grading Option: Letter

BME 525 Advanced Biomedical Imaging
Units: 3 Terms Offered: Sp Advanced scientific and engineering principles of biomedical imaging including magnetic resonance, X-ray computed tomography, ultrasound, and single photon and positron emission tomography. *Prerequisite:* BME 513 or EE 483. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-523

BME 527 Integration of Medical Imaging Systems
Units: 3 Medical imaging quality, compression, data standards, workflow analysis and protocols, broadband networks, image security, fault tolerance, picture archive communication system (PACS), image database and backup. Instruction Mode: Lecture Grading Option: Letter Crosslisted as INF 562

BME 528 Medical Diagnostics, Therapeutics and Informatics Applications
Units: 3 Terms Offered: Sp Picture archive communication system (PACS) design and implementation; clinical PACS-based imaging informatics; telemedicine/teleradiology; image content indexing, image data mining; grid computing in large-scale imaging informatics; image-assisted diagnosis, surgery and therapy. Instruction Mode: Lecture Grading Option: Letter Crosslisted as INF 563

BME 530 Introduction to Systems Biology
Units: 3 Terms Offered: Sp Computational methods for simulation and analysis of metabolic networks, cellular signaling pathways, and gene regulatory networks. Biochemical kinetics, differential equations, stability analysis, sensitivity analysis. Instruction Mode: Lecture Grading Option: Letter

BME 533 Seminar in Bioengineering
Units: 1 Max Units: 3.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 535 Ultrasonic Imaging
Units: 3 Terms Offered: Sp All aspects of ultrasonic imaging including ultrasound and tissue interaction, ultrasonic transducers, instrumentation, imaging methods, clinical applications, bioeffects, safety, and recent developments in the field. Instruction Mode: Lecture Grading Option: Letter

BME 536 Ultrasonic Transducers
Units: 3 Terms Offered: Fa Background and foundation covering the design, fabrication and testing of ultrasonic transducers and arrays. Design approaches, modeling tools will be discussed. Design project assigned. Instruction Mode: Lecture Grading Option: Letter

BME 551 Introduction to Bio-MEMS and Nanotechnology
Units: 3 Terms Offered: Sp Principles and biomedical applications of micro-electromechanical systems (MEMS) and nanotechnology, including microfluidics, nanowire sensors, nanomotors, quantum dots, biofuel cells and molecular imaging. *Recommended Preparation:* Basic biology and electronics. Instruction Mode: Lecture Grading Option: Letter

BME 552 Neural Implant Engineering
Units: 3 Terms Offered: Sp Advanced studies of the basic neuroscience, engineering design requirements and technological issues associated with implantable neural prostheses, with particular emphasis on retinal and cortical function. Instruction Mode: Lecture Grading Option: Letter

BME 566a Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Fa Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. Registration Restriction: Open only to Health, Technology and Engineering majors. Instruction Mode: Lecture Grading Option: Letter

BME 566b Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Sp Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. Registration Restriction: Open only to Health, Technology and Engineering majors. Instruction Mode: Lecture Grading Option: Letter

BME 566c Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Fa Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. *Concurrent Enrollment:* Concurrent enrollment: BME 567a. Instruction Mode: Lecture Grading Option: Letter

BME 566d Topics in Health, Technology and Engineering
Units: 2 Terms Offered: Sp Interdisciplinary approach to impart the skills, knowledge and familiarity with stages of collaborative projects related to medical device and methods innovation in health care settings. *Concurrent Enrollment:* Concurrent enrollment: BME 567b. Instruction Mode: Lecture Grading Option: Letter

BME 567a Case Studies in Health, Technology and Engineering
Units: 1 Terms Offered: Fa Learning from cases illustrating paths from health care problems to solutions. Faculty, students and invited guests will provide examples of both successful and unsuccessful innovation attempts. *Concurrent Enrollment:* a: Concurrent enrollment: BME 566c. b: Concurrent enrollment: BME 566d. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Letter

BME 567b Case Studies in Health, Technology and Engineering
Units: 1 Terms Offered: Sp Learning from cases illustrating paths from health care problems to solutions. Faculty, students and invited guests will provide examples of both successful and unsuccessful innovation attempts. *Concurrent Enrollment:* a: Concurrent enrollment: BME 566c. b: Concurrent enrollment: BME 566d. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Letter

BME 575L Computational Neuroengineering
Units: 3 Terms Offered: Sp Introduction to computational modeling in neuroengineering, anchored in examples of brain function. Topics include transduction, synapses, spiking, networks, normalization, learning, Bayesian models, and Kalman filtering. *Prerequisite:* BME 502. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as NEUR-534

BME 582 CMOS:Nano Neuromorphic Circuits
Units: 4 (Enroll in EE 582)

BME 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Current trends and developments in the field of biomedical engineering. Instruction Mode: Lecture Grading Option: Letter

BME 620L Applied Electrophysiology
Units: 4 Terms Offered: Fa The theoretical basis and applied design principles for medical devices and instrumentation that interact with electrically excitable tissues of the body. *Prerequisite:* BME 502. Instruction Mode: Lecture, Lab Required Grading Option: Letter

BME 650 Biomedical Measurement and Instrumentation
Units: 3 Terms Offered: Sp Design of measurement systems and biomedical instrumentation; architecture of electronic instruments used to measure physiological parameters, analysis of major process functions integrated in these instruments. *Recommended Preparation:* BME 513. Instruction Mode: Lecture Grading Option: Letter

BME 670 Early Visual Processing
Units: 4 Terms Offered: Fa Interdisciplinary topics in biological and artificial low-level visual processing. Retina, lateral geniculate nucleus; computer vision; neurophysiology, retinal prosthesis; molecular biology, phototransduction; edge detection; movement. *Prerequisite:* NSCI 524 or BME 502 or CSCI 574. Instruction Mode: Lecture Grading Option: Letter

BME 671 Late Visual Processing
Units: 4 Terms Offered: Sp Interdisciplinary topics in biological and artificial high-level visual processing. Visual cortex; computer vision; neurophysiology; psychophysics; MRI; computational models; orientation selectivity; steropsis; motion; contours; object recognition. *Prerequisite:* NSCI 524 or BME 502 or CSCI 574. Instruction Mode: Lecture Grading Option: Letter

BME 680 Modeling and Simulation of Physiological Systems
Units: 3 Terms Offered: Irregular Mathematical theories and computation techniques for modeling physiological systems, with emphasis on cardiorespiratory, metabolicendocrine, and neuronal functions. Instruction Mode: Lecture Grading Option: Letter

BME 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research applicable to the doctorate. Instruction Mode: Lecture Grading Option: Credit/No Credit

BME 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

BME 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Business Administration

BUAD 020x Survey of Business Administration
Units: 3 Terms Offered: FaSp Survey of the important topics in business administration, including marketing, accounting, finance, management information systems, leadership, business communication, and human resource management. *Recommended Preparation:* 2–5 years management experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 040 Executive Development
Units: 4 Problems and cases in contemporary management and business economics in American society. Registration Restriction: Open to USC employees. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 100x Foundations of Finance and Accounting
Units: 2 Accounting information in decision-making from the perspective of users and preparers. Basics of financial asset valuation. Consideration of time-value of money and risk. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 101 Freshman Leadership Seminar
Units: 2 Terms Offered: FaSpSm Colloquium of leading researchers, authors, and administrators in the Marshall School of Business and other schools at USC. Industry leaders will also be invited to talk about leadership challenges. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 102 Global Leadership Seminar
Units: 2 Terms Offered: FaSpSm Colloquium of researchers and industry leaders discussing international business and the challenges faced by leaders in a global environment, with a specific focus on China. International travel may require additional fees. *Prerequisite:* BUAD 101. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 104 Learning About International Commerce
Units: 2 Terms Offered: FaSpSm Provides insight into the opportunities and challenges faced by business professionals operating in a global environment by focusing on international cultural norms. Registration Restriction: Open only to Business and Accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 105 The Business Experience
Units: 2 Terms Offered: Fa Introduction to and overview of key business functions, their relationships, and how various professional disciplines come together to help form a successful enterprise. Registration Restriction: Open only to business and accounting majors. Instruction Mode: Lecture Grading Option: Letter

BUAD 200x Economic Foundations for Business
Units: 2 Terms Offered: FaSp Examines fundamental concepts of both microeconomics and macroeconomics as they pertain to business and financial decisions. Instruction Mode: Lecture Grading Option: Letter

BUAD 201x Introduction to Business for Non-Majors
Units: 4 Terms Offered: FaSp Introduction to the principles and practices of businesses, sequence of exercises developing the basic skills, and influence of the economy on business and individual decisions. Instruction Mode: Lecture Grading Option: Letter

BUAD 204 Global Business from a Local Perspective
Units: 2 Terms Offered: Sp Concepts, frameworks and cultural insights into global business. Includes readings, group projects and visits with Los Angeles area companies that have an international presence. Registration Restriction: Open only to Business and Accounting majors. Duplicates Credit in BUAD 102 and BUAD 104. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206 Transfer International Experience
Units: 2 Max Units: 4.0 Terms Offered: Sp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206a Transfer International Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 206b Transfer International Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSp Experiential study of international business. Analysis of the impacts of global and international business on an industry. International travel required. Registration Restriction: Open only to transfer business and accounting majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 215x Foundations of Business Finance
Units: 4 Terms Offered: FaSpSm Principles and practices of modern financial management; use of financial statements; valuation of investment; asset pricing under uncertainty; elements of financial decisions. *Prerequisite:* ACCT 410x or BUAD 280 or BUAD 285a or BUAD 305. Duplicates Credit in BUAD 306. Instruction Mode: Lecture Grading Option: Letter

BUAD 252 Choosing and Planning a

Future Career in Business
Units: 2 Terms Offered: FaSpSm Explore and plan for future career choices and options in business. Learn theoretical principles, best practices and strategies, and contemporary workplace issues/trends. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 280 Introduction to Financial Accounting
Units: 3 Terms Offered: FaSpSm Emphasis on understanding financial statements and the impact of business transactions on information presented to management and interested stakeholders. Duplicates Credit in BUAD 250a, BUAD 250b, BUAD 285a, BUAD 286a, BUAD 286b, BUAD 305 Instruction Mode: Lecture, Lab Grading Option: Letter

BUAD 281 Introduction to Managerial Accounting
Units: 3 Terms Offered: FaSpSm An emphasis on how accounting information, combined with a variety of techniques and best practices, supports enhanced management decision making. *Prerequisite:* BUAD 280 Duplicates Credit in BUAD 285a, BUAD 285b, BUAD 286b, BUAD 305 Instruction Mode: Lecture, Lab Grading Option: Letter

BUAD 285a Accounting Fundamentals, Financial and Managerial Accounting
Units: 4 Terms Offered: FaSpSm Development and use of accounting information important to investors and professionals with a focus on the analysis of business operations, financial position, and cash flows. Duplicates Credit in former BUAD 250ab, and BUAD 280, BUAD 286b and BUAD 305. Instruction Mode: Lecture Grading Option: Letter

BUAD 285b Accounting Fundamentals, Financial and Managerial Accounting
Units: 2 Terms Offered: FaSpSm Continuation of BUAD 285a: accounting information useful for the analysis of product costing, budgeting and organizational performance. *Corequisite:* BUAD 285a. Duplicates Credit in former BUAD 250b, and BUAD 281, BUAD 286a and BUAD 305. Instruction Mode: Lecture Grading Option: Letter

BUAD 286a Accounting Fundamentals, Managerial and Financial Accounting
Units: 4 Terms Offered: FaSpSm Development and use of accounting information important to executives, managers, and other decision-makers, with a focus on the analysis of business operations and organizational performance. Duplicates Credit in former BUAD 250b, BUAD 281, BUAD 285b and BUAD 305. Instruction Mode: Lecture Grading Option: Letter

BUAD 286b Accounting Fundamentals, Managerial and Financial Accounting
Units: 2 Terms Offered: FaSpSm Continuation of BUAD 286a: accounting information useful for the analysis of the income statement, balance sheet and cash flow statement. *Corequisite:* BUAD 286a. Duplicates Credit in former BUAD 250a, and BUAD 280, BUAD 285a and BUAD 305. Instruction Mode: Lecture Grading Option: Letter

BUAD 301 Technology Entrepreneurship
Units: 3 Terms Offered: FaSpSm Starting and managing a technological business: developing a viable concept, market and financial planning, product development, organizing the venture, protecting intellectual property rights. Duplicates Credit in BAEP 310, BAEP 423, BAEP 450, BAEP 451. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGR-301

BUAD 302 Communication Strategy in Business
Units: 4 Terms Offered: FaSpSm Theory, practices, and techniques of business communication strategy essential to external and organizational communication; group and interpersonal communication; development of skill in oral and written communication. Instruction Mode: Lecture Grading Option: Letter

BUAD 302T Communication Strategy in Accounting
Units: 4 Terms Offered: FaSp Theory, practices, and techniques essential to communication in accounting. Interpersonal and group communication; oral presentations; writing; use of communication technologies; communication strategies for varied audiences. Registration Restriction: Open only to accounting and prospective accounting majors. Duplicates Credit in BUAD 302. Instruction Mode: Lecture, Lab Grading Option: Letter

BUAD 304 Organizational Behavior and Leadership
Units: 4 Terms Offered: FaSpSm The role of leadership in business organizations; concepts and skills for managing oneself and others. Instruction Mode: Lecture, Discussion Grading Option: Letter

BUAD 305 Abridged Core Concepts of Accounting Information
Units: 4 Terms Offered: FaSp Uses of accounting information in decision-making; accounting issues concerning income and cash flows, economic resources and capital. Registration Restriction: Open only to transfer business and accounting majors Duplicates Credit in BUAD 280 and BUAD 281 and BUAD 285a and BUAD 285b and BUAD 286a and BUAD 286b Instruction Mode: Lecture, Lab Grading Option: Letter

BUAD 306 Business Finance
Units: 4 Terms Offered: FaSpSm Financial problems of business enterprise; function of financial manager; sources of funds; instruments, institutions, and practices of finance; problems of financial management using case studies. *Prerequisite:* ACCT 410 or BUAD 280 or BUAD 285a or BUAD 286b or BUAD 305 and ECON 351x. *Corequisite:* ECON 352 and BUAD 310. Duplicates Credit in BUAD 215x. Instruction Mode: Lecture Grading Option: Letter

BUAD 307 Marketing Fundamentals
Units: 4 Terms Offered: FaSpSm Develops a managerial viewpoint in planning and evaluating marketing decisions of the firm: products, pricing, channels, promotion, information processing, legal implications, and marketing in contemporary society. Duplicates Credit in MKT 385x. Instruction Mode: Lecture, Discussion Grading Option: Letter

BUAD 310g Applied Business Statistics
Units: 4 Terms Offered: FaSpSm Statistical methods for business analysis; data exploration and description; sampling distributions; estimation; hypothesis testing, simple and multiple regression; model building. Extensive computer applications. Satisfies New General Education in Category F: Quantitative Reasoning Duplicates Credit in ITP 251 Instruction Mode: Lecture, Discussion Grading Option: Letter

BUAD 311 Operations Management
Units: 4 Terms Offered: FaSpSm Fundamentals of operations management. Skills needed to analyze, manage, and improve business processes. Topics include: process, capacity, service, and inventory management and optimization. *Corequisite:* BUAD 310g or EE 364 or MATH 407 Duplicates Credit in BUAD 311T Instruction Mode: Lecture Grading Option: Letter

BUAD 311T Operations Management for Accounting Majors
Units: 4 Learn the fundamentals of operations management and acquire skills to analyze, measure, control and improve production processes. Duplicates Credit in BUAD 311. Instruction Mode: Lecture Grading Option: Letter

BUAD 315x Basics of Project and Operations Management for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to tools and methods for the design, production, and delivery of goods and services. Techniques for planning, monitoring, and controlling complex projects. Registration Restriction: Not open to business and accounting majors and exchange students Duplicates Credit in BUAD 311 and BUAD 311T. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-315

BUAD 350 Macroeconomic Analysis for Business Decisions
Units: 4 Terms Offered: FaSpSm Behavior of economic indicators over business fluctuations, economic growth, monetary and fiscal policy, exchange rate movements. *Prerequisite:* ECON 203, ECON 205. Instruction Mode: Lecture Grading Option: Letter

BUAD 351 Economic Analysis for Business Decisions
Units: 4 Terms Offered: FaSpSm Theory of the firm in the enterprise system; profits, demand, and cost analysis; market competition and resource allocation; problems of size efficiency and growth. *Prerequisite:* ECON 203, ECON 205 and either MATH 118 or MATH 125. Instruction Mode: Lecture Grading Option: Letter

BUAD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

BUAD 425 Data Analysis for Decision

Making
Units: 2 Terms Offered: FaSpSm Leveraging large corporate datasets; slice and dice data; dash boards; data mining and statistical tools; neural network; multiple and logistic regression; decision tree; gain inference and decision making; clustering. *Prerequisite:* (BUAD 281 or BUAD 305 or BUAD 285b or BUAD 286b) and (BUAD 302 or BUAD 302T) and BUAD 304 and BUAD 306 and BUAD 307 and BUAD 310 and (BUAD 311 or BUAD 311T) *Corequisite:* BUAD 497 Instruction Mode: Lecture Grading Option: Letter

BUAD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings under the supervision of a faculty adviser. Application and proposal required. Instruction Mode: Lecture Grading Option: Letter

BUAD 493 Marshall Honors Research Seminar
Units: 2 Terms Offered: Sp Provides the methodological tools to identify research problems, develop researchable hypotheses, apply appropriate methodologies, conduct research, derive meaningful conclusions from data, write a research proposal. Registration Restriction: Open only to Business and Accounting students. Instruction Mode: Lecture Grading Option: Letter

BUAD 494 Marshall Honors Research and Thesis
Units: 2 Max Units: 04 Terms Offered: FaSpSm Experience in conducting research and writing a thesis under the supervision of a faculty adviser. *Prerequisite:* ACCT 493 or BUAD 493 Registration Restriction: Open only to students in the Marshall Honors program Duplicates Credit in ACCT 494 Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 495 Practicum in Business Issues (Internship)
Units: 1 Max Units: 12.0 Combined classroom discussion and structured, supervised field application of business theories and practices within a part-time employment context. Registration Restriction: Open only to: Freshmen, Sophomore, Junior, Senior. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 497 Strategic Management
Units: 4 Terms Offered: FaSpSm Examination of managerial decision-making, planning, and policy under changing environments; readings, cases, exercises, simulations. *Prerequisite:* ACCT 410 or BUAD 281 or BUAD 285b or BUAD 286b or BUAD 305) and (BUAD 304 and BUAD 307 and BUAD 215x) or (BUAD 306 and BUAD 302) or BUAD 302T *Corequisite:* BUAD 311 or BUAD 311T Instruction Mode: Lecture Grading Option: Letter

BUAD 498 Business Field Project (Undergraduate)
Units: 1 or 2 Max Units: 3.0 Terms Offered: FaSpSm Unpaid individual or team projects solving real business problems for client companies; situation analyses; statistical analysis; consulting practicum; oral and written presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUAD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Examination of current literature relevant to the total and changing environment in which business operates. Instruction Mode: Lecture Grading Option: Letter

Business Communication

BUCO 252 The Art of Case Analysis and Presentation
Units: 2 Terms Offered: FaSpSm Develop analytical problem-solving and persuasive presentation skills to successfully analyze strategic business situations and convincingly argue your position in a competitive environment. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MOR-252

BUCO 260 Business Communication Across Cultures
Units: 2 Terms Offered: FaSp Develop intercultural communication competencies, analyze international business situations, build on/or prepare for GLP and LINC trips, internships abroad, and international exchange programs. Instruction Mode: Lecture Grading Option: Letter

BUCO 333mw Communication in the Working World — Managing Diversity and Conflict
Units: 4 Terms Offered: FaSp Communication strategies to manage workplace diversity and conflict. Historical, social, legal precedents. Institutional barriers to diversity. Race, gender, sexual orientation, age, physical disabilities, culture. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

BUCO 425 Ethics and Professional Communication
Units: 4 Terms Offered: FaSp Study the intersection between business and professional leadership, language, and ethics. Analyze and present results to public audiences through publications, professional conferences, ethics case competitions. Instruction Mode: Lecture Grading Option: Letter

BUCO 445 Building Oral Communication Expertise
Units: 4 Terms Offered: Fa Oral reporting; management briefings; building expertise in persuasive business presentations, both in-person and via new media channels; emotional intelligence; personal branding. *Recommended Preparation:* BUAD 302. Instruction Mode: Lecture Grading Option: Letter

BUCO 450 Communication for Organizations: Exploring Creativity
Units: 2 Terms Offered: FaSp Development of individual creative thinking and problem-solving skills; exploration of workplace creativity; advancement of managerial communication skills necessary to foster organizational innovation. Instruction Mode: Lecture Grading Option: Letter

BUCO 458 Managing Communication and New Media
Units: 4 Terms Offered: FaSp Individual and team exploration of 21st century media tools and their impact on communication strategies in business. Course uses social media, collaborative software, virtual immersion, and video conferencing. Instruction Mode: Lecture Grading Option: Letter

BUCO 460 International Business Communication
Units: 4 Terms Offered: FaSp Explore the cultural dynamics and organizational communication models that contribute to successful business practices in multinational corporations and other global settings. Instruction Mode: Lecture Grading Option: Letter

BUCO 485 Business Communication Management for Nonprofits
Units: 4 Communication environment; communication activities for fundraising and visibility; research and evaluation methods; grant proposals; strategies for communicating social mission to media, government and for-profit partners. Instruction Mode: Lecture Grading Option: Letter

BUCO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of business communication. Topics vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

BUCO 503 Advanced Managerial Communication
Units: 1.5, 3 Terms Offered: FaSp Optimize individual, interpersonal communication dynamics and advance skill development through executive coaching model and applied business communication theory. *Recommended Preparation:* prior course work or experience in management or business communication. Registration Restriction: Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BUCO 504T Writing for Accounting and Tax Professionals
Units: 3 Terms Offered: Fa Effective written communication for accounting and tax professionals. Registration Restriction: Open to only graduate accounting and taxation students Instruction Mode: Lecture Grading Option: Letter

BUCO 533 Managing Communication in Organizations
Units: 1.5, 3 Terms Offered: FaSp Analyze, design, develop, and present theory-based communication solutions and strategies to sophisticated interpersonal, group, organizational, and environmental communication issues and problems. *Recommended Preparation:* GSBA 502 or GSBA 523 or GSBA 542. Registration Restriction: Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BUCO 536 Leading with Virtual Communication

Units: 1.5 Terms Offered: Sp Theory and practice of communicating via social media and other forms of new media to achieve business goals and build your credibility as a leader. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

BUCO 552 Defining and Communicating Your Professional Value
Units: 1.5 Terms Offered: FaSp Understand how to define and communicate your individual professional identity and value to employers across diverse professional fields using specialized applied tools. Registration Restriction: Online registration open to only graduate accounting and business majors. Instruction Mode: Lecture Grading Option: Letter

BUCO 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 592 Field Research in in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the communication practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 593 Independent Research in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 595 Internship in Management Communication
Units: 0.5, 1, 1.5, 2 Max Units: 9.0 Terms Offered: FaSpSm Supervised on-the-job business experience in the field of management communication. (Curricular Practical Training.) *Recommended Preparation:* completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to Business and Accounting master students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 596 Research Practicum in Management Communication
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Management Communication faculty member on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 597 Consulting Project in Management Communication
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 Max Units: 9.0 Current developments in the field of business communication. Topics vary from semester to semester. Registration Restriction: Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

BUCO 633 Writing a Journal Article for Publication
Units: 2 Max Units: 4.0 Terms Offered: FaSp Developing strategies for productive academic writing; drafting and revising an article for journal submission. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 634 Presenting Your Research
Units: 1 Terms Offered: FaSpSm Oral presentation skills for academic and professional conferences and teaching. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 635 Preparing for the Academic Job Market
Units: 1 Terms Offered: FaSpSm Creating job application packets; writing research and teaching philosophy statements; interviewing; preparing the job talk. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

BUCO 636 Communication for Doctoral Students: Tutorial
Units: 1 Max Units: 4.0 Individualized tutorial focusing on academic writing and presentation skills for dissertations, conference papers, and journal articles. *Prerequisite:* BUCO 633 or BUCO 634 or BUCO 635. Instruction Mode: Lecture Grading Option: Credit/No Credit

BUCO 637 Communication for Doctoral Students: Succeeding as a Teacher
Units: 1 Terms Offered: Sm Theories of teaching and learning; strategies for developing course materials; practical advice for managing common challenges; lecturing, leading discussion, creating in-class activities. Instruction Mode: Lecture Grading Option: Credit/No Credit

Cancer Biology and Genomics

CBG 504 Molecular Biology of Cancer
Units: 4, 2 years Terms Offered: Sp (Enroll in INTD 504)

CBG 580 Topics in Cancer (Epi)Genomics
Units: 1.0 Max Units: 12 Terms Offered: FaSp Selected topics in Cancer Biology and Genomics including review of contemporary literature and research. Instruction Mode: Lecture Grading Option: Letter

CBG 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CBG 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CBG 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Craniofacial Biology

CBY 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

CBY 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

CBY 573 Molecular Embryology
Units: 4 Principles of developmental biology; emphasis on molecular genetics and cell and molecular mechanisms of tissue interaction and morphodifferentiation.

CBY 574 Statistical Methods in Bioexperimentation
Units: 3 Experimental design and analysis as applied to all levels of biologic organization; hypothesis construction; probability; univariate and multivariate analysis; basic epidemiology.

CBY 575 Biologic Basis of Oral-facial Disease
Units: 3 Terms Offered: FaSpSm Cell and molecular biology of oral tissues in disease: emphasis on immunopathology. Duplicates Credit in former CBY 575a.

CBY 576 Biochemical Aspects of Periodontal Disease
Units: 3 Terms Offered: FaSpSm Cell and molecular biology of oral tissues in disease;

emphasis on molecular oral pathology. Duplicates Credit in former CBY 575b.

CBY 578 Pathological Conditions of the Craniofacial Complex
Units: 3 Terms Offered: FaSpSm Acquired and inherited, systemic and local disease resulting in clinical craniofacial morbidity: cellular and molecular expression as related to etiology, diagnosis, treatment, and prognosis.

CBY 579L Craniofacial Molecular Genetics
Units: 4 Principles and methodologies of mammalian molecular genetics; laboratory exercises applied to pre- and postnatal craniofacial growth and development.

CBY 580a Seminars in Craniofacial Biology
Units: 2 Seminars presented by recognized researchers in the various disciplines relating to craniofacial biology; selected readings in preparation for discussion. Grading Option: Graded CR/NC.

CBY 580b Seminars in Craniofacial Biology
Units: 2 Seminars presented by recognized researchers in the various disciplines relating to craniofacial biology; selected readings in preparation for discussion. Grading Option: Graded CR/NC.

CBY 582L Laboratory Methods
Units: 3 Contemporary methods of laboratory analysis, including theoretical and practical exposure to procedures and equipment in the research laboratory.

CBY 583 Craniofacial Clinical Genetics
Units: 4 Principles of human genetics; clinically oriented normal and abnormal human embryology; diagnosis and natural history of human craniofacial birth defects; genetic counseling and bioethics.

CBY 585 Systematic Research Writing
Units: 3 Terms Offered: FaSpSm Enhancement of critical research thinking by fulfilling anticipated conceptual components of the journal article; perfection of writing skills by correcting interand intrasentence flaws.

CBY 586x Scientific Writing Practicum
Units: 3 Development of writing skill while completing a disciplinerequired project (proposal, dissertation, journal article). Seminar and tutorial format. Not for graduate credit. *Prerequisite:* CBY 585 or DENT 402.

CBY 587 Cell and Molecular Biology of Craniofacial Tissues
Units: 3 Contemporary cell and molecular biology as applied to the development, structure, and function of craniofacial tissues.

CBY 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CBY 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CBY 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Seminars on craniofacial biology in subject areas of special interest to faculty and students.

CBY 671 Epistemology and Ethos of Bioscience
Units: 2 Classical and contemporary thought on knowledge acquisition, truth, and method as applied to bioscience; characteristic spirit, beliefs, and moral assumptions of bioscientists in modern history.

CBY 672 Advances in Development and Differentiation
Units: 2 Integration of recent advances in cell and molecular developmental biology into classical and emerging thematic frameworks.

CBY 673 Biomineralization
Units: 2 Fundamental principles and mechanisms of matrix mediated biomineralization in model systems from bacteria to humans.

CBY 674 Advanced Oral Microbiology
Units: 2 Cell and molecular aspects of microbiology as applied to oral infections: microbial physiology and genetics; oral microbial ecology; host resistance factors in oral infections.

CBY 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CBY 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

CBY 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

Civil Engineering

CE 106L Design and Planning of Civil Engineering Systems
Units: 3 Terms Offered: FaSpSm History of civil engineering; introduction to the synthesis and design of systems dependent upon civil engineering technology; structuring, modeling, and simulation of systems using graphics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 107 Introduction to Civil Engineering Graphics
Units: 3 Terms Offered: Sp Graphic communication and drawing; use of instruments, lettering, dimensioning, and detailing of engineering drawing; free-hand sketching, drafting, and modeling. Instruction Mode: Lecture Grading Option: Letter

CE 108 Introduction to Computer Methods in Civil Engineering
Units: 2 Terms Offered: Sp Computer programming, organization of problems for computational solution, flow charts, programming; numerical methods; analysis and solution of civil engineering problems. Instruction Mode: Lecture Grading Option: Letter

CE 110 Introduction to Environmental Engineering
Units: 3 Terms Offered: Fa Basic concepts of environmental engineering. Air, water, and soil pollution control technologies; pollution prevention strategies. Design of simple water distribution and treatment systems. Instruction Mode: Lecture Grading Option: Letter

CE 205 Statics
Units: 2 Terms Offered: FaSp Statics of particles and rigid bodies; equivalent force systems; distributed forces; applications to trusses, frames, machines, beams, and cables; friction; moments of inertia. *Prerequisite:* PHYS 151Lg. Instruction Mode: Lecture Grading Option: Letter

CE 207L Introduction to Design of Structural Systems
Units: 2 Terms Offered: Sp Structural materials, components and systems; gravity and lateral forces; structural performance and failures; introduction to structural plans and analysis; computer applications, case studies, design project. *Prerequisite:* CE 205 *Corequisite:* CE 106 and CE 225. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 210L Introduction to Environmental Engineering Microbiology
Units: 3 Terms Offered: Fa Principles of environmental microbiology; waterborne pathogens; microorganisms and air pollution; microorganisms in soil; water pollution microbiology; biodegradation of hazardous chemicals; eutrophication. *Recommended Preparation:* CE 106 or CE 110. *Corequisite:* CHEM 105aLg or CHEM 115aLg; Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 225 Mechanics of Deformable Bodies
Units: 3 Terms Offered: Sp Analysis of stress and strain; axial, flexural, and torsional behavior of slender bars; elastic deflections; combined stresses; introduction to elastic stability and energy methods. *Prerequisite:* CE 205. Instruction Mode: Lecture Grading Option: Letter

CE 235 Dynamics
Units: 3 Terms Offered: Sp Elements of vector algebra; dynamics of particles, systems of particles and rigid bodies; kinematics; momentum relations, energy methods; vibrations; Euler's equations of motion. *Prerequisite:* CE 205. Duplicates Credit in CE 325. Instruction Mode: Lecture, Discussion Grading Option: Letter

CE 309 Fluid Mechanics

Units: 3 Terms Offered: Fa Fluid statics; relative velocity field; total acceleration; divergence theorem; conservation of mass, energy, and momentum applied to engineering problems in laminar and turbulent flow. *Prerequisite:* MATH 226 or MATH 229 *Corequisite:* CE 235 Instruction Mode: Lecture Grading Option: Letter

CE 334L Mechanical Behavior of Materials
Units: 3 Terms Offered: Fa Measurement of stress and strain; tensile, impact, creep, and fatigue behavior; statistical methods, brittle fracture; properties of structural materials. *Prerequisite:* CE 225 or AME 204, CHEM 105aLg or CHEM 115aLg and PHYS 152L. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MASC-334l

CE 358 Theory of Structures I
Units: 3 Terms Offered: Fa Deformations and deflections of elastic systems; statically indeterminate beams, arches, and frames; secondary stresses. *Prerequisite:* CE 225. Instruction Mode: Lecture Grading Option: Letter

CE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CE 402 Computer Methods in Engineering
Units: 3 Terms Offered: Sp Fundamentals of analog and digital computers; simulation of nonlinear physical systems; numerical analysis and solution of engineering problems. *Prerequisite:* CE 108 and MATH 245. Instruction Mode: Lecture Grading Option: Letter

CE 404 Business and Intellectual Property Law for Engineers
Units: 3 Terms Offered: Fa An examination of legal issues confronting the professional engineer. Topics include the legal system, contracts, risk management, forms of doing business, capital formation and intellectual property rights. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-404

CE 408 Risk Analysis in Civil Engineering
Units: 3 Terms Offered: Fa Realization of nondeterministic problems in civil engineering; quantitative analysis of structural and system reliability; optimal design and design with specified risk. *Prerequisite:* CE 225 and (MATH 226 or MATH 229) Instruction Mode: Lecture Grading Option: Letter

CE 409aL Computer-Aided Design
Units: 3 Applications of interactive computer graphics to design problems; automated drafting; 3-D graphic algorithms. Analysis of design process from information processing viewpoint. *Prerequisite:* CE 225. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 409bL Computer-Aided Design
Units: 3 Applications of interactive computer graphics to design problems; automated drafting; 3-D graphic algorithms. Analysis of design process from information processing viewpoint. *Prerequisite:* CE 225. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 412 Construction Law and the Property Development Process
Units: 3 Terms Offered: Sp Legal aspects of property development and construction: land use, construction practices and specifications, architecture and engineering contracts, agency, subcontracting, professional registration, liability, insurance, liens, and bonds. *Recommended Preparation:* CE 404 or a general business law course. Instruction Mode: Lecture Grading Option: Letter

CE 428 Mechanics of Materials
Units: 3 Analysis of stress and deformation; equations of elasticity; bending of beams; elastic instability; torsion problems; introduction to plates and shells; elastic wave propagation; numerical methods. *Prerequisite:* CE 225. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-428

CE 443 Environmental Chemistry
Units: 3 Terms Offered: Fa Chemistry of water, gas, liquid and solid wastes. Chemical principles applicable to environmental engineering. *Prerequisite:* CHEM 105bL or CHEM 115bL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-443

CE 450 Basic Coastal Engineering
Units: 3 Terms Offered: FaSp Mechanics of wave motion; wave refraction, diffraction and reflection; wave forecasting; shore processes; planning of coastal engineering projects; design of seawalls, breakwaters and offshore installations. Instruction Mode: Lecture Grading Option: Letter

CE 451 Water Resources Engineering
Units: 3 Terms Offered: Sp Discussion of broad perspectives on control and utilization of water, quantitative hydrology, ground water, probability concept, economic study, hydraulic structures, multipurpose water resources projects. *Prerequisite:* CE 309 or ENE 410. Instruction Mode: Lecture Grading Option: Letter

CE 453 Water Quality Science and Engineering
Units: 3 Terms Offered: FaSp Water quality criteria and fundamental considerations of acceptability. Natural purification of surface waters. Processes employed in the treatment of waste waters for disposal or re-use. *Prerequisite:* CHEM 105aLg or CHEM 115aLg *Corequisite:* CE 309 or ENE 410 Instruction Mode: Lecture, Discussion Grading Option: Letter

CE 456 Design of Steel Structures
Units: 3 Terms Offered: Fa Fundamentals of analysis and design of steel structures; structural elements; simple and eccentric connections; design project. *Prerequisite:* CE 207L, CE 225; *Corequisite:* CE 358. Instruction Mode: Lecture Grading Option: Letter

CE 457 Reinforced Concrete Design
Units: 3 Terms Offered: Sp Strength and deformation of reinforced concrete; beams in flexure and shear; bond and development of bars; deflections; columns; slabs; footings; introduction to prestressed concrete. *Prerequisite:* CE 207L, CE 225; *Corequisite:* CE 358. Instruction Mode: Lecture Grading Option: Letter

CE 458 Theory of Structures II
Units: 3 Terms Offered: FaSp Matrix algebra; stiffness method; force method; computer analysis of planar structures. *Prerequisite:* CE 108 and CE 358 Instruction Mode: Lecture Grading Option: Letter

CE 459 Introduction to Structural Dynamics
Units: 3 Terms Offered: Fa Response of single and multiple degree of freedom systems to dynamic excitation; structural modeling and approximate solutions; introduction to earthquake resistant design. *Corequisite:* CE 458. Instruction Mode: Lecture Grading Option: Letter

CE 460 Construction Engineering
Units: 3 Terms Offered: FaSp Introduction to the construction processes; estimating and bidding, construction administration, planning and scheduling, equipment and methods, labor relations, cost control systems, and safety. Instruction Mode: Lecture Grading Option: Letter

CE 461 General Construction Estimating
Units: 3 Terms Offered: Fa Theory of estimating. Quantity surveying; unit cost synthesis and analysis. Bid organization and preparation; competitive simulations and exercises. Instruction Mode: Lecture Grading Option: Letter

CE 462 Construction Methods and Equipment
Units: 3 Terms Offered: Sp Current procedures in selected fields of construction; organization and planning; equipment economics; machinery. Instruction Mode: Lecture Grading Option: Letter

CE 463L Water Chemistry and Analysis
Units: 3 Terms Offered: Sp Chemistry of water purification technology and water pollution control. Chemical processes in natural and engineering aquatic environments; physical/chemical and biological characterization of water and wastewater. *Prerequisite:* CE 453, CHEM 105b or CHEM 115bL. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENE-463

CE 464 Geotechnical Engineering
Units: 3 Fundamentals of soil mechanics and foundation engineering; soil classification, seepage, stress-strain behavior, shear strength, consolidation, design of retaining structures and foundations, and slope stability. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 465 Water Supply and Sewerage System Design
Units: 3 Terms Offered: Sp Design of water supply systems, storm drains, sanitary sewers, and lift stations. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-465

CE 466 Design of Free-Surface Hydraulic Systems
Units: 3 Terms Offered: Sp Hydrological

and hydraulic design for uniform and non-uniform flows, channel transition, sedimentation controls, design discharge for tributary watersheds, flood routing, flood detention, computer aided design. *Prerequisite:* CE 309. Instruction Mode: Lecture Grading Option: Letter

CE 467L Geotechnical Engineering
Units: 4 Terms Offered: Sp Fundamentals of geotechnical engineering; soil classification, seepage, stress-strain behavior, shear strength, consolidation, design of retaining structures and foundations, and slope stability. Soil testing. *Prerequisite:* CE 225. Duplicates Credit in CE 464. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CE 469 Sustainable Design and Construction
Units: 3 Terms Offered: FaSp Leadership in Energy and Environmental Design (LEED); Green Building strategies; Carbon Footprinting; calculating the embodied energy of building materials; cyclical processes in design and construction. Instruction Mode: Lecture Grading Option: Letter

CE 470 Building Information Modeling and Integrated Practice
Units: 3 Terms Offered: Fa Building Information Modeling, current BIM technologies; coordination of design and construction; information management throughout building lifecycle; project delivery systems and technologies for integrated practice. Instruction Mode: Lecture Grading Option: Letter

CE 471 Principles of Transportation Engineering
Units: 3 Terms Offered: FaSp Planning, design, construction, maintenance, and operation of facilities for air, water, rail, and highway transit systems. *Prerequisite:* MATH 226 or MATH 227 or MATH 229 Instruction Mode: Lecture Grading Option: Letter

CE 473 Engineering Law, Finance and Ethics
Units: 3 Terms Offered: Fa An examination of the legal, financial and ethical issues regularly considered by all practicing engineers. Instruction Mode: Lecture Grading Option: Letter

CE 476 Design of Pressurized Hydraulic Systems
Units: 3 Terms Offered: Sp Application of hydraulic principles to the engineering design of hydraulic structure with pressurized flow, piping network, water hammer, surge suppression, pumps and turbines, manifold hydraulic design. *Prerequisite:* CE 309. Instruction Mode: Lecture Grading Option: Letter

CE 478 Timber and Masonry Design
Units: 3 Terms Offered: Fa Characteristics and properties of wood; beams, columns, trusses, connectors, and diaphragms. Properties of masonry, working stress and strength design, seismic design requirements. *Prerequisite:* CE 207 , CE 225. Instruction Mode: Lecture Grading Option: Letter

CE 480 Structural Systems Design
Units: 3 Terms Offered: Sp Evaluate, design and analyze buildings. Organize and perform calculations for vertical loads, wind loads, and seismic loads on building projects. *Prerequisite:* CE 456 or CE 457 or CE 478; CE 358, CE 467L, CE 473, CE 482. Instruction Mode: Lecture Grading Option: Letter

CE 482 Foundation Design
Units: 3 Terms Offered: Fa Analysis and design principles of building foundations, including spread footings, piles, drilled shafts, sheetpile walls and retaining structures. *Prerequisite:* CE 467. Instruction Mode: Lecture Grading Option: Letter

CE 484 Water Treatment Design
Units: 3 Terms Offered: Fa Predesign studies, precipitation softening, coagulation and flocculation, sedimentation, filtration, sludge handling, chlorination, chloramination, ozonation; plant hydraulics, flow measurement, pumps, instrumentation and control, tertiary treatment. *Prerequisite:* CE 451. Instruction Mode: Lecture Grading Option: Letter

CE 485 Wastewater Treatment Design
Units: 3 Terms Offered: Sp Process kinetics, mass balance, reactor design, pretreatment, clarification, chemical treatment, biological treatment (aerobic and anaerobic), disinfection, sludge treatment, nitrogen and phosophorus removal, carbon adsorption. *Prerequisite:* CE 451, CE 463L, CE 473. Instruction Mode: Lecture Grading Option: Letter

CE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CE 495 Seminars in Civil Engineering
Units: 1 Terms Offered: FaSp Information necessary for successful transition to engineering practice with emphasis on substantive engineering topics, employee rights and responsibilities, communication skills, ethic and lifelong learning. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in civil engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

CE 501 Functions of the Constructor
Units: 3 Terms Offered: Fa Systems, processes, and constraints governing the initiation, direction, engineering, and delivery of major construction projects. Professional construction management, responsibilities, and practice. Instruction Mode: Lecture Grading Option: Letter

CE 502 Construction Accounting and Finance
Units: 3 Terms Offered: Fa Cost control, finance, and engineering economy for construction operations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-502

CE 503 Microbiology for Environmental Engineers
Units: 3 Basic microbiology of water, air, and soil. Application of microbiology to the practice of environmental pollution control. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-503

CE 504 Solid Waste Management
Units: 3 Characterization, production, storage, collection, and transport of solid wastes; alternative disposal methods; design principles and environmental impact; management of radiological solid wastes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-504

CE 505 Data Management for Civil and Environmental Engineering
Units: 3 Terms Offered: FaSp The basics of databases and database management systems as applied to engineering problems. Introduction to data mining concepts, techniques, and knowledge discovery in database principles. Instruction Mode: Lecture Grading Option: Letter

CE 506 Heavy Construction Estimating
Units: 3 Terms Offered: Fa Methods engineering, work analysis and pricing for route construction. Grading, draining, paving, haul economy, plant-materials production, pipeline and bridge building. Instruction Mode: Lecture Grading Option: Letter

CE 507 Mechanics of Solids I
Units: 3 Terms Offered: Fa Analysis of stress and strain; constitutive equations for elastic materials; plane stress and strain; torsion; introduction to plates and shells; energy methods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-507

CE 508 Mechanics of Solids II
Units: 3 Thermal stresses; introduction to elastic stability; yield criteria; constitutive equations for elastoplastic materials; elastoplastic stress analysis; viscoelasticity and creep. *Prerequisite:* CE 507 or CE 428. Instruction Mode: Lecture Grading Option: Letter

CE 509 Mechanics of Solids III
Units: 3 Advanced topics in mechanics of solids; complex variable methods for plane problems; three-dimensional problems; introduction to fracture mechanics. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter

CE 510 Groundwater Management
Units: 3 Groundwater hydrology, aquifer testing technology, groundwater quality and contamination, geophysical method, well design and development, basin water balance, computer modeling, legal aspects, groundwater management system. Instruction Mode: Lecture Grading Option: Letter

CE 511 Flood Control Hydrology
Units: 3 Flood frequency, storm characteristics, net rain; surface drainage, peak discharge, flood runoff. Instruction Mode: Lecture Grading Option: Letter

CE 514a Advanced Sanitary Engineering Design
Units: 3 Design of water and waste treatment works. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter

Crosslisted as ENE-514a

CE 514b Advanced Sanitary Engineering Design
Units: 3 Design of water and waste treatment works. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-514B

CE 516 Geohydrology
Units: 3 Principles of groundwater motion; acquifer characteristics, prospecting, practical engineering problems, well design, maintenance and rehabilitation; hydrodynamic dispersion, field testing essentials and procedures, groundwater quality, artificial recharge. Instruction Mode: Lecture Grading Option: Letter

CE 517 Industrial and Hazardous Waste Treatment and Disposal
Units: 3, 2 years Terms Offered: Sm Physical, chemical, and biological treatment processes for industrial and hazardous wastes; pretreatment systems, biodegradation of toxic chemicals; groundwater and soil decontamination; biofilters for air decontamination. *Prerequisite:* CE 463L. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-517

CE 518 Carbon Capture and Sequestration
Units: 3 The needs for carbon capture and sequestration (CCS) and systematic introduction to CCS technologies. Main topics include: introduction to global change, world energy consumption, greenhouse gases control, carbon capture and separation, and carbon sequestration. Instruction Mode: Lecture Grading Option: Letter

CE 519 Transportation Engineering
Units: 3 Principles of analysis and planning. Characteristics of transportation systems. Urban and regional systems. Relationship between environment and transportation systems. Estimating the impact of decisions. Instruction Mode: Lecture Grading Option: Letter

CE 520a Ocean and Coastal Engineering
Units: 3 Linear and nonlinear wave theories with engineering applications; wind waves; wave spectra; wave interactions with marine structures; ship mooring, harbor resonance; sediment transport; diffusion processes. *Prerequisite:* CE 309 or ENE 410. Instruction Mode: Lecture Grading Option: Letter

CE 520b Ocean and Coastal Engineering
Units: 3 Linear and nonlinear wave theories with engineering applications; wind waves; wave spectra; wave interactions with marine structures; ship mooring, harbor resonance; sediment transport; diffusion processes. Instruction Mode: Lecture Grading Option: Letter

CE 522 Groundwater Hydrologic Modeling
Units: 3 Simulation of groundwater hydrologic processes through mathematical, analog, and physical models. Instruction Mode: Lecture Grading Option: Letter

CE 523 Physiochemical Processes in Environmental Engineering
Units: 3 Concepts and applications of processes that affect water quality in engineered and natural systems, including coagulation, sedimentation, filtration, adsorption, air stripping, and membrane processes. *Prerequisite:* CE 453 or CE 463. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE 523

CE 525 Engineering Mathematical Analysis
Units: 3 Terms Offered: Sp Engineering problems discussed on a physical basis with solutions via mathematical tools: Vector analysis; functions of complex variables, infinite series, residues and conformal mappings. Duplicates Credit in the former CE 525a. Instruction Mode: Lecture Grading Option: Letter

CE 526 Engineering Mathematical Methods
Units: 3 Engineering problems discussed on a physical basis with solutions via mathematical tools: Fourier series; Fourier and Laplace transforms; partial differential equations, wave and Laplace equations. *Recommended Preparation:* undergraduate multivariable calculus and ordinary differential equations. Duplicates Credit in the former CE 525b. Instruction Mode: Lecture Grading Option: Letter

CE 528 Seismic Analysis and Design of Reinforced Concrete Bridges
Units: 3 Terms Offered: Sp Fundamental concepts, methods and current codes used in the analysis and design of reinforced concrete bridge structures. Experimental and earthquake observations of bridge performance. *Prerequisite:* CE 457; *Recommended Preparation:* CE 538. Instruction Mode: Lecture Grading Option: Letter

CE 529a Finite Element Analysis
Units: 3 Terms Offered: Fa Basic concepts; stiffness method; variational methods; displacement method; isoparametric formulation; plane stress and strain; plates and shells; dynamics; stability; nonlinear analysis, heat transfer; computer applications. Instruction Mode: Lecture, Lab Grading Option: Letter

CE 529b Finite Element Analysis
Units: 3 Terms Offered: Sp Basic concepts; stiffness method; variational methods; displacement method; isoparametric formulation; plane stress and strain; plates and shells; dynamics; stability; nonlinear analysis, heat transfer; computer applications. Instruction Mode: Lecture Grading Option: Letter

CE 530 Nonlinear Mechanics
Units: 3 Nonlinear problems in structural dynamics; elastic-plastic response; approximate methods of nonlinear analysis; stability theory; stability of periodic nonlinear oscillations; Liapounov's method; nonlinear buckling problems. Instruction Mode: Lecture Grading Option: Letter

CE 531 Soil Mechanics
Units: 3 Soil formation; clay mineralogy; steady state seepage; mechanical coupling between interstitial water and soil skeleton; experimental soil behavior and its modeling with constitutive equations. *Prerequisite:* CE 464. Instruction Mode: Lecture Grading Option: Letter

CE 532 Principles of Foundation Engineering
Units: 3 Fundamental methods in foundation engineering; plastic collapse, limit equilibrium, bearing capacity, slope stability; soil-structure interaction; application of numerical methods, finite differences and finite elements. *Prerequisite:* CE 464. Instruction Mode: Lecture Grading Option: Letter

CE 533 Geotechnical Earthquake Engineering
Units: 3 Provides a design-oriented understanding of the "stateof- the-practice" of soil mechanics and foundation engineering aspects of earthquake engineering. Instruction Mode: Lecture Grading Option: Letter

CE 534 Design of Earth Structures
Units: 3 Designed to provide a thorough understanding of the analytical and design principles underlying the construction of a broad range of earth structures. Instruction Mode: Lecture Grading Option: Letter

CE 535 Earthquake Engineering: Strong Motion Studies
Units: 3 Terms Offered: Fa Earthquake source mechanisms; wave propagation, scattering, diffraction and amplification; empirical scaling of strong ground motion; seismic hazard analysis for earthquake resistant design codes and mapping. Duplicates Credit in former CE 535a. Instruction Mode: Lecture Grading Option: Letter

CE 536 Structural Design for Dynamic Loads
Units: 3 Earthquake resistant design criteria with application to steel reinforced concrete and timber structures. Design of blast resistant structures and structures subject to impact loads. *Prerequisite:* CE 459 or CE 541a. Instruction Mode: Lecture Grading Option: Letter

CE 537 Advanced Reinforced Concrete
Units: 3 Terms Offered: Fa Behavior of reinforced concrete members in terms of strength and deformation; relationship between behavior and building code requirements. Instruction Mode: Lecture Grading Option: Letter

CE 538 Prestressed Concrete
Units: 3 Terms Offered: Sp Fundamental principles of prestressing by pre- and post-tensioning; elastic and time dependent losses; stress analysis and design of prestressed and precast concrete structures. Instruction Mode: Lecture Grading Option: Letter

CE 539 Advanced Steel Structures
Units: 3 Terms Offered: Sp Design of tubular members and plate girders; design for torsional and seismic loads; general flexural theory; introduction to plastic design; connections. Instruction Mode: Lecture Grading Option: Letter

CE 540 Limit Analysis of Structures
Units: 3 Plastic analysis and design of frames. Fundamental theorems of plastic

analysis; general methods of plastic analysis, design requirements, minimum weight design theorems and applications, shakedown theorems. Instruction Mode: Lecture Grading Option: Letter

CE 541a Dynamics of Structures
Units: 3 Terms Offered: Fa Forced vibrations of discrete MDOF systems; modal analysis; energy methods; analytical dynamics; vibration of continuous systems; wave propagation; computational techniques; application of commercial software tools. *Prerequisite:* CE 541a. Instruction Mode: Lecture Grading Option: Letter

CE 541b Dynamics of Structures
Units: 3 Terms Offered: Sp Continuous system responses; approximate methods; introduction to structural control; random vibration concepts; response of continuous systems to random excitation; nonlinear systems (geometric theory), (approximate methods). *Prerequisite:* CE 541a. Instruction Mode: Lecture Grading Option: Letter

CE 542 Theory of Plates
Units: 3 Theory of plate bending; rectangular and circular plates; anisotropic plates; energy methods; numerical methods; large deformations; sandwich plates. *Prerequisite:* CE 428 or CE 507. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-542

CE 543 Stability of Structures
Units: 3 Critical loads of columns, beams, thin-wall bars, plates, shells; stability of frames and trusses; effect of inelastic behavior of materials; effect of dynamic loading. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-543

CE 544 Theory of Shell Structures
Units: 3 General bending theory of shells; membrane theory; shells of revolution; numerical methods; dynamic response. *Prerequisite:* CE 428 or CE 507. Instruction Mode: Lecture Grading Option: Letter

CE 545a Advanced Finite Element Method in Structural and Continuum Mechanics
Units: 3 Finite elements in nonlinear mechanics, elasticity, plasticity, viscoelasticity; advanced finite element applications in fracture mechanics, heat transfer, fluid mechanics; computational implementation of finite element method. *Prerequisite:* CE 529a. Instruction Mode: Lecture Grading Option: Letter

CE 545b Advanced Finite Element Method in Structural and Continuum Mechanics
Units: 3 Mathematical aspects of the finite element method; correctness of discretizations for elliptic, parabolic, and hyperbolic equations; accuracy and convergence considerations; stability of time dependent algorithms. *Prerequisite:* CE 545a. Instruction Mode: Lecture Grading Option: Letter

CE 546 Structural Mechanics of Composite Materials
Units: 3 Applications and manufacturing of composites: anisotropic materials; laminated composite plates and shells; buckling and dynamics; strength and failure; interlaminar stresses; delamination; thermal properties; design considerations. Instruction Mode: Lecture Grading Option: Letter

CE 547 Earthquake Engineering: Response of Structures
Units: 3 Terms Offered: Sp Solutions of seismic structural response: vibrational vs. wave methods, spectral superposition, probabilistic response estimation, nonlinear response; soil-structure interaction; identification and structural health monitoring; experimental methods. Duplicates Credit in former CE 535b. Instruction Mode: Lecture Grading Option: Letter

CE 549 Building Design Project
Units: 3 Terms Offered: Sp Integrated design project following design office procedures. A building will be designed in detail using the team approach. Capstone for MEng in Structural Design. *Prerequisite:* CE 459 or CE 541a, CE 458 or CE 529a, CE 537; *Corequisite:* CE 539. Instruction Mode: Lecture Grading Option: Letter

CE 550 Computer-Aided Engineering
Units: 3 Basic concepts of computer-aided engineering. Modeling; simulation; visualization; optimization; artificial intelligence; manufacturing; information management. Organization and management of computer-aided engineering projects. Instruction Mode: Lecture Grading Option: Letter

CE 551 Computer-Aided Engineering Project
Units: 3 Computer-aided engineering in a project environment. Responding to RFPs; conceptual design; preliminary analysis; overall and detailed analysis and design; trade-off studies; project management; project presentation. Instruction Mode: Lecture Grading Option: Letter

CE 552 Managing and Financing Public Engineering Works
Units: 3 Terms Offered: FaSpSm Tools for improving the efficiency and effectiveness of public engineering works, taking into account the political and policy context. *Recommended Preparation:* microeconomic theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-552

CE 553 Biological Processes in Environmental Engineering
Units: 3 Fundamentals and design of aerobic and anaerobic biological treatment processes with a focus on removing organic and inorganic pollutants and recovering resources. *Prerequisite:* CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-553

CE 554 Risk and Reliability Analysis for Civil Infrastructure Systems
Units: 3 Terms Offered: Sp Elements of feasibility, reliability, and risk analysis of civil infrastructure systems, simulation, optimization, life-cycle cost, evaluation and decision making. Instruction Mode: Lecture Grading Option: Letter

CE 555 Underwater Structures
Units: 3 Loads on underwater structures; stress analysis of typical structural elements; buckling problems; dynamic response. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter

CE 556 Project Controls — Budgeting and Estimating
Units: 3 Terms Offered: FaSp Fundamental principles and practices of cost estimating, budgeting, and cost control of construction projects. Case studies and software exercises based on project data. Instruction Mode: Lecture Grading Option: Letter

CE 557 Advanced Building Estimating
Units: 3 Terms Offered: Sp Processes in compiling a bid for construction of nonresidential building. Instruction Mode: Lecture Grading Option: Letter

CE 558 International Construction and Engineering
Units: 3 Terms Offered: Sp Business development and project management in international markets. Topics include marketing, planning, contracts and negotiations, procurement, logistics, personnel and financing. Construction operations in adverse environments. Instruction Mode: Lecture Grading Option: Letter

CE 559 Strategic Planning in Construction Engineering
Units: 3 Terms Offered: Sp Elements and techniques of strategic planning for construction engineering. Fundamentals of engineering as a service sector enterprise. Assessment of markets (including international issues), competitors, and technology. Aspects of overseas engineering business. Management of technology and the role of R&D. Emphasis on concepts. *Recommended Preparation:* CE 502. Instruction Mode: Lecture Grading Option: Letter

CE 560 Simulation of Civil Infrastructure Systems Performance
Units: 3 Time/space and frequency/wave number domain analysis, spectral representation of wind, earthquake and other natural loads, FEM techniques for system response simulation. Instruction Mode: Lecture Grading Option: Letter

CE 561 Uncertainty Quantification
Units: 3 Methods of quantifying uncertainty in civil engineering and related fields. Basic uncertainty modeling; advanced topics such as reliability analysis, Bayesian updating, random processes, random fields. Instruction Mode: Lecture Grading Option: Letter

CE 562 Aquatic Chemistry
Units: 3 Terms Offered: FaSp (Enroll in ENE 562)

CE 563 Chemistry and Biology of Natural Waters
Units: 3 Chemical and biological limnology; cycles of carbon, nitrogen, phosphorous, sulfur, and other biologically-mediated chemical transformations; effect of pollution on biology and chemistry of natural waters. *Prerequisite:* CE 443 and CE 453. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENE-563

CE 565 Wave Propagation in Solids
Units: 3 Elastic waves in infinite and semi-

infinite regions; plates and bars; steady-state and transient scattering; dynamic stress concentration; viscoelastic and plastic bodies. Instruction Mode: Lecture Grading Option: Letter

CE 566 Project Controls — Planning and Scheduling
Units: 3 Terms Offered: FaSp Fundamental principles and practices of planning, CPM scheduling, and resource management. Development of project schedules using CPM theory applied to current and emerging software applications. *Recommended Preparation:* CE 556. Instruction Mode: Lecture Grading Option: Letter

CE 567 Smart Infrastructures
Units: 3 Examination of smart infrastructures relating to energy, water, waste and transportation drawing from the fields of engineering, sustainability, communications, sociology, and psychology. Instruction Mode: Lecture Grading Option: Letter

CE 570 Building Information Modeling for Collaborative Construction
Units: 3 Terms Offered: Sp Multidisciplinary and geographically distributed virtual project teams used to simulate engineering and construction problems for projects selected in collaboration with industry partners. *Prerequisite:* CE 470; *Recommended Preparation:* CE 556, CE 566. Instruction Mode: Lecture Grading Option: Letter

CE 571 Nuclear Safety and Security: Human Performance and Safety Culture
Units: 3 Provides an overview of human-systems integration considerations, human performance and safety culture in the nuclear power operations. Instruction Mode: Lecture Grading Option: Letter

CE 572 Construction Labor Management
Units: 2 Unionism in construction. Craft tradition, objectives, regulation, motivation, labor force economics, productivity, and technical change. Hiring systems, supervision of project labor operations, jurisdictional administration.

CE 579 Introduction to Transportation Planning Law
Units: 3 Federal and state statutory and regulatory requirements affecting California transportation systems, including transportation planning and funding law; and government contracting, environmental, and civil rights requirements. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-588

CE 580 Law and Finance for Engineering Innovation
Units: 3 (Enroll in ISE 565)

CE 581 Negotiation For Engineering Management
Units: 3 Terms Offered: Sp (Enroll in ISE 581)

CE 583 Design of Transportation Facilities
Units: 3 Planning, design, staging, construction, test, and maintenance of the public works and facilities for land, water, and air transportation. *Recommended Preparation:* CE 471 and CE 457; probability and statistics on the level of CE 408. Instruction Mode: Lecture Grading Option: Letter

CE 584 Intelligent Transportation Systems
Units: 3 Fundamentals of intelligent transportation systems, automated vehicles, communication systems, connected vehicle technologies, mobile devices, policy and planning, international research, standards, architecture, and economics of ITS. Instruction Mode: Lecture Grading Option: Letter

CE 585 Traffic Engineering and Control
Units: 3 Terms Offered: Sp Conceptual engineering geometric design, installation, and calibration of vehicular storage and traffic controls; safe flow optimization of vehicles on various thoroughfares. *Recommended Preparation:* CE 471. Instruction Mode: Lecture Grading Option: Letter

CE 586x Management for Engineers
Units: 4 (Enroll in AME 589x)

CE 587 Transportation Energy Analysis
Units: 3 Energy consumption and socioeconomic impacts of past, present, and future transportation systems; analysis of alternatives between energy-intensive and low-cost transportation modes. Instruction Mode: Lecture Grading Option: Letter

CE 588 Railroad Engineering
Units: 3 Railroad infrastructure including passenger and freight operations, track alignment (horizontal and vertical) design, basic components and terminology used in rail design and an understanding of this mode of transportation. *Recommended Preparation:* CE 471. Instruction Mode: Lecture Grading Option: Letter

CE 589 Port Engineering: Planning and Operations
Units: 3 Terms Offered: Fa Physical and operational characteristics of marine ports; impact analysis of modern logistics on port operation, planning and management; optimization and efficiency solutions for container terminals. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-589, PPD-589

CE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content will be selected each semester to reflect current trends and developments in the field of civil engineering. Instruction Mode: Lecture Grading Option: Letter

CE 611 Stochastic Modeling and Simulation
Units: 3 Stochastic methods for modeling and simulating physical, chemical and biological processes. Topics include: Stochastic partial differential equations, Monte Carlo simulations, moment equation methods, stochastic expansions. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PTE-611, CHE-611

CE 633 Urban Transportation Planning and Management
Units: 4, 2 years Terms Offered: Fa (Enroll in PPD 633)

CE 634 Institutional and Policy Issues in Transportation
Units: 4 Terms Offered: Sp (Enroll in PPD 634)

CE 638 Stochastic Optimization
Units: 3 Terms Offered: FaSp (Enroll in ISE 638)

CE 640 Advanced Theory of Elasticity
Units: 3 Curvilinear tensors; equations of nonlinear elasticity; elementary solutions; small deformations superimposed on large deformations; bifurcation of equilibrium states; nonlinear shell theory. *Prerequisite:* CE 507. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-640

CE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 Introduction to the mathematical foundations, numerical algorithms, and computational tools necessary for solving problems of optimization under uncertainty. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-645, ISE-645, EE-645

CE 647 Multiscale Methods in Mechanics
Units: 3 Behavior of man-made and natural materials at different scales; experimental methods to characterize behavior; governing equations, interscale coupling, information exchange; probabilistic representations; error analysis. *Prerequisite:* AME 525 or AME 526 or CE 525 or CE 526. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-647

CE 670 Advanced Research Methods for Built Environment Informatics
Units: 3 Terms Offered: FaSp Research methods in informatics for intelligent built environments; data acquisition, analysis and interpretation for adaptive and responsive built environments and their interactions with end users. Instruction Mode: Lecture Grading Option: Letter

CE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Civil Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 692 Transportation and the Environment
Units: 4 (Enroll in PPD 692)

CE 694a Thesis
Units: 2 Required for the degree Engineer in

Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 694b Thesis
Units: 2 Required for the degree Engineer in Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 694z Thesis
Units: 0 Required for the degree Engineer in Civil Engineering. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Chemical Engineering

CHE 120 Introduction to Chemical Engineering
Units: 3 Terms Offered: Sp Problem-solving techniques in chemical engineering using graphics and computers. Mass and heat balances. *Corequisite:* MATH 125; CHEM 105aLg or CHEM 115aLg. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 205 Numerical Methods in Chemical Engineering
Units: 3 Terms Offered: Sp Computational tools for solving numerical problems in Chemical Engineering. *Prerequisite:* MATH 125. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 301g Introduction to Engineering Biology
Units: 4 Terms Offered: Fa Engineering methods to understand and design molecules, cells, and living organisms. Techniques to analyze biological systems at the molecular and microscopic level. Computational analysis. *Prerequisite:* CHEM 105a or CHEM 115a or MASC 110 *Recommended Preparation:* Basic understanding of chemistry, atoms, and molecules. Completion of an Advanced Placement chemistry class in high school is acceptable preparation for CHE 301g. Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to Viterbi School of Engineering students Instruction Mode: Lecture Grading Option: Letter

CHE 330 Chemical Engineering Thermodynamics
Units: 3 Terms Offered: Fa Elements of chemical engineering thermodynamics, including generalized correlations of properties of materials, phase behavior, physical and chemical equilibria. *Corequisite:* MATH 226. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 350 Introduction to Separation Processes
Units: 3 Terms Offered: Sp Use of equilibrium phase relations and principles of material and energy balance for design, operation, and optimization of separation procedures such as distillation, absorption, etc. *Prerequisite:* CHEM 105bL or CHEM 115bL; *Recommended Preparation:* CHE 330. Instruction Mode: Lecture Grading Option: Letter

CHE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CHE 391L Introduction to Nanotechnology Research
Units: 2 Planning and execution of an experiment, and presentation of findings through oral presentations and a written report. Application of the scientific method learned through immersion in a lab environment. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

CHE 405 Applications of Probability and Statistics for Chemical Engineers
Units: 3 Terms Offered: Fa Principles of probability and statistics, random variables and random functions. Application to chemical engineering problems, including process design, process safety, heterogeneous materials and processes. *Prerequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

CHE 410 Introduction to Biomaterials and Tissue Engineering
Units: 3 Terms Offered: Fa (Enroll in BME 410) Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 442 Chemical Reactor Analysis
Units: 3 Terms Offered: Fa Basic concepts of chemical kinetics and chemical reactor design. *Prerequisite:* MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHE 443 Viscous Flow
Units: 3 Terms Offered: Sp Constitutive equations and rate laws, momentum equations and kinetic theory of Newtonian, Non-Newtonian and complex flows. Applications to chemical engineering systems. *Corequisite:* CHE 350, MATH 245.

CHE 444aL Chemical Engineering Laboratory
Units: 3 Terms Offered: FaSp Resolution of chemical engineering problems that require original planning, observations, and data interpretation. Written and oral reports. *Prerequisite:* CHE 330, CHE 350, CHE 442; *Corequisite:* CHE 443. Instruction Mode: Lab Required Grading Option: Letter

CHE 444bL Chemical Engineering Laboratory
Units: 3 Terms Offered: FaSp Resolution of chemical engineering problems that require original planning, observations, and data interpretation. Written and oral reports. *Prerequisite:* CHE 330, CHE 350, CHE 442; *Corequisite:* CHE 443. Instruction Mode: Lab Required Grading Option: Letter

CHE 445 Heat Transfer in Chemical Engineering Processes
Units: 2 Phenomenological rate laws, differential and macroscopic equations, and elementary kinetic theory of heat transfer processes with emphases on conduction and convection. *Prerequisite:* CHE 443, MATH 245. Duplicates Credit in AME 331. Instruction Mode: Lecture Grading Option: Letter

CHE 446 Mass Transfer in Chemical Engineering Processes
Units: 2 Terms Offered: Sp Molecular and continuum approaches to diffusion and convection in fluids and multicomponent mixtures; simultaneous mass, heat and momentum transfer; steady-state and time-dependent diffusion; Maxwell-Stefan equations. *Prerequisite:* MATH 245, CHE 443, CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 450 Sustainable Energy
Units: 3 Terms Offered: Fa A comparison of various forms of sustainable energy from a perspective ranging from molecules and materials to industrial-scale processes, including biomass, geothermal, and solar energy as well as carbon dioxide capture and utilization. *Prerequisite:* PHYS 151Lg and PHYS 152L *Recommended Preparation:* CHE 330 Instruction Mode: Lecture Grading Option: Letter

CHE 460L Chemical Process Dynamics and Control
Units: 3 Terms Offered: Sp Simulation, stability, and automatic control of chemical processes. Open and closed loop control schemes and introduction to optimal control theory. Computer implementation and laboratory application. *Prerequisite:* CHE 120; *Corequisite:* MATH 245. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHE 461 Formation Evaluation
Units: 3 (Enroll in PTE 461)

CHE 462 Economic, Risk and Formation Productivity Analysis
Units: 4 (Enroll in PTE 462)

CHE 463L Introduction to Transport Processes in Porous Media
Units: 3 (Enroll in PTE 463L)

CHE 464L Petroleum Reservoir Engineering
Units: 3 (Enroll in PTE 464L)

CHE 465L Drilling Technology and

Subsurface Methods
Units: 3 (Enroll in PTE 465L)

CHE 472 Polymer Science and Engineering
Units: 3 Terms Offered: Sp The preparation, characterization, and properties of synthetic polymers. An interdisciplinary approach to polymers as materials. *Recommended Preparation:* CHEM 322aL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC-472

CHE 474L Polymer Science and Engineering Laboratory
Units: 3 Terms Offered: Sp Experimental methods for the preparation, characterization, and properties of synthetic polymers. *Recommended Preparation:* CHE 472. Instruction Mode: Lab Required Grading Option: Letter

CHE 475 Physical Properties of Polymers
Units: 3 Terms Offered: Fa Theoretical methods and semi-empirical correlations for estimating mechanical, thermodynamic, transport, optical, and electrical properties of polymer solutions, melts, networks, glasses, polymer blends and semi-crystalline polymers. *Recommended Preparation:* CHE 472 and CHEM 430 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 475

CHE 476 Chemical Engineering Materials
Units: 3 Terms Offered: Sp Chemical and physical properties of solid materials used by chemical engineers, including polymers, metals, and ceramics. Materials design for industrial applications. *Prerequisite:* CHEM 322aL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-476, MASC-476

CHE 477 Computer Assisted Polymer Engineering and Manufacturing I
Units: 3 Terms Offered: Sp Estimation of physical, mechanical, chemical and processing properties of thermal plastics. Major molding processes. Mold flow simulation and residual stresses analysis. Case studies. *Prerequisite:* junior class standing. Instruction Mode: Lecture Grading Option: Letter

CHE 480 Chemical Process and Plant Design
Units: 3 Terms Offered: Sp Applications of unit operations, thermodynamics, kinetics, and economic balance; energy conservation in heat exchanger networks and in sequencing of separational devices. Safety aspects. *Prerequisite:* senior standing. Instruction Mode: Lecture Grading Option: Letter

CHE 485 Computer-Aided Chemical Process Design
Units: 3 Terms Offered: Fa Use and optimization of modern computer software for chemical process design. *Prerequisite:* CHE 442, CHE 443. Instruction Mode: Lecture, Lab Grading Option: Letter

CHE 486 Design of Environmentally Benign Process Plants
Units: 3 Terms Offered: Sp Chemical Process Plants interact with the environment as an integrated system. This course discusses design procedures to minimize unwanted effluents to air, water and solid wastes. *Corequisite:* CHE 480 or CHE 485. Instruction Mode: Lecture Grading Option: Letter

CHE 487 Nanotechnology and Nanoscale Engineering through Chemical Processes
Units: 3 Properties and processing of nanomaterials including polymeric, metallic, and ceramic nanoparticles, composites, colloids, and surfactant self-assembly for templated nanomaterial production. *Prerequisite:* CHEM 105aLg or CHEM 115aLg or MASC 110L. Instruction Mode: Lecture Grading Option: Letter

CHE 488 Molecular and Cellular Bioengineering
Units: 3 Terms Offered: Fa Design, synthesis, and analysis of biological molecules; routes to understand and engineer living systems at the molecular and cellular level; systems and synthetic biology. *Prerequisite:* BISC 320. Instruction Mode: Lecture Grading Option: Letter

CHE 489 Biochemical Engineering
Units: 3 Terms Offered: Sp Application of chemical engineering principles to biological and biochemical processes and materials. Design of biochemical reactors and of processes for separation and purification of biological products. *Prerequisite:* CHE 330, BISC 320L. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BME-489

CHE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CHE 491 Nanotechnology Research for Undergraduates
Units: 2 Max Units: 4.0 Independent research in nanotechnology. Research project selected by the student in close consultation with a research adviser. *Prerequisite:* CHE 391L. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

CHE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in chemical engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

CHE 501 Modeling and Analysis of Chemical Engineering Systems
Units: 3 Terms Offered: Fa Application of mathematics to problems in chemical engineering; mathematical modeling, differential and integral equations, linear systems analysis and stability, asymptotic and numerical methods. Instruction Mode: Lecture Grading Option: Letter

CHE 502 Numerical Methods for Diffusive and Convective Transport
Units: 3 Terms Offered: Sp Numerical solution of ordinary and partial differential equations describing fluid flow, diffusion with chemical reaction, and conduction in heterogeneous media. Instruction Mode: Lecture Grading Option: Letter

CHE 510 Energy and Process Efficiency
Units: 3 Terms Offered: Sp Management and engineering strategies utilized to improve energy efficiency. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in AME 577. Instruction Mode: Lecture Grading Option: Letter

CHE 513 Principles of Combustion
Units: 3 (Enroll in AME 513)

CHE 523 Principles of Electrochemical Engineering
Units: 3 (Enroll in MASC 523)

CHE 530 Thermodynamics for Chemical Engineers
Units: 3 Terms Offered: Sp Application of thermodynamics to chemical engineering systems. *Recommended Preparation:* CHE 330. Instruction Mode: Lecture Grading Option: Letter

CHE 531 Enhanced Oil Recovery
Units: 3 (Enroll in PTE 531)

CHE 532 Vapor-Liquid Equilibrium
Units: 3 Thermodynamics of phase relations; prediction and correlation of phase behavior. *Prerequisite:* CHE 330. Instruction Mode: Lecture Grading Option: Letter

CHE 540 Viscous Flow
Units: 3 Fluid mechanical problem of interest to chemical engineers involving laminar flows of incompressible fluids, viscous-dominated creeping flows, and motion of bubbles and drops. *Prerequisite:* CE 309 or AME 309 or CHE 443. Instruction Mode: Lecture Grading Option: Letter

CHE 541 Mass Transfer
Units: 3 Fundamentals of mass transfer within a single phase and between phases; applications to separation processes. *Recommended Preparation:* CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 542 Chemical Engineering Kinetics
Units: 3 Terms Offered: Sp Reaction kinetics applied to problems of engineering design and operation. *Recommended Preparation:* CHE 442. Instruction Mode: Lecture Grading Option: Letter

CHE 544 Heat Transmission
Units: 3 Principles of conduction, radiation, and convection of heat; application to chemical and related industries. *Recommended Preparation:* CHE 330, CHE 445. Instruction Mode: Lecture Grading Option: Letter

CHE 550a Seminars in Chemical Engineering
Units: 0, 1 Terms Offered: FaSp Seminars to cover recent developments in the field of chemical engineering given by invited speakers. Master's students must register for two semesters; PhD students must register for four semesters. *Recommended Preparation:* graduate standing. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 550b Seminars in Chemical Engineering
Units: 0, 1 Max Units: 2.0 Terms Offered: FaSp Seminars to cover recent developments in the field of chemical engineering given by invited speakers. Master's students

must register for two semesters; PhD students must register for four semesters. *Recommended Preparation:* graduate standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 554 Principles of Tissue Engineering
Units: 3 Terms Offered: Fa Advanced scientific and engineering principles of tissue engineering including stem cell biology, biomaterial scaffolds, protein-surface interaction, bioreactor, and selected bioartificial organs (e.g., kidney, bone, skin). *Recommended Preparation:* CHE 476, CHE 489. Instruction Mode: Lecture Grading Option: Letter

CHE 560 Advanced Separation and Bioseparation Processes
Units: 3 Terms Offered: Sp Experimental techniques for separation and bioseparation processes and theoretical and computational techniques for modeling them. Instruction Mode: Lecture Grading Option: Letter

CHE 572 Advanced Topics in Polymer Kinetics and Rheology
Units: 3 Terms Offered: Fa Kinetics of polymer synthesis reactions and rheology of polymer solutions. *Recommended Preparation:* CHE 442, CHE 472. Instruction Mode: Lecture Grading Option: Letter

CHE 582 Fluid Flow and Transport Processes in Porous Media
Units: 3 (Enroll in PTE 582)

CHE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 596 Chemical Reactions in the Atmosphere
Units: 3 (Enroll in ENE 596)

CHE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content will be selected each semester to reflect current trends and developments in the field of chemical engineering. Instruction Mode: Lecture Grading Option: Letter

CHE 611 Stochastic Modeling and Simulation
Units: 3 (Enroll in CE 611)

CHE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Chemical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Chemistry

CHEM 050x General Chemistry Tutorial
Units: 2 Weekly tutorial for selected students in CHEM 105aLg. Strong emphasis on chemical mathematics and key concepts in general chemistry. *Concurrent Enrollment:* Concurrent enrollment: CHEM 105aLg. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as Topics parallel lectures in CHEM 105aLg.

CHEM 051x General Chemistry Tutorial
Units: 2 Structured tutorial for selected students in CHEM 105bL. Strong emphasis on chemical mathematics and key concepts in general chemistry. *Prerequisite:* CHEM 105a; *Concurrent Enrollment:* Concurrent enrollment: CHEM 105bL. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as Topics parallel lectures in CHEM 105bL.

CHEM 102 The Molecular World
Units: 4 Basic chemistry and its impact on the contemporary world. Topics include: structures and reactions of molecules, stoichiometry, nomenclature, gases, solutions. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 103Lgx General Chemistry for the Environment and Life
Units: 4 Terms Offered: FaSpSm Chemistry for environmental studies, neuroscience and other life sciences: organic and inorganic structures, nomenclature, stoichiometry, solutions, gases, non-covalent interactions, equilibria, acid-base and redox reactions. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 105aLg General Chemistry
Units: 4 Terms Offered: FaSpSm Fundamental principles and laws of chemistry; laboratory work emphasizes quantitative procedures. *Prerequisite:* Prerequisite to all more advanced courses in chemistry. CHEM 050 or passing of placement test. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in CHEM 115aL or CHEM 115bL. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHEM 105bL General Chemistry
Units: 4 Terms Offered: FaSpSm Fundamental principles and laws of chemistry; laboratory work emphasizes quantitative procedures. *Prerequisite:* Prerequisite to all more advanced courses in chemistry. CHEM 105aLg or CHEM 115aLg. Duplicates Credit in CHEM 115aL or CHEM 115bL. Instruction Mode: Lecture, Quiz, Lab Required Grading Option: Letter

CHEM 107Lg General Chemistry for Chemistry Majors
Units: 4 Terms Offered: FaSp Fundamental principles and laws of chemistry emphasizing contemporary chemistry; laboratory work focuses on quantitative procedures. Satisfies New General Education in Category E: Physical Sciences Registration Restriction: Open only to Chemistry and Biochemistry majors Duplicates Credit in CHEM 105a and CHEM 115a. Instruction Mode: Lecture, Lab, Quiz Grading Option: Letter

CHEM 108L General Chemistry for Chemistry Majors: Kinetics and Equilibrium
Units: 4 Terms Offered: FaSp Fundamental principles and laws of chemistry emphasizing contemporary chemistry; laboratory work focuses on quantitative procedures. Second-semester general chemistry course for majors. *Recommended Preparation:* CHEM 107Lg Registration Restriction: Open only to Chemistry and Biochemistry majors Duplicates Credit in CHEM 105bL and CHEM 115bL Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CHEM 115aLg Advanced General Chemistry
Units: 4 Terms Offered: Fa Equivalent to CHEM 105a -CHEM 105b , but taught at a higher level for exceptionally well-prepared students. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in CHEM 105aL or CHEM 105bL. Instruction Mode: Lecture, Discussion, Lab Required, Quiz Grading Option: Letter

CHEM 115bL Advanced General Chemistry
Units: 4 Terms Offered: Sp Equivalent toCHEM 105a - CHEM 105b , but taught at a higher level for exceptionally well-prepared students. *Prerequisite:* CHEM 115aLg. Duplicates Credit in CHEM 105aL or CHEM 105bL. Instruction Mode: Lecture, Lab Required, Discussion, Quiz Grading Option: Letter

CHEM 201Lgx Chemistry in the

Environment, Energy and Society
Units: 4 A range of issues where chemistry impacts society will be explored. Topics such as global warming, pollution, energy utilization and genetic engineering will be covered. Students who have taken CHEM 105a, CHEM 105b previously or concurrently with CHEM 201 will not receive credit for CHEM 201. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 203Lgx AIDS Drug Discovery and Development
Units: 4 Terms Offered: Fa Scientific principles underlying molecular approaches to diagnosis and treatment of diseases, using specific models within a societal (business, legal, ethical) context. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 205Lgx Chemical Forensics: The Science, and Its Impact
Units: 4 Scientific principles underlying forensic approaches to the investigation of crimes and its societal impact on law, culture and media. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 221x Organic Chemistry Problem Solving Workshop
Units: 2 Terms Offered: Sp Distance learning course designed to bridge the gap between general and organic chemistry. Focus on problem solving and understanding the language of organic chemistry. Not for major credit for chemistry, chemistry (chemical nanoscience), chemistry (chemical physics), chemistry (research) or chemistry (chemical biology) majors. *Prerequisite:* CHEM 105b. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 250x Organic Chemistry Tutorial A
Units: 2 Major principles of organic chemistry and its relevance. Topics covered parallel to those of CHEM 322aL. *Prerequisite:* CHEM 105bL. *Corequisite:* CHEM 322aL. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 251x Organic Chemistry Tutorial B
Units: 2 Terms Offered: FaSp Structured tutorial course, which enables students to understand fundamental principles, better approach problems with success. Explores the major principles of organic chemistry and its relevance. Topics covered will parallel CHEM 322b. *Prerequisite:* CHEM 322aL. *Corequisite:* CHEM 322bL. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 280x Research Design, Interpretation and Statistics
Units: 2 Fundamental principles behind the design and execution of scientific research in the chemical, physical and biological sciences, emphasizing scientific reasoning, data interpretation and statistical analysis. Instruction Mode: Lecture Grading Option: Letter

CHEM 290a Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290b Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290c Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 290d Special Laboratory
Units: 1 Terms Offered: FaSpSm Laboratory component for CHEM 105a, CHEM 105b, 322, or CHEM 322b for students with equivalent lecture credit from another institution. *Prerequisite:* consent of department head. Instruction Mode: Lab Required Grading Option: Letter

CHEM 292 Supervised Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Supervised undergraduate research experience. *Corequisite:* CHEM 105a or CHEM 115a. Instruction Mode: Lecture Grading Option: Letter

CHEM 294 Undergraduate Research Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminars in current research in the chemical and molecular sciences. *Corequisite:* CHEM 105a or CHEM 115a. Instruction Mode: Lecture Grading Option: Letter

CHEM 300L Analytical Chemistry
Units: 4 Terms Offered: FaSp Theory and practice in chemical analysis, emphasizing instrumental techniques; error analysis, fractional distillation, extraction; chromatography; visible, ultraviolet, and infrared spectroscopy; introductions to electrochemistry and nuclear magnetic resonance spectroscopy. *Prerequisite:* CHEM 105bL or CHEM 115bL. Instruction Mode: Lecture, Lab Required, Discussion Grading Option: Letter

CHEM 322aL Organic Chemistry
Units: 4 Terms Offered: FaSpSm Chemistry of the carbon compounds of the aliphatic and aromatic series; laboratory preparation of typical compounds of both series.
Enroll in CHEM 325a ,CHEM 325b
Prerequisite: CHEM 105bL or CHEM 115bL. Instruction Mode: Lecture, Lab Required, Discussion, Quiz Grading Option: Letter

CHEM 322bL Organic Chemistry
Units: 4 Terms Offered: FaSpSm Chemistry of the carbon compounds of the aliphatic and aromatic series; laboratory preparation of typical compounds of both series.
Enroll in CHEM 325a , CHEM 325b
Prerequisite: CHEM 322aL. Instruction Mode: Lecture, Lab Required, Discussion, Quiz Grading Option: Letter

CHEM 325aL Organic Chemistry
Units: 4 Terms Offered: Fa Required of majors in chemistry.
Enroll in CHEM 322a ,CHEM 322b
Prerequisite: CHEM 105bL or CHEM 115bL. Instruction Mode: Lecture, Lab Required, Discussion, Quiz Grading Option: Letter

CHEM 325bL Organic Chemistry
Units: 4 Terms Offered: Sp Required of majors in chemistry.
Enroll in CHEM 322a , CHEM 322b
Prerequisite: CHEM 325aL. Instruction Mode: Lecture, Lab Required, Discussion, Quiz Grading Option: Letter

CHEM 330L Biochemistry
Units: 4 Terms Offered: FaSp (Enroll in BISC 330L)

CHEM 332L Physical Chemical Measurements
Units: 4 Experimental study of topics discussed in CHEM 430 and CHEM 431; adsorption, magnetic susceptibility; electron spin resonance, kinetics, equilibria, molecular spectra and structure, viscosity, dielectric properties. *Corequisite:* CHEM 430b or CHEM 431 Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

CHEM 350g Molecular Principles of Biochemistry
Units: 4 Terms Offered: FaSp Biomolecular structures, protein and nucleic acid chemistry and functions, carbohydrates, lipids, membranes, enzyme catalysis and kinetics, coenzymes, biochemical signaling, major metabolic pathways, control of gene expression, replication, transcription, and translation. *Prerequisite:* CHEM 105b or CHEM 115b; *Recommended Preparation:* BISC 220 or BISC 221. *Corequisite:* CHEM 322a or CHEM 325a; Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CHEM 423L Advanced Laboratory Techniques in Organic and Inorganic Chemistry
Units: 4 Terms Offered: Sp Advanced synthetic, analytical, and physical measurement techniques in organic and inorganic chemistry. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* CHEM 300L,

CHEM 322bL or CHEM 325bL. Instruction Mode: Lecture, Lab Required, Discussion Grading Option: Letter

CHEM 426 Advanced Organic Chemistry
Units: 4 Terms Offered: Fa Advanced treatment of organic chemistry from a mechanistic point of view according to the following topics: polar and isopolar reactions, intermediates. *Prerequisite:* CHEM 322bL or CHEM 325bL. Instruction Mode: Lecture Grading Option: Letter

CHEM 430 Physical Chemistry: Thermodynamics and Kinetics
Units: 4 Terms Offered: Fa Kinetic theory; equations of state; thermodynamics; phase equilibria; chemical equilibrium; nuclear chemistry, wave mechanics; spectroscopy; statistical thermodynamics; kinetics; electrochemistry; surface and colloid chemistry. *Prerequisite:* (CHEM 300L or CHEM 322aL or CHEM 325aL) and (MATH 225 or MATH 226) and PHYS 151Lg Duplicates Credit in CHEM 430a Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 431 Physical Chemistry: Quantum Mechanics
Units: 4 Kinetic theory; equations of state; thermodynamics; phase equilibria; chemical equilibrium; nuclear chemistry, wave mechanics; spectroscopy; statistical thermodynamics; kinetics; electrochemistry; surface and colloid chemistry. *Prerequisite:* PHYS 152L Duplicates Credit in CHEM 430b Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 432 Physical Chemistry for the Life Sciences
Units: 4 Terms Offered: Fa Principles of physical chemistry relevant for the life sciences: thermodynamics, chemical equilibria, molecular dynamics, kinetics, molecular structures and interactions, spectroscopy, statistical thermodynamics and macromolecular structures. *Prerequisite:* CHEM 300L or CHEM 322aL or CHEM 325aL; MATH 126;PHYS 135a L or PHYS 151Lg. Duplicates Credit in CHEM 430a. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 453 Advanced Inorganic Chemistry
Units: 4 Terms Offered: Sp Atomic structure, theory of bonding, molecular structure, metallic state, coordination compounds, transition and nontransition metals, magnetic and optical properties, crystal field theory, mechanism of reactions. *Prerequisite:* CHEM 105bL or CHEM 115bL and CHEM 322aL or CHEM 325aL. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 455 Chemical Nanotechnology
Units: 4 Studies in the fundamental principles governing nanoscale materials. Structure and chemical bonding, preparative methods, and electrical, optical and magnetic properties of nanoscale materials and applications. *Prerequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 463L Chemical Nanotechnology Laboratory
Units: 2 Experimental techniques in the synthesis and characterization of nanoscale materials. Emphasis on examining size-dependent properties of various nano - scale materials using spectroscopic techniques. *Prerequisite:* CHEM 322aL or CHEM 325aL Instruction Mode: Lecture, Lab Grading Option: Letter

CHEM 465L Chemical Instrumentation
Units: 4 Principles of operation of instruments used in physical sciences. Basic electronics, interconnection of building blocks, data acquisition and data reduction, noise, instrument systems. *Prerequisite:* CHEM 332L or CHEM 430b or CHEM 431 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 467L Advanced Chemical Biology Laboratory
Units: 2 Principles, methods and protocols of chemical biology through experimentation focusing on the interactions of small molecules with biomacromolecules such as proteins and DNA. *Prerequisite:* CHEM 322b or CHEM 325b *Corequisite:* CHEM 300 Instruction Mode: Lecture, Lab Grading Option: Letter

CHEM 488 Introduction to Theory and Practice of X-ray Crystallography
Units: 4 Terms Offered: Fa Introduction to single crystal X-ray diffraction theory and its extension to two-dimensional diffraction. Application of modern instrumentation and software techniques to problems of current chemical interest. *Prerequisite:* CHEM 300; CHEM 322a or CHEM 325a; and CHEM 322b or CHEM 325b. Instruction Mode: Lecture Grading Option: Letter

CHEM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CHEM 494x Advanced Research Experience
Units: 2, 4 Max Units: 4.0 Terms Offered: FaSpSm Directed undergraduate research supervised by faculty, with advanced capstone research experience. *Prerequisite:* CHEM 490. Instruction Mode: Lecture Grading Option: Letter

CHEM 495 Beyond the Classroom - Research in Modern Chemistry
Units: 2 Current topics in chemical research, understanding structures of modern graduate training program and navigating the process of graduate program application. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

CHEM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures and discussions on specialized topics in chemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 510x Alternative Energy Technologies and Options
Units: 4 Introduce the essential scientific background to understand complex issues involving energy use and its environmental consequences. Critically analyze energy issues that will shape policy decisions. Instruction Mode: Lecture Grading Option: Letter

CHEM 515 Structure and Bonding in Inorganic and Organometallic Chemistry
Units: 4 An integrated core course of structure and bonding in inorganic, coordination and organometallic chemistry within an oxidation state framework. Symmetry, electronic properties. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 516 Synthesis, Reactivity, and Mechanism in Inorganic and Organometallic Chemistry
Units: 4 A reactivity framework for inorganic and organometallic chemistry. Synthesis, reaction mechanisms and energetics. Homogeneous catalysis. *Prerequisite:* CHEM 515. Instruction Mode: Lecture Grading Option: Letter

CHEM 519 Biochemistry and Molecular Biology: An Introduction for Chemists
Units: 4 Amino acids and peptides; protein structure and function; enzyme kinetics; structure, analysis and synthesis of nucleic acids; chemical biology of DNA and RNA; biotechnology. Instruction Mode: Lecture Grading Option: Letter

CHEM 521 Basic Principles of Physical Methods in Biochemistry
Units: 2 Principles underlying physical analytical methods commonly utilized in research in biochemistry and molecular biology. Instruction Mode: Lecture Grading Option: Letter

CHEM 523 Introduction to Functional Inorganic Materials
Units: 2 An introduction to functional inorganic materials emphasizing crystalline materials and how their properties can be understood based on their structure, elemental composition, and electronic structure. *Recommended Preparation:* A basic understanding of molecular orbital theory and electronic structure of extended solids Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 524 Inorganic Materials Chemistry
Units: 2 Studies in the fundamental principles governing inorganic materials. Structure and chemical bonding, preparative methods, and electrical, optical and magnetic properties of inorganic materials and applications. *Prerequisite:* CHEM 515. Instruction Mode: Lecture Grading Option: Letter

CHEM 526 Structure and Mechanism in Organic Chemistry
Units: 4 Review of modern structural theory of organic chemistry; and relation to the mechanisms of organic chemical reactions. Instruction Mode: Lecture Grading Option: Letter

CHEM 527 Synthetic Organic Chemistry
Units: 4 A survey of representative groups of widely used synthetic organic reactions; emphasis on scope, limitations, and stereochemical consequences. Instruction

Mode: Lecture Grading Option: Letter

CHEM 535 Introduction to Molecular Spectroscopy
Units: 4 Theory and experimental methods of molecular spectroscopy and applications to chemistry. Rotational, vibrational, electronic and nuclear magnetic resonance spectroscopies. *Prerequisite:* CHEM 544. Instruction Mode: Lecture Grading Option: Letter

CHEM 536 Molecular Dynamics
Units: 2 or 4 Potential energy surfaces, reaction dynamics, scattering theories, classical trajectories, statistical theories, molecular energy transfer, photodissociation dynamics, gas- surface interactions, experimental results, beam and laser techniques. Instruction Mode: Lecture Grading Option: Letter

CHEM 538 Mathematical Techniques of Physical Chemistry
Units: 4 Fundamentals and techniques of mathematics and physics. Linear algebra, differential equations, mechanics, electricity and magnetism. Applications to physical chemistry/chemical physics. Instruction Mode: Lecture Grading Option: Letter

CHEM 539 Surface Chemistry
Units: 4 Physical and chemical properties of solid surfaces; thermodynamics and kinetics of gas chemisorption; chemical bonding at surfaces; applications to catalysis and electronic materials. Instruction Mode: Lecture Grading Option: Letter

CHEM 540 Introduction to Statistical Mechanics
Units: 4 Study of macroscopic systems from molecular viewpoint using statistical mechanics: ensembles, fluctuations, gases, gas-solid interfaces, crystals, polymers, critical phenomena, non-equilibrium systems. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 544 Introduction to Quantum Chemistry
Units: 4 Basic principles of quantum mechanics and their application to chemistry. Electronic structure of atoms and molecules. Instruction Mode: Lecture Grading Option: Letter

CHEM 545 Theory and Practice of Molecular Electronic Structure
Units: 4 Provide working knowledge and hands-on experience in current quantum chemical methods for chemists who would like to employ these techniques in their own research. *Prerequisite:* CHEM 538, CHEM 544. Instruction Mode: Lecture Grading Option: Letter

CHEM 546 Mathematics in Physical Chemistry
Units: 2 Introduction to mathematical methods in physical chemistry and quantum mechanics: ordinary and partial differential equations, orthogonal polynomials, Fourier series, Fourier transforms, eigenvalue and matrix equations Duplicates Credit in CHEM 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 547 Numerical Calculations in Physical Chemistry
Units: 2 Introduction to numerical calculations in physical chemistry and quantum mechanics: translational and vibrational wavepackets, tunneling motions, particle in a potential, rotational-vibrational spectra of diatomic molecules. Duplicates Credit in CHEM 538 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 548 Computer Simulations of Chemical and Biological Systems
Units: 4 Key aspects of the rapidly growing field of computer simulation of molecular systems in general and biological molecules in particular. *Recommended Preparation:* undergraduate course in physical chemistry or equivalent. Instruction Mode: Lecture Grading Option: Letter

CHEM 550 Special Topics in Chemical Physics
Units: 2, 3, 4 Max Units: 8.0 Study of selected areas of chemical physics. Critical evaluation of recent advances in the field. Instruction Mode: Lecture Grading Option: Letter

CHEM 555 Computational Quantum Chemistry: Methods and Applications
Units: 2, 3, 4 Max Units: 04 Introduction to modern computational quantum chemistry. Prediction of molecular structure, molecular spectra and molecular reaction mechanisms using ab initio and semi-empirical methods. *Prerequisite:* CHEM 430b or CHEM 431 *Recommended Preparation:* CHEM 544 Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 561 Polymer Synthesis
Units: 4 Concepts of polymer structure and stereochemistry. Organic chemistry of polymerization reactions with emphasis on condensation, radical, cationic, anionic, and coordination- - metathesis polymerization. Instruction Mode: Lecture Grading Option: Letter

CHEM 565L Advanced Practical Nuclear Magnetic Resonance Spectroscopy
Units: 2 Application of multidimensional and time resolved NMR spectroscopy to problems in structure determination and thermochemistry. *Prerequisite:* CHEM 322b or CHEM 325b; *Recommended Preparation:* CHEM 625. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CHEM 570 Seminar in Chemical Biology
Units: 2 Max Units: 4.0 Introduce students to emerging research areas in chemical biology through a thorough discussion of seminal research articles and presentations of current research topics. *Recommended Preparation:* some research experience and familiarity with literature search. Instruction Mode: Lecture Grading Option: Letter

CHEM 575 Modern Trends in Physical Chemistry
Units: 2 Max Units: 4.0 Emerging research areas in physical and theoretical chemistry through a thorough discussion of seminal research articles and presentations of current research topics. *Recommended Preparation:* some research experience and familiarity with literature search. Instruction Mode: Lecture Grading Option: Letter

CHEM 577a Medicinal Chemistry and Drug Design
Units: 2 Introduction to fundamentals of medicinal chemistry with special attention to the drug discovery process. *Recommended Preparation:* PSCI 664 and CHEM 519. PSCI 664. Instruction Mode: Lecture Grading Option: Letter

CHEM 577b Medicinal Chemistry and Drug Design
Units: 2 Concepts, methods and examples of current approaches to drug design including computer-based molecular modeling techniques. *Recommended Preparation:* PSCI 664 and CHEM 519. PSCI 664. Instruction Mode: Lecture Grading Option: Letter

CHEM 580 Current Topics in Inorganic Chemistry and Nanoscience
Units: 2 Max Units: 4.0 Introduction to emerging research areas in inorganic chemistry and nanoscience through a discussion of seminal research articles and presentations of current research topics. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 581 Current Topics in Sustainable Energy Generation and Storage
Units: 2 Introduction to emerging research areas in the chemistry of sustainable energy generation and storage through discussion of core research areas and presentations on current research. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 588a X-ray Crystallography
Units: 2 Single-crystal X-ray diffraction theory and experimental methods. *Prerequisite:* CHEM 588a before b. Instruction Mode: Lecture Grading Option: Letter

CHEM 588b X-ray Crystallography
Units: 2 Application of diffraction techniques to problems of current chemical and biological interest. *Prerequisite:* CHEM 588a before b. Instruction Mode: Lecture Grading Option: Letter

CHEM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 593x Practicum in Teaching Chemistry
Units: 2 Practical principles for effective teaching in the laboratory. Intended for teaching assistants in Chemistry. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 599 Special Topics
Units: 2, 3, 4 Special topics in chemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

CHEM 625 Chemical Applications of Magnetic Resonance Spectroscopy
Units: 4 Elementary theory of magnetic resonance spectroscopy, methods of spectral analysis, treatment of Fourier Transform methods and time dependent phenomena; recent applications in organic chemistry. Instruction Mode: Lecture Grading Option: Letter

CHEM 626 Natural Products Chemistry
Units: 2 Survey of the chemistry and biogenesis of the major classes of secondary metabolites along biogenetic lines: terpenes, acetogenins, and alkaloids. Instruction Mode: Lecture Grading Option: Letter

CHEM 630 Fundamentals of Electrochemical Energy Systems
Units: 2 Fundamentals of electrochemical energy systems including various batteries, fuel cells and electrolyzers with a focus on materials, operating principles and applications. Instruction Mode: Lecture Grading Option: Letter

CHEM 632 Introduction to Surface Chemistry and Electrocatalysis
Units: 2 Introduction to principles governing physical and chemical behavior of surfaces: structures, thermodynamics, adsorption, desorption, diffusion, electron transfer and electrocatalytic reactions, and experimental surface analytical techniques. Instruction Mode: Lecture Grading Option: Letter

CHEM 661 Selected Topics in Polymer Synthesis
Units: 2, 3, 4 Max Units: 8.0 Advanced level study in selected areas of polymer synthesis. Critical evaluation of recent advances. Topic examples: ionic polymerization; stereo chemistry of polymers; silicon polymers; ladder polymers. Instruction Mode: Lecture Grading Option: Letter

CHEM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CHEM 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CHEM 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Classics

All of the following courses require a knowledge of Greek or Latin.
CLAS 500 to CLAS 794z.

CLAS 101g The Ancient World
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 101gp)

CLAS 150g The Greeks and their Legacies
Units: 4 Terms Offered: FaSp Introduction to the culture of ancient Greece and its influence on contemporary ideas, institutions, values, and literary and artistic works of the imagination. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

CLAS 151gp The Legacy of Rome
Units: 4 Terms Offered: FaSp Ancient Roman values, ideas, and institutions of relevance to later periods of civilization. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 160gp Ancient Lives
Units: 4 Terms Offered: FaSp The lives of prominent Greeks, Romans and others in their ancient historical and biographical contexts and in modern reevaluations through various written and visual media. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 202 Archaeology: Our Human Past
Units: 4 (Enroll in ANTH 202)

CLAS 212 Archaeology: Interpreting the Past
Units: 4 Terms Offered: Sp Methods and techniques employed in modern archaeological research, including the tools and principles of allied scientific fields and the impact of analytical and technological advances. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CLAS 280gp Classical Mythology in Art and Literature
Units: 4 Terms Offered: FaSp Classical Greek and Roman mythology as inspiration for literature, art, music, and film in various historical contexts. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

CLAS 300 Women in Antiquity
Units: 4 Theoretical approaches to women's history; evidence for the daily life, legal status, and religion of ancient Greek and Roman women; the female in literature and art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-300

CLAS 301a Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 301b Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 301c Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 301d Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 303 Exploring Ancient Ways of Living: Experimental Archaeology
Units: 4 (Enroll in REL 303)

CLAS 305 Roman Law
Units: 4 History and elements of Roman law, including persons, property, obligations, and inheritance, in context of social structure (family, gender, class, slavery, empire). *Recommended Preparation:* CLAS 151 or HIST 101. Instruction Mode: Lecture Grading Option: Letter

CLAS 307 Law and Society in Classical Greece
Units: 4 Investigations of the legal culture of classical Greece, focusing on regulation of social practices and on the role of social values in defining crime. Instruction Mode: Lecture Grading Option: Letter

CLAS 310 Pagans and Christians
Units: 4 The Christian reception and transformation of pagan religious and philosophical thought. Instruction Mode: Lecture Grading Option: Letter

CLAS 315 Sport and Spectacle in the Ancient World
Units: 4 Terms Offered: FaSp The role of athletic training and competition in ancient society, from the Greek Olympic games to Roman gladiatorial combat and modern recreations. Instruction Mode: Lecture Grading Option: Letter

CLAS 320gmp Diversity and the Classical Western Tradition
Units: 4 Terms Offered: Sp Political, ethical, and ideological aspects of classical Western attitudes towards human diversity. Relationship between classical tradition and - contemporary discussions of diversity and unity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions

and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

CLAS 321 Greek Art and Archaeology
Units: 4 Terms Offered: Fa (Enroll in AHIS 321)

CLAS 322 Roman Art and Archaeology
Units: 4 Terms Offered: Sp (Enroll in AHIS 322)

CLAS 323 Aegean Archaeology
Units: 4 Terms Offered: FaSp Survey of the Bronze Age Aegean societies of Minoan Crete and Mycenaean Greece; emphasis on archaeological theory and method in a prehistoric context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-320, REL-323

CLAS 324 Late Antique Art and Archaeology
Units: 4 Investigation of the transformation between classical antiquity and the middle ages through examination of cities, buildings, images and artifacts of the 3rd–8thcentury Mediterranean. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-324

CLAS 325 Ancient Epic
Units: 4 Representative epics of the Greek and Roman world; development of the character of the hero; later influences. Instruction Mode: Lecture Grading Option: Letter

CLAS 328 Archaeology of Religion in the Greco- Roman World
Units: 4 Examination of ancient objects, images and archaeological sites as evidence for religious practice and ideas about the sacred in the GrecoRoman world. *Recommended Preparation:* AHIS 120gp, AHIS 201g Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-326, REL-328

CLAS 333 Cult and City in Ancient Greece
Units: 4 Explores the relationship between civic and religious institutions in ancient Greece: city planning, warfare, mystery cults, drama, sacrifice, and women's rituals. Instruction Mode: Lecture Grading Option: Letter

CLAS 336 Rome and its Discontents: Literature and Social Change
Units: 4 Terms Offered: FaSp A study of major literary texts in translation from early imperial Rome and their responses to profound political and social change. Instruction Mode: Lecture Grading Option: Letter

CLAS 337gp Ancient Drama
Units: 4 Tragedies and comedies of the ancient world; later influences. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

CLAS 338 Warfare, State, and Society in the Ancient World
Units: 4 War, warriors, and their relationship to politics and culture in the ancient world. Mobilization, socioeconomic status of soldiers, discipline, organization, and hierarchy. Memory of war. Instruction Mode: Lecture Grading Option: Letter

CLAS 339 Ancient Science
Units: 4 Cross-cultural investigation of aims, origins, and transmission of various scientific traditions in antiquity. Relationship between science and philosophy, scientific thought and practice. Instruction Mode: Lecture Grading Option: Letter

CLAS 340 Ethics and Politics in Ancient Rome
Units: 4 Introduction to ethical and political thought of classical Roman writers. Relationship between theory and practice. Implications for contemporary society. *Recommended Preparation:* Basic familiarity with Roman history. Instruction Mode: Lecture Grading Option: Letter

CLAS 348g Athens in the Age of Democracy and Empire
Units: 4 Terms Offered: FaSp Democratic Institutions and practices, empire building, and cultural innovations of fifth and fourth century B.C. Athens using historical, rhetorical, dramatic, philosophical, and artistic sources. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

CLAS 349g Ancient Empires
Units: 4 Terms Offered: FaSpSm History and cultures of the ancient empires of southwest Asia, from Cyrus the Great to the establishment of Islam. Satisfies Old General Education in Category II: Global Cultures and Traditions Duplicates Credit in former CLAS 149g. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-349

CLAS 370 Leaders and Communities: Classical Models
Units: 4 Terms Offered: FaSp Examination of political and moral leadership in classical republican, democratic, and imperial communities; consideration of how these models are useful to contemporary democracies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-370

CLAS 371 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion
Units: 4 Terms Offered: FaSp The history and culture of the Greek kingdoms in Egypt and Asia. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 387

CLAS 375 Alexander the Great: Leadership, Personality and World Conquest
Units: 4 Ancient sources on Alexander's life, personality and conquests. Modern evaluations of his achievements as a prototype for - autocracy and empire-building from antiquity to today. Instruction Mode: Lecture Grading Option: Letter

CLAS 378 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp Social, cultural, and political history of Egypt from Alexander to Cleopatra; state formation; immigration and cultural interaction between ethnic groups. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 378, HIST 328

CLAS 380 Approaches to Myth
Units: 4 Advanced study of uses and interpretations of myth. Approaches include myth and ritual; psychology; gender; myth in literature, film and art. *Recommended Preparation:* CLAS 280. Instruction Mode: Lecture Grading Option: Letter

CLAS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CLAS 401a Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 401b Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 401c Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 401d Cross Registration with UCLA
Units: 21/2 Instruction Mode: Lecture Grading Option: Letter

CLAS 410a Research in Classical Studies
Units: 2 Current approaches to study of the ancient world. Research methods and resources. Registration Restriction: Open only to Classics majors. Instruction Mode: Lecture Grading Option: Letter

CLAS 410b Research in Classical Studies
Units: 2 Supervised independent research and writing of project developed in CLAS 410a. Registration Restriction: Open only to Classics majors. Instruction Mode: Lecture Grading Option: Letter

CLAS 415 Object-Worlds: Histories and Theories of Things
Units: 4 (Enroll in AHIS 415)

CLAS 425 Interdisciplinary Studies in Classical Art and Archaeology: Research and Methodology
Units: 4 Max Units: max 8 Terms Offered: Irregular (Enroll in AHIS 425)

CLAS 461 Topics in Ancient Iranian Languages and Cultures
Units: 4 Max Units: max 20 (Enroll in MDES 461)

CLAS 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm The interaction of archaeology and contemporary societies through political and moral claims; archaeologists' role as stewards and interpreters of ancient cultures and their remains. Capstone course for the Archaeology major. *Recommended Preparation:* background in archaeology, classics, or related field Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 465, REL 465, ARCG 465

CLAS 470 Democracies Ancient and Modern
Units: 4 Democratic and republican governments in Athens and Rome; their influence on republicanism in early modern Italy and 18th-century America; their relevance for contemporary democracies. Instruction Mode: Lecture Grading Option: Letter

CLAS 485 Comparative Grammar of Greek and Latin
Units: 4 A systematic comparative and historical linguistic study of the phonological, morphological and syntactic components of the grammars of the ancient Greek and Latin languages. Instruction Mode: Lecture Grading Option: Letter

CLAS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

CLAS 495x Honors Research
Units: 4 Individual research for honors in the major leading to a substantial paper or other project. Instruction Mode: Lecture Grading Option: Letter

CLAS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

CLAS 500 Proseminar
Units: 2 Terms Offered: Sp Introduction to classical scholarship; research methods; bibliography. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501a Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501b Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501c Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 501d Cross Registration with UCLA
Units: 21/2 Special studies in selected areas of classical civilization and literature. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 510 Seminar in Classical Philology
Units: 4, 3 years Terms Offered: Fa Close study of the Greek and Latin languages and linguistic theory. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 511 Sanskrit I
Units: 4 Introduces the student to the fundamentals of Sanskrit grammar, the ancient Indo- European language most closely related to Greek. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 512 Sanskrit II
Units: 4 Completes the acquisition of the fundamentals of Sanskrit grammar and enables the student to read a variety of Vedic and classical Sanskrit texts. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 515 Topics in Classical Scholarship
Units: 4, 3 years Terms Offered: Fa Intensive study of individual authors, genres, periods, or areas of classical scholarship. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 520 Approaches to Antiquity
Units: 4, 3 years Terms Offered: Sp Study in the history and theory of classical scholarship. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 525 Studies in Ancient and Pre-Modern Cultures
Units: 4, 3 years Terms Offered: Sp Investigation of cultural interaction among Greeks, Romans and other ancient peoples. Includes a comparative study of pre-modern cultures. *Recommended Preparation:* This course requires a knowledge of Greek or Latin. Instruction Mode: Lecture Grading Option: Letter

CLAS 540 Seminar in Early Greek Literature
Units: 4, 3 years Terms Offered: Fa Homer through Aeschylus. Instruction Mode: Lecture Grading Option: Letter

CLAS 545 Seminar in Theoretical Approaches to Greek Culture and Literature
Units: 4, 3 years Terms Offered: Fa Introduces students to the study of Greek culture and to the range of theories useful for modeling that culture and its literature. Instruction Mode: Lecture Grading Option: Letter

CLAS 550 Seminar in Classical and Hellenistic Literature
Units: 4, 3 years Terms Offered: Sp Tragic poetry, comic poetry, Hellenistic poetry. Instruction Mode: Lecture Grading Option: Letter

CLAS 555 Seminar in Greek History, Culture, and Society
Units: 4, 3 years Terms Offered: Sp Develops a historical framework for Greek culture from the Mycenaean period through the Hellenistic world. Emphasis on prose texts: historians, philosophers, orators. Instruction Mode: Lecture Grading Option: Letter

CLAS 560 Seminar in Republican Latin Literature
Units: 4, 3 years Terms Offered: Fa Early Latin literature through Virgil. Instruction Mode: Lecture Grading Option: Letter

CLAS 565 Seminar in Theoretical Approaches to Roman Culture and Literature
Units: 4, 3 years Terms Offered: Fa Introduces students to the study of Roman culture and to a range of theories useful for modeling that culture and its literature. Instruction Mode: Lecture Grading Option: Letter

CLAS 570 Seminar in Imperial Latin Literature
Units: 4, 3 years Terms Offered: Sp Latin literature from the Augustan period to that of the Antonines. Instruction Mode: Lecture Grading Option: Letter

CLAS 575 Seminar in Roman History, Culture, and Society
Units: 4, 3 years Terms Offered: Sp Introduces students to research in Roman history and historiography. Instruction Mode: Lecture Grading Option: Letter

CLAS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 593x Practicum in Teaching Liberal Arts: Classics
Units: 2 Terms Offered: Fa Basic principles of philosophical pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in Classics. Registration Restriction: Open only to doctoral students in Classics. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in classical language, literature and culture. Instruction Mode: Lecture Grading Option: Letter

CLAS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum

units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CLAS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CLAS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Community Dentistry

CMDT 501 Introduction to Community Dentistry Programs
Units: 1 Lectures and practical field experiences introducing the role of the dentist in a variety of organized public health programs. Instruction Mode: Lecture Grading Option: Letter

CMDT 502a Contemporary Dental Practice
Units: 2 Economic, legal, and professional aspects of dental practice; alternative careers in dentistry. Instruction Mode: Lecture Grading Option: Letter

CMDT 502b Contemporary Dental Practice
Units: 2 Economic, legal, and professional aspects of dental practice; alternative careers in dentistry. Instruction Mode: Lecture Grading Option: Letter

CMDT 507a Ethical Issues in the Practice of Dentistry
Units: 0 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

CMDT 507b Ethical Issues in the Practice of Dentistry
Units: 0 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

CMDT 507c Ethical Issues in the Practice of Dentistry
Units: 1 Examination of the major ethical issues in the current practice of dentistry; study of effective and proper methods of addressing the issues. Instruction Mode: Lecture Grading Option: Letter

CMDT 601 Mobile Clinic
Units: 1 Clinic experience in provision of dental care for children of low income agricultural workers through use of mobile dental clinic on location. Instruction Mode: Lecture Grading Option: Letter

CMDT 603 Multiphasic Experiences in Extramural Dentistry
Units: 1 Community responsibilities of dentists in a dynamic society. Practical experiences include consultations and visitations to private offices, group practices, hospitals, and neighborhood health clinics. Instruction Mode: Lecture Grading Option: Letter

CMDT 606 Business Principles in Dentistry
Units: 2 Overview of basic business administration principles, including economics, accounting, marketing, finance, entrepreneurship, and strategic planning as relevant to the practice of dentistry. Instruction Mode: Lecture Grading Option: Letter

Communication Management

CMGT 500 Managing Communication
Units: 4 Production and distribution of information within large organizations; information networks, organization structure, control and decision-making functions. Resources necessary for effective organizational communication systems. Instruction Mode: Lecture Grading Option: Letter

CMGT 501 Communication Management Pro-Seminar
Units: 4 Central issues of theory and practice in the management of communication; broad introduction to all areas of the program. Instruction Mode: Lecture Grading Option: Letter

CMGT 502 Strategic Corporate Communication
Units: 4 Roles, responsibilities and requirements of communication functions within corporations; design and implementation of communication plans; strategic message production for internal and external audiences. Instruction Mode: Lecture Grading Option: Letter

CMGT 503 Strategic Communication Consulting
Units: 4 Communication consulting skills including facilitation, training, presentation coaching, benefits writing, speech writing, and communicating organizational change; consulting basics, proposals, cost estimating, and final reports. Instruction Mode: Lecture Grading Option: Letter

CMGT 504 Writing for Strategic Communication
Units: 4 Writing skills necessary for an organizational communicator; review of strategic writing fundamentals; development of portfolio of diverse media applications based on strategic corporate communication requirements. Instruction Mode: Lecture Grading Option: Letter

CMGT 505 Communication in Work Settings
Units: 4 How work settings determine communication: basic structures of communication, influence of technology, social contexts, and physical space. Applications to management. Instruction Mode: Lecture Grading Option: Letter

CMGT 506 Images and Image Management
Units: 4 Examines images and image manipulation in communication, management and social control. Synthesizes work ranging from cognition and interpersonal behavior to mass media and popular culture. Instruction Mode: Lecture Grading Option: Letter

CMGT 507 Information Management
Units: 4 Develops conceptual frameworks for understanding information, uncertainty, ambiguity, and knowledge. Principles for decision-making, awareness of biases, mathematics of risktaking, and practices for sense-making. Duplicates Credit in former COMM 507. Instruction Mode: Lecture Grading Option: Letter

CMGT 508 Communicating Strategy and Change
Units: 4 Examination of role of communication in developing and implementing business strategy; critical assessment and practice with models, tools, and techniques for communicating change. Instruction Mode: Lecture Grading Option: Letter

CMGT 509 Influential Communication in the Marketplace
Units: 4 Promotional messages as both creative expressions and agents for behavioral change; application of social science theories of persuasion and compliance in interpersonal and mass-media venues. Instruction Mode: Lecture Grading Option: Letter

CMGT 510 Communication, Values, Attitudes and Behavior
Units: 4 Theory and research on value and attitude formation and change; consequences for communication and behavior. Instruction Mode: Lecture Grading Option: Letter

CMGT 511 Health Communication
Units: 4 Connections between health providers' communication and patients' well-being; consultation language, nonverbal behavior, physical settings, design of media messages, information technologies in patient education and care. Instruction Mode: Lecture Grading Option: Letter

CMGT 512 Unintended Consequences of Communication
Units: 4 A multidisciplinary examination of the unintended consequences of interpersonal, mass media, political, commercial and social communication by analyzing tactical and strategic errors in communication campaigns. Instruction Mode: Lecture Grading Option: Letter

CMGT 515 Innovation and the Information Economy
Units: 4 Analysis of the innovation

dynamics fueled by the information and communication technology revolution; economic, technological, institutional and personal underpinnings of innovation and entrepreneurship. Instruction Mode: Lecture Grading Option: Letter

CMGT 520 Social Roles of Communication Media
Units: 4 How mass media shape public images of groups, channel political power, promote consumption of goods. Social and political theories as tools in evaluating media impact. Instruction Mode: Lecture Grading Option: Letter

CMGT 528 Web Designs for Organizations
Units: 4 Students learn to assess organizations' online needs, to examine the use of the Internet in terms of electronic commerce and global pressures, and design Web page strategies. Instruction Mode: Lecture Grading Option: Letter

CMGT 530 Social Dynamics of Communication Technologies
Units: 4 Impact of television, satellites, computers, and other new technologies; competing theories about the role of technology in society; historical effects of introducing new technologies. Instruction Mode: Lecture Grading Option: Letter

CMGT 531 Communication and the International Economy
Units: 4 Examines the impact of global economic changes on communications industries, the political and economic forces shaping these industries and the roles of its managers. Instruction Mode: Lecture Grading Option: Letter

CMGT 532 Development of American Electronic Media Industry
Units: 4 Origins of American radio and television broadcasting industry and analysis of its development into the contemporary media industry; covers history, technology, regulation, and business practices. Instruction Mode: Lecture Grading Option: Letter

CMGT 533 Emerging Communication Technologies
Units: 4 Basics of multimedia; new forms of audio and video interactive technologies; computer communication networks; social, political, cultural, interpersonal, organizational issues related to emerging communication technologies. Duplicates Credit in former COMM 533. Instruction Mode: Lecture Grading Option: Letter

CMGT 535 Online Communities for Organizations
Units: 4 How Web-based technologies affect organizational communication, including issues related to collaboration, innovation and knowledge management, forecasting, and networking. Duplicates Credit in former COMM 535. Instruction Mode: Lecture Grading Option: Letter

CMGT 536 Team Communication and Leadership
Units: 4 Theories of effective team communication and leadership; case studies of effective and ineffective teams and leaders; teamwork and communication development; and distributed work teams. Instruction Mode: Lecture Grading Option: Letter

CMGT 537 The Industry, Science and Culture of Video Games
Units: 4 History, social dynamics, and cultural impact of video games; developments in technology and design; issues confronting the video game industry and organizations. Instruction Mode: Lecture Grading Option: Letter

CMGT 540 Uses of Communication Research
Units: 4 Applications of both data and interpretation in communications management. Topics include: audience ratings, surveys, experimental tests of programs and campaigns, formative evaluation, secondary data sources. Instruction Mode: Lecture Grading Option: Letter

CMGT 541 Integrated Communication Strategies
Units: 4 Communication strategies for product marketing and advertising; communication's role in developing domestic and international marketplaces; practical applications of persuasion theory. Instruction Mode: Lecture Grading Option: Letter

CMGT 542 Business Strategies of Communication and Entertainment Firms
Units: 4 An overview of business strategies in media industries. Emphasis on Internet and changing business models. Case studies. Students prepare business plans for digital start-ups. Instruction Mode: Lecture Grading Option: Letter

CMGT 543 Managing Communication in the Entertainment Industry
Units: 4 Examination, application and critique of traditional and contemporary organizational communication theory as it applies to the entertainment industry's unique internal and external environments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 583

CMGT 544 Creating Organizational Identity: Meaning Through Messages
Units: 4 Use of rhetorical theories and communication models to create organizational identification with internal and external audiences; the role of values and ethics in creating identities. Instruction Mode: Lecture Grading Option: Letter

CMGT 545 Communication and Global Competition
Units: 4 How communication technologies are used to secure competitive advantage; how firms use communication systems to sustain effective positioning in an industry; convergence of communication industries. Instruction Mode: Lecture Grading Option: Letter

CMGT 546 Sports Media and Society
Units: 4 History and evolution of sports media industry; traditional, new and alternative sports media; globalization of sports; sports promotions and personalities. Instruction Mode: Lecture Grading Option: Letter

CMGT 547 Distribution of Recordings: Media, Retail and Online Channels
Units: 4 Cultural and critical analyses of radio and recording industry development and business strategy; influence of legal and regulatory institutions, impact of new forms of distribution. Instruction Mode: Lecture Grading Option: Letter

CMGT 548 Issues in Children's Media
Units: 4 Historical review of children's programming; programming genres; ethical and business issues of marketing to children; children's uses of various media. Instruction Mode: Lecture Grading Option: Letter

CMGT 549 Case Studies in Digital Entertainment
Units: 4 Explores foundation of U.S. media policy in the digital age; students prepare White Papers on an urgent issue of contemporary digital media and entertainment policy. Instruction Mode: Lecture Grading Option: Letter

CMGT 550 Hollywood 3.0 — Entertainment Industry in the Convergence Age
Units: 4 In-depth analysis of the challenges confronting the entertainment industry in the wake of media convergence including a survey of media convergence history and theories. Instruction Mode: Lecture Grading Option: Letter

CMGT 551 Communicating Entertainment Media Identities
Units: 4 Understanding dynamics in entertainment markets enabled by emerging digital technologies; broad and niche strategies to target appropriate audiences, building audience engagement with entertainment content identities. Instruction Mode: Lecture Grading Option: Letter

CMGT 552 Visual Storytelling: Production, Management and Culture
Units: 4 Focuses on management, production and distribution of scripted film, television and web stories to understand visual storytelling as a communicative strategy for advertising and education. Instruction Mode: Lecture Grading Option: Letter

CMGT 554 Copywriting and Creativity
Units: 4 Foundational and advanced practices for copywriting and related design in communication; integrated analysis of concepts and pragmatics surrounding creativity for communication effectiveness. Instruction Mode: Lecture Grading Option: Letter

CMGT 555 Online Marketing Communication Development and Analysis
Units: 4 Analysis and development of online communication and marketing campaigns; exploration of current Internet best practices in social media, SEM, privacy, location-based marketing, and online measurement. Instruction Mode: Lecture Grading Option: Letter

CMGT 556 Global Marketing Communication
Units: 4 Communication strategies in a global marketing environment; analysis of global-local challenges and opportunities; effective global integrated communication

to create and sustain competitive advantage. Instruction Mode: Lecture Grading Option: Letter

CMGT 557 Communication Policy in the Global Marketplace
Units: 4 Comparative analysis of various countries' communication and information technology policies; examines developments in telecommunications, broadcasting, and entertainment industries and policy questions for global media marketplace. Instruction Mode: Lecture Grading Option: Letter

CMGT 558 The International Entertainment Marketplace
Units: 4 Global influences on entertainment industries (broadcasting, film, telecommunications, Internet, video games, and music); case analyses of specific organizations and geographic regions; impact on local cultures. Instruction Mode: Lecture Grading Option: Letter

CMGT 559 Global Hollywood
Units: 4 Examines the influence of the transglobal flow of media between the U.S. entertainment industries and other national media industries. Instruction Mode: Lecture Grading Option: Letter

CMGT 560 Communications Policy
Units: 4 Evolving regulation of telephone, radio, television, cable, print, and other media. Major policy-makers and decision points in policy-making at local, state, national, and international levels. Instruction Mode: Lecture Grading Option: Letter

CMGT 562 Foundations of Effective PR Writing
Units: 4 Terms Offered: Other (Enroll in PR 562)

CMGT 564 Methodological Fundamentals of Big Data in Communication
Units: 4 Understanding of fundamental methodological issues about big data: types, platforms, tools, analysis techniques, and relevant theoretical frameworks. Instruction Mode: Lecture Grading Option: Letter

CMGT 565 Communication Law and Broadcasting
Units: 4 History and present status of broadcast regulations; emphases on First Amendment, character of regulatory agencies, impact of court decisions, influence of technological advances. Instruction Mode: Lecture Grading Option: Letter

CMGT 566 Communication Law and New Technologies
Units: 4 Development of law in newer technologies. Cases include cable television, low power television, direct broadcast satellites, teletext, video cassettes, telephone, data networks, computer regulation. Instruction Mode: Lecture Grading Option: Letter

CMGT 567 Internet Policy, Practice and Regulation
Units: 4 Examines how legal decisions impact commercial and personal uses of the Internet; regulatory responses to court decisions. Instruction Mode: Lecture Grading Option: Letter

CMGT 571 Communications Technologies
Units: 4 Basic technological concepts necessary to understand the workings of modern communications products and services, to include frequency, bandwidth, electricity, modulation, and digital conversion. Instruction Mode: Lecture Grading Option: Letter

CMGT 573 Evaluating Communication Needs
Units: 4 Participation as consultants in field projects. Use of organizational, interpretive, and statistical methods to design organizational communication systems is emphasized. Instruction Mode: Lecture Grading Option: Letter

CMGT 574 Tele-Media: Strategic and Critical Analysis
Units: 4 Strategic and critical analyses of emerging and new communication technologies from historical, business, financial, consumer, and policy perspectives. Instruction Mode: Lecture Grading Option: Letter

CMGT 576 Communication Strategies for Conflict Management
Units: 4 Communication strategies for effective negotiation, mediation and facilitation of disputes; structures for public interventions; emergence of online dispute resolution systems. Instruction Mode: Lecture Grading Option: Letter

CMGT 577 Communicating Corporate Social Responsibility
Units: 4 Evolution, models, metrics and stakeholders. Key communication issues in designing and implementing initiatives, CSR reporting, strategic partnerships and online communities. Analysis of communication paradoxes. Instruction Mode: Lecture Grading Option: Letter

CMGT 578 Non-profit Advocacy
Units: 4 Examines non-profit advocacy (vs. for-profit communication) marked by different rhythmic and creative drivers; non-profit audience analysis; creation of conversations for viral communication impact. Instruction Mode: Lecture Grading Option: Letter

CMGT 580 Chinese Media and Society
Units: 4 The political economy of communications and information in China's broader process of development and reentry into global capitalism; particular media and communication conditions and policies. Instruction Mode: Lecture Grading Option: Letter

CMGT 581 Media in Social Services: Design and Evaluation of Campaigns
Units: 4 Theory and research issues in the use of media for changing behavior in health, public safety, welfare, and other areas of social services. Duplicates Credit in former COMM 581. Instruction Mode: Lecture Grading Option: Letter

CMGT 582 International Communication: National Development
Units: 4 Comparison of traditional communication programs and newer information and communication technologies for analyzing needs of international communities; design, implementation, monitoring, and evaluation of development-related projects. Instruction Mode: Lecture Grading Option: Letter

CMGT 583 Social Marketing and Entertainment Education
Units: 4 Theoretical foundations of social marketing and entertainment education; uses of dramatic serials, telenovelas and animation to promote human rights; program design, evaluation. Instruction Mode: Lecture Grading Option: Letter

CMGT 584 Communication and the Multicultural Marketplace
Units: 4 Popular culture and marketing communication; race, gender, sexual orientation and consumer culture; consumption patterns and identity, loyalty and self-actualization; cultural marketing campaigns and sociopolitical conflict. Instruction Mode: Lecture Grading Option: Letter

CMGT 585 Communication Leadership in the Entertainment Industry
Units: 4 Examination of the communicative elements of leadership in entertainment products and processes; the role of communication experts in supporting, coaching and facilitating entertainment leadership. Instruction Mode: Lecture Grading Option: Letter

CMGT 586 Entertainment Media: Content, Theory, and Industry Practices
Units: 4 Examination of social scientific theory and research on patterns of media content; effects of mass media exposure on individuals and society; and industry practices. Instruction Mode: Lecture Grading Option: Letter

CMGT 587 Audience Analysis
Units: 4 Fundamental principles of audience research; critique of existing methodologies; implications for global audiences and mass media markets. Instruction Mode: Lecture Grading Option: Letter

CMGT 588 Global Storytelling: The Power of Narrative
Units: 4 Theory, structure and effects of culture on narrative. Story in non-profit and health organizations; new fields that recognize the importance of storytelling; storytelling in diverse media. Instruction Mode: Lecture Grading Option: Letter

CMGT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Duplicates Credit in former COMM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMGT 591 Communication Internship
Units: 1, 2, 3 Max Units: 3.0 Terms Offered: FaSpSm Field experience in applying communication principles to settings in organizations, campaigns, or other contexts; analysis and assessment of issues and problems. Instruction Mode: Lecture Grading Option: Letter

CMGT 592 Theory and Practice of Professional Presentations
Units: 2 Application of communication and

persuasion theories in the creation of oral presentations; critical assessment of the role of new technologies for professional presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMGT 597a Communication Research Practicum
Units: 2 Terms Offered: FaSpSm Students design and produce an original project appropriate for their emphasis area within the Master of Communication degree. *Prerequisite:* CMGT 501 and CMGT 540. Duplicates Credit in former CMGT 597. Instruction Mode: Lecture Grading Option: Letter

CMGT 597b Communication Research Practicum
Units: 2 Terms Offered: FaSpSm Students design and produce an original project appropriate for their emphasis area within the Master of Communication degree. *Prerequisite:* CMGT 501 and CMGT 540. Duplicates Credit in former CMGT 597. Instruction Mode: Lecture Grading Option: Letter

CMGT 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Motion Picture Producing

Note: Instructor availability for a particular course or section cannot be guaranteed.

CMPP 541a Producing Workshop
Units: 4 Terms Offered: Fa Hands-on workshops in creative and physical filmmaking. Duplicates Credit in CTPR 504 and former CMPP 541L. Instruction Mode: Lecture Grading Option: Letter

CMPP 541b Producing Workshop
Units: 4 Terms Offered: Sp Further hands-on creative and physical filmmaking, making more advanced short films. Duplicates Credit in CTPR 504 and former CMPP 541L. Instruction Mode: Lecture Grading Option: Letter

CMPP 548 Introduction to Producing for Television
Units: 2 Terms Offered: Fa An introduction to the creative and business aspects of producing for television. Registration Restriction: Open only to PFTM students. Instruction Mode: Lecture Grading Option: Letter

CMPP 550 Script Analysis for the Producer
Units: 2 Terms Offered: FaSp Detailed evaluation of completed scripts and of the producer's role in bringing them to fruition. Instruction Mode: Lecture Grading Option: Letter

CMPP 560 Script Development
Units: 2 Terms Offered: FaSp From idea and story to finished shooting script. Instruction Mode: Lecture Grading Option: Letter

CMPP 561 Motion Picture and Television Marketing
Units: 2 Terms Offered: Fa Analysis and preparation of film and television show marketing campaigns from creative concept to targeting across various media. Instruction Mode: Lecture Grading Option: Letter

CMPP 563 Producing Symposium
Units: 1 Terms Offered: Fa Lectures on creative aspects of producing. Instruction Mode: Lecture Grading Option: Credit/No Credit

CMPP 564 Digital Media and Entertainment
Units: 2 Terms Offered: Sp Exploring the effect of digital media on the entertainment landscape. Instruction Mode: Lecture Grading Option: Letter

CMPP 565 Scheduling and Budgeting
Units: 4 Terms Offered: FaSp Concept and preparation of a complete schedule and budget. Instruction Mode: Lecture Grading Option: Letter

CMPP 566 Finance
Units: 2 Terms Offered: FaSp Seminar on financial aspects of film industry and methods of financing films. Instruction Mode: Lecture Grading Option: Letter

CMPP 568 Producing for Television
Units: 2 Terms Offered: Fa Discussions of the creative and financial aspects of television producing. Instruction Mode: Lecture Grading Option: Letter

CMPP 569 Seminar on Non-Mainstream Producing
Units: 2 Terms Offered: FaSp Discussions on non-major studio producing options, including non-traditional financing and non-theatrical producing. Instruction Mode: Lecture Grading Option: Letter

CMPP 570 Advanced Television
Units: 2 Terms Offered: Fa Advanced studies of the business of television, including the economic structure of the television industry. Instruction Mode: Lecture Grading Option: Letter

CMPP 571 Producing the Screenplay
Units: 2 Terms Offered: FaSp Workshop for the creation and development of a screenplay or teleplay. Instruction Mode: Lecture Grading Option: Letter

CMPP 589a Graduate Film Business Seminar
Units: 3 Terms Offered: Fa Economics of the entertainment industry, including entertainment law, and rights acquisition. Includes weekly film screening. Instruction Mode: Lecture Grading Option: Letter

CMPP 589b Graduate Film Business Seminar
Units: 4 Terms Offered: Sp Economics of the entertainment industry, including entertainment law, and rights acquisition. Includes weekly film screening. Instruction Mode: Lecture Grading Option: Letter

CMPP 591 Producing Practicum
Units: 2 Terms Offered: Irregular Producing workshop encompassing all aspects of producing, including script development, budgeting, casting and actual production. Instruction Mode: Lecture Grading Option: Letter

CMPP 592 Individual Project Seminar
Units: 4 Terms Offered: Sp Directed research project and seminars in related topics. Duplicates Credit in former CTPR 592. Instruction Mode: Lecture Grading Option: Letter

CMPP 599 Special Topics
Units: 2 Terms Offered: Irregular Investigation of new and emerging aspects of producing motion pictures and television; special and experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Cell and Neurobiology

CNB 501a Human Gross Anatomy
Units: 3, 4 Terms Offered: FaSpSm A complete dissection of the adult human body. Supplementary lectures and demonstrations. Emphasis on correlating development, structure and function. *a.* focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *b.* focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 501b Human Gross Anatomy
Units: 4 Terms Offered: SpSm A complete dissection of the adult human body. Supplementary lectures and demonstrations. Emphasis on correlating development, structure and function. *a.* focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *b.* focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. *Prerequisite:* CNB 501a Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 502L Advanced Regional Anatomy I
Units: 3 Terms Offered: Fa In-depth dissection of one or more regions of the human body, supplemented with literature research, and teaching practicum. May also enable the student to pursue a minor research investigation in some anatomical region of choice. Focuses on the following anatomical regions: Axial Skeleton, Upper and Lower Limbs, and Thoracic Cavity. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, and/or human anatomy Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 503L Advanced Regional Anatomy II
Units: 3 Terms Offered: Sp In-depth dissection of one or more regions of the human body, supplemented with literature research, and teaching practicum. May also enable the student to pursue a minor research investigation in some anatomical field of choice. Focuses on the following anatomical regions: Abdomen, Pelvis, and Head and Neck. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, and/or human anatomy. Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 504L Human Skeletal Anatomy
Units: 3 Terms Offered: FaSp An intensive introduction to the human skeleton and the fundamentals of bone and dental biology.

Covers a variety of topics including: skeletal development; functional interpretation of bone and bony processes; osteological and dental pathology; human anatomical variation; laboratory analyses and imaging techniques; methods for estimating age, sex, and stature; and comparative osteology. *Prerequisite:* CNB 501a and CNB 501b *Recommended Preparation:* Equivalent dissection-based human anatomy course. Courses in general biology, organismal biology, and/or biological anthropology. Registration Restriction: Open only to freshmen and sophomores Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 511aL Microscopic Anatomy
Units: 3 Terms Offered: FaSp Lectures and laboratory in microscopic anatomy emphasizing embryonic origin of the basic body plan, cells, tissues, and organs; ultrastructural and functional correlations.

CNB 511bL Microscopic Anatomy
Units: 3 Terms Offered: FaSp Lectures and laboratory in microscopic anatomy emphasizing embryonic origin of the basic body plan, cells, tissues, and organs; ultrastructural and functional correlations.

CNB 512L Pharmacology I
Units: 5 Terms Offered: Fa Actions, chemical properties, bodily distribution, and toxicology of drugs. Duplicates Credit in former PHNU 510L. Instruction Mode: Laboratory.

CNB 513 Pharmacology II
Units: 3 Terms Offered: Sp Continuation of 512L. *Prerequisite:* CNB 512L. Duplicates Credit in former PHNU 511.

CNB 521 Neuroanatomy
Units: 3 Terms Offered: Sp Structure and function of the human nervous system with emphasis on central conduction pathways, especially those of clinical significance.

CNB 525 Neural Development
Units: 3 Terms Offered: Fa Cellular, molecular, and physiological features of development and plasticity in the nervous system. Lecture and student presentations and discussion of classic and current research literature. *Prerequisite:* BISC 524; *Recommended Preparation:* background in neurosciences.

CNB 530 Anatomy for the Artist
Units: 1, 2 Terms Offered: Irregular This course includes lectures and demonstrations of human anatomy specifically for the artist, and art instruction on drawing the human figure.

CNB 531 Cell Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 531)

CNB 534 Molecular Aspects of Neuropharmacology
Units: 2 Terms Offered: FaSp Current advances in selected areas of molecular neuropharmacology, e.g., mechanisms by which drugs affect neurotransmitter systems, neural plasticity, treatment of neurological and psychiatric diseases.

CNB 550 Cell and Neurobiology Seminar
Units: 1 Max Units: max 6 Terms Offered: FaSp Reports and discussion on recent advances in anatomy. Duplicates Credit in former ANCB 550. Grading Option: Graded CR/NC.

CNB 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

CNB 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

CNB 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

CNB 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

CNB 580L Gross Anatomy Teaching Practicum I
Units: 4 Terms Offered: Fa Obtain a deeper understanding of clinical anatomy, develop pedagogical skills in small-group anatomical demonstration, and learn to prepare practical exams. *Prerequisite:* CNB 501b *Recommended Preparation:* Courses in general biology, organismal biology, human anatomy, and/or physiology Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 581L Gross Anatomy Teaching Practicum II
Units: 4 Terms Offered: Sp Obtain a deeper understanding of clinical anatomy, develop pedagogical skills in small-group anatomical demonstration, and learn to prepare practical exams. *Prerequisite:* CNB 501b Registration Restriction: Open only to senior (fifth year), graduate and professional students Instruction Mode: Lecture, Lab Required Grading Option: Letter

CNB 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

CNB 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Grading Option: Graded IP/CR/NC.

CNB 598 Introductory Laboratory Rotations
Units: 1, 2, 3 Terms Offered: FaSp Introductory laboratory rotations wherein students are directed in individualized research, reading and discussion to provide perspective and supplemental background in areas of faculty research interests.

CNB 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Terms Offered: FaSp Special topics provides background for instruction and research in the Department of Cell and Neurobiology through lectures, discussions, assigned readings, and student presentations. Duplicates Credit in former ANCB 599 and PHNU 599.

CNB 600 Literature Tutorial
Units: 1 Max Units: max 3 Terms Offered: FaSp Individualized readings and discussions culminating in a literature-review paper; to promote the acquisition of critical thinking skills in the evaluation of scientific problems. *Recommended Preparation:* background in biological sciences.

CNB 603 Current Topics in Vision Research
Units: 2 Terms Offered: Sp Basic science (e.g., anatomy, cell biology, electrophysiology) and clinical aspects of the eye: cornea, lens, retina, and optic nerve. USC faculty and authorities from other institutions will lecture.

CNB 604 Current Topics in Animal Development
Units: 2, 2 years Terms Offered: Sp Current research in selected aspects of mammalian and nonmammalian developmental biology, including the molecular genetics and molecular biology of organogenesis, morphogenesis, lineage specification, and differentiation. *Prerequisite:* INTD 561 and CNB 542.

CNB 631 Morphogenesis and Regeneration
Units: 2, 2 years Terms Offered: Sp Analysis of developing and regenerating systems: historical and recent interpretations of morphogenetic movements, tissue interactions, fields, gradients, differentiation, and determination.

CNB 641 Brain-Endocrine Interactions in Reproduction
Units: 2 Terms Offered: Fa Past and current experimental approaches to morphology and endocrinology at hypothalamic, pituitary, and gonadal levels in both males and females. *Prerequisite:* CNB 511aL, CNB 511bL, or a general endocrinology course.

Cinematic Arts

Note: Instructor availability for a particular course or section cannot be guaranteed.

CNTV 101 Reality Starts Here
Units: 2 Terms Offered: Fa Introduction to emerging forms of immersive entertainment, to Cinematic Arts faculty, and to guest speakers who will comment on the changing nature of the industry. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 325 Film and Digital Cinematography
Units: 3 Terms Offered: Sm The craft of cinematography for film and digital media; includes lectures, on-set film and video production exercises, and scene studies. Instruction Mode: Lecture Grading Option: Letter

CNTV 332 The Art of Motion Picture Editing
Units: 2 Analyzing and deconstructing all the elements of the art of creatively manipulating visual images through editing. Instruction Mode: Lecture Grading Option: Letter

CNTV 367 The Music Video: Business and Practice
Units: 4 Terms Offered: Sm Creating concepts, writing treatments, pitching, and the realities and details of music video production including budgeting, pre- and post-production. Duplicates Credit in CTPR 497 Music Video Production. Instruction Mode: Lecture Grading Option: Letter

CNTV 370 3-D Animation for Film and Video
Units: 4 Terms Offered: Sm The basics of 3-D computer animation techniques and their use in creating animated characters. Instruction Mode: Lecture Grading Option: Letter

CNTV 372 Developing the Screenplay
Units: 2 Terms Offered: Sm The process of script development, examining a project from the initial idea and tracking its progress through to the completed screenplay ready for production. Instruction Mode: Lecture Grading Option: Letter

CNTV 375 Breaking Into the Entertainment Industry
Units: 2 Terms Offered: FaSpSm An overview of the entertainment industry and the tools needed to secure jobs and survive and succeed in the market. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

CNTV 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CNTV 392 Beginning Digital Filmmaking
Units: 4 Terms Offered: Sm The basic technical and aesthetic concepts underlying motion picture production and an exploration of visual language. Instruction Mode: Lecture Grading Option: Letter

CNTV 393 16mm Filmmaking: Structuring Scenes That Work
Units: 4 Terms Offered: Sm The creative and technical aspects of 16mm filmmaking, particularly as they apply to the short film or the individual scene. Instruction Mode: Lecture Grading Option: Letter

CNTV 405 Studio Producing and Directing
Units: 4 Terms Offered: Sm Understanding the craft and art of directing in the studio system, and developing a working methodology for creative producing. Instruction Mode: Lecture Grading Option: Letter

CNTV 410 Non-Fiction Filmmaking
Units: 4 Terms Offered: Sm Conceiving, researching, writing, producing, directing, and editing an original non-fiction work and exploring practical training in techniques of non-fiction film. Instruction Mode: Lecture Grading Option: Letter

CNTV 411 Directing Intensive
Units: 4 Terms Offered: Sm An overview of the concerns, functions and responsibilities of the director. The core of the course is casting, producing and directing an individual project. Instruction Mode: Lecture Grading Option: Letter

CNTV 413 Digital Editing
Units: 4 Terms Offered: Sm Introduction to non-linear editing techniques, hardware, digitizing, logging, and special effects, using the AVID Media Composer editing system. Instruction Mode: Lecture Grading Option: Letter

CNTV 415 Commercial Production: The Art of the Sixty-Second Story
Units: 4 Terms Offered: Sm The three main components of commercials: agency creation, spot production, and post-production. Writing, pitching, casting, directing, and editing commercials. Instruction Mode: Lecture Grading Option: Letter

CNTV 419 Inside the Business of Film and Television
Units: 4 Terms Offered: FaSpSm An overview of the contemporary studio system, independent films, and television, including script analysis, pitching, optioning properties, the marketplace, representation, career management, and networking. Instruction Mode: Lecture Grading Option: Letter

CNTV 420 Independent Feature Filmmaking
Units: 2 Terms Offered: FaSpSm Independent feature film development, financing, production, and distribution. Discussions with independent filmmakers. Instruction Mode: Lecture Grading Option: Letter

CNTV 427 The Art and Commerce of Independent Film
Units: 4 Terms Offered: FaSp A comprehensive analysis of the development-to-release life cycle of independently produced films. Instruction Mode: Lecture Grading Option: Letter

CNTV 440 The Business of the Entertainment Industry: Motion Pictures, Television, Animation, Video Games, and Interactive Entertainment
Units: 2 Terms Offered: Fa An in-depth analysis of the history, evolution, and current state of the motion picture, television, animation, video game, and interactive entertainment industries. Instruction Mode: Lecture Grading Option: Letter

CNTV 441 Business and Cinematic Arts Entertainment Practicum
Units: 2 Terms Offered: Sp Application of business and cinematic arts concepts to entertainment industry networking and career-building experiences. Peer collaboration/competition, and identifying organizational compatibility. Registration Restriction: Open only to Business Administration (Cinematic Arts) majors Instruction Mode: Lecture Grading Option: Letter

CNTV 457 The Entertainment Entrepreneur: Getting Your First Project Made
Units: 2 Terms Offered: Fa The practical aspects of entrepreneurial producing in the entertainment industry. Identifying and understanding the pitfalls and benefits of creating one's own projects. Instruction Mode: Lecture Grading Option: Letter

CNTV 458 Producing and Marketing Feature Length Films
Units: 2 Terms Offered: Fa The principles and business practices of producing and marketing feature length films in the motion picture industry. Registration Restriction: Open only to Business Administration (Cinematic Arts) majors Instruction Mode: Lecture Grading Option: Letter

CNTV 463 Television: Integrating Creative and Business Objectives
Units: 2 Terms Offered: Fa An investigation of the creative and business sides of television and how they connect, including changes caused by fractionalization and digital technology. Registration Restriction: Open only to Business Administration (Cinematic Arts) students. Instruction Mode: Lecture Grading Option: Letter

CNTV 467 The Future of Digital Media and the Entertainment Industry
Units: 2 Terms Offered: Sp Examines how digital media will affect the future of the television, motion picture, game, music, and interactive industries. Instruction Mode: Lecture Grading Option: Letter

CNTV 474 Digital DNA: Media Redefined
Units: 2 Terms Offered: FaSp A practical, hands-on learning experience in creating media content and turning that content into a myriad of viable businesses. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CNTV 495 Internship in Cinematic Arts
Units: 1, 2, 4 Max Units: 04 Terms Offered: FaSpSm On-the-job film, television, and interactive industry experience in the areas of interest of the individual student. Requires departmental approval. Duplicates Credit in former CTIN 495 and former CTPR 495 Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in cinematic arts. Instruction Mode: Lecture Grading Option: Letter

CNTV 501 Cinematic Arts Seminar
Units: 1 Max Units: 4.0 Terms Offered: Fa Introduction to an industry and art form in the midst of transformation, with guest speakers and cinematic arts faculty who will address new research and technologies. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 521 The World of the Producer
Units: 4 Terms Offered: FaSp A comprehensive overview of the role of the

producer in creating television programming, feature films, and new media content. Instruction Mode: Lecture Grading Option: Letter

CNTV 522 The Television Industry: Networks, Cable and the Internet
Units: 4 Terms Offered: FaSp The current state of the television industry and future business paradigms. Instruction Mode: Lecture Grading Option: Letter

CNTV 523 Feature Film Financing and the Studio System
Units: 4 Terms Offered: FaSp An overview of the motion picture studio system and how to finance feature films. Principles, business practices, and future trends. Instruction Mode: Lecture Grading Option: Letter

CNTV 524 Digital Technologies and the Entertainment Industry
Units: 4 Terms Offered: FaSp The impact of digital technologies on the film, television, and music industries from content creation to distribution. Instruction Mode: Lecture Grading Option: Letter

CNTV 525 Entertainment Marketing in Today's Digital Environment
Units: 4 Terms Offered: Fa Entertainment industry marketing disciplines, covering motion pictures, television, music, theme parks, home entertainment, and video games. Current principles and business practices. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 530 Cinematic Ethics
Units: 2 Terms Offered: FaSp An introductory course in the ethical questions professionals encounter in the field of cinematic arts. Case studies and guest lectures. Registration Restriction: Open only to students in the School of Cinematic Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CNTV 589 Graduate Film Seminar
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSp Detailed investigations and discussion of various aspects of film. Instruction Mode: Lecture Grading Option: Letter

CNTV 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CNTV 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CNTV 595 Professional Practicum
Units: 1, 2, 4 Max Units: 8 Terms Offered: FaSpSm Film, media, archival and interactive industry experience in areas of interest to the individual student, and development of a personal brand. Requires departmental approval. Registration Restriction: Open only to graduate students. Grading Option: Credit/No Credit

CNTV 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Detailed investigation of new or emerging aspects of cinematic arts; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CNTV 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CNTV 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Comparative Literature

COLT 101gp Masterpieces and Masterminds: Literature and Thought
Units: 4 Terms Offered: Fa A broad introduction to the great works of Western culture from antiquity to 1800. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former COLT 150x. Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 102g On Location: The Place of Literature in Global Cultures
Units: 4 Terms Offered: FaSp Comparative study of works from a broad range of cultural traditions that originate from, and provide insight into, vital global locations outside the Western sphere. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 250g Cultures of Latin America
Units: 4 Terms Offered: Fa Comparative study of Latin American cultures, especially vis-a-vis those of Europe and the U.S. Materials drawn from literature, but also film, opera, history, cultural theory. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

COLT 251g Modern Literature and Thought of the West Since 1800
Units: 4 Terms Offered: SpSm Survey of literary and other cultural texts from the 19th to the 21st centuries, with emphasis on the individual and social change. Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former COLT 151x. Instruction Mode: Lecture Grading Option: Letter

COLT 264gp Asian Aesthetic and Literary Traditions
Units: 4 A comparative study of the Asian aesthetic heritage of poetry, painting, music, and drama; of literary themes, trends, and myths. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as EALC-264

COLT 302 Introduction to Literary Theory
Units: 4 Terms Offered: Fa Introduction to general forms of reflection on literary discourse. Instruction Mode: Lecture Grading Option: Letter

COLT 303 Globalization: Culture, Change, Resistance
Units: 4 Terms Offered: Sp Cultural dimensions of issues in globalization: migration, diaspora, terrorism, communications, climate change, collectives, production and technology, money and exchange. Instruction Mode: Lecture Grading Option: Letter

COLT 311 Epic
Units: 4 Formation and development of epic poetry from Near Eastern and Greco-Roman antiquity through the Renaissance to the present. Emphasis on relation to political and cultural change. Instruction Mode: Lecture Grading Option: Letter

COLT 312 Heroes, Myths and Legends in Literature and the Arts
Units: 4 Study of transformations of characters and themes from myth, legend or fairytale (Oedipus, Antigone, Faust, Don Juan, Cinderella, Comic and Tragic Twins, Hero and Monster). Instruction Mode: Lecture Grading Option: Letter

COLT 324 Women in Medieval and Renaissance Europe
Units: 4 Study of literary, social and cultural lives of women during the European Middle Ages and Renaissance. Reading and analysis of texts written by and about women. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-324

COLT 335 Decadence and Modernity
Units: 4 Study of the notion of "decadence"

and its impact on modern and contemporary literary/cultural production, with a comparatist focus on different linguistic traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 345 Realist Fiction
Units: 4 Study of the ways literature presents the "real" (social and/or individual) through readings of selected novels and short stories in the realist and naturalist traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 346 Fictions of the First Person
Units: 4 Study of prose fiction in the first person as a model of fiction in general and as a reflection of the fictional structure of selfhood. Instruction Mode: Lecture Grading Option: Letter

COLT 348 Modernist Fiction
Units: 4 Study of the Modernist aesthetic in narrative texts by Gide, Joyce, Kafka, Woolf and others; possible focus on related trends in other literary traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 351 Modern and Contemporary Drama
Units: 4 Comparative study of major modern dramatic trends, subgenres, and techniques, through representative works from Strindberg to the Theatre of the Grotesque and the Absurd. Duplicates Credit in former COLT 305. Instruction Mode: Lecture Grading Option: Letter

COLT 354 Revolutions in Theater
Units: 4 Comparative study of groundbreaking contributions to modern theories of theater and performance in the context of other 20th century revolutions — aesthetic, cultural, and social. Instruction Mode: Lecture Grading Option: Letter

COLT 357 The Avant-Garde
Units: 4 Max Units: 8.0 Study of the relationship between literary modes and other arts since 1900, focusing on particular avant-garde movements. Instruction Mode: Lecture Grading Option: Letter

COLT 365 Literature and Popular Culture
Units: 4 Study of mass-reproduced verbal and visual art forms, such as graphic novels, comics, animation, popular music, video, graffiti, advertising. Instruction Mode: Lecture Grading Option: Letter

COLT 370 Leaders and Communities: Classical Models
Units: 4 Terms Offered: FaSp (Enroll in CLAS 370)

COLT 373 Literature and Film
Units: 4 Examines literature and film as distinct modes of representation, narration, and structuring of time, language, memory, and visuality. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-373

COLT 374gm Women Writers in Europe and America
Units: 4 Terms Offered: Sp Introduction to works of major women writers from the Middle Ages to the 20th century in their literary, social, and cultural contexts. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS-374

COLT 375 Latin American Cultural and Literary Theory
Units: 4 Survey of cultural critique focused on Latin America as a cultural region and on Latin Americanism as a transnational academic practice. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SPAN 375

COLT 377 Literature, Theory, Gender
Units: 4 Literary representations and theories of gender difference. - Examines questions of gendered voice in writing and the cultural construction of gender in various periods and cultures. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-378

COLT 379 Nationalism and Postcolonialism in Southeast Asian Cinema
Units: 4 Cinema from Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam in local and global cultural contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-379

COLT 381 Psychoanalysis and the Arts
Units: 4 Introduction to psychoanalytic literature on the arts, including classic texts by Freud, Jones, Lacan, Derrida, and others. Readings of theoretical and fictional works. Instruction Mode: Lecture Grading Option: Letter

COLT 382gw Zen and Taoism in Asian Literature
Units: 4 Studies of the presence and influence of Zen Buddhism and Taoism in Asian literature, with a focus on China and Japan. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

COLT 385 Literature and Justice
Units: 4 Examination of literary and autobiographical texts that raise questions of justice in multicultural societies; links to theories of justice in historical, political, or philosophical contexts. Instruction Mode: Lecture Grading Option: Letter

COLT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

COLT 391 Literary Criticism from Plato to Postmodernism
Units: 4 Survey of major texts in the literary criticism of the West from the Greeks to postmodern theories. Instruction Mode: Lecture Grading Option: Letter

COLT 420 The Fantastic
Units: 4 Representative works from the "fantastic" and related currents within the European, U.S., and Spanish American traditions; reading of texts by authors such as Borges, Cortazar, Kafka, and Poe. Discussion of relevant theoretical concepts and critical works. Instruction Mode: Lecture Grading Option: Letter

COLT 426 Utopias
Units: 4 Examination of selected utopias in their historical context as "no places" whose projections of alternate cultures always comment on their own. Instruction Mode: Lecture Grading Option: Letter

COLT 435 Poetry and Poetics of the Everyday
Units: 4 Relations between poetry of the dominant tradition in various languages and vernacular forms of poetry, such as riddles, nursery rhymes, ballads, and poems in dialect or slang. Instruction Mode: Lecture Grading Option: Letter

COLT 437 Arabic Autobiography: Writing and Interpreting the Self
Units: 4 Terms Offered: FaSpSm Exploration of twentieth-century Arabic autobiographical writings and interrogation of the complex ways by which such works unsettle fundamental assumptions of literary history and modernity. Duplicates Credit in COLT 448 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 437

COLT 445 Europe and the Writing of Others
Units: 4 Analysis of European texts — literary, musical, philosophical, visual — that focus on other cultures, as well as of non-European texts dealing with Europe or - European cultural forms. Instruction Mode: Lecture Grading Option: Letter

COLT 447 Traveling Genres: Politics/ Poetics of Modern Arabic Prose
Units: 4 Terms Offered: FaSpSm Introduction to nineteenth-century Arabic travel-writing and investigation of its role in the reconfiguration of the Arabic tradition at the interface of aesthetics and politics. Duplicates Credit in COLT 448 Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 447

COLT 448 Multilingual Encounters
Units: 4 Exploration of multilingual encounters in literary works, films, and theoretical texts. Topics may include immigrant languages, dialects, jargons, imaginary or hybrid languages, theories of translation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES 449

COLT 449g Dante
Units: 4 Terms Offered: FaSp (Enroll in ITAL 382g)

COLT 451 Opera and Cultural Theory
Units: 4 Study of the words and plots of operas from the viewpoint of gender, postcolonial, and psychoanalytical theory. Special attention to contemporary stagings and film versions. Instruction Mode: Lecture Grading Option: Letter

COLT 452 Representation and Cognition in Photography
Units: 4 Analysis of documentary photo- - representation in its historical context through study of the work of selected 20th

century documentary photographers and of pertinent critical writings. Instruction Mode: Lecture Grading Option: Letter

COLT 453 Bildungsroman in Modern East Asia
Units: 4 Terms Offered: Sp (Enroll in EALC 454)

COLT 454 Aesthetic Philosophy and Theory
Units: 4 Introduction to philosophical and critical writings on the nature of art and aesthetic experience. Special attention to technology's impact on art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-454

COLT 460 Love, Self and Gender in Japanese Literature
Units: 4 (Enroll in EALC 460)

COLT 462 Soundtracks of Our Lives
Units: 4 The reciprocal, ideological relations between modes of listening, sounds, music; and literature, film, culture. Examines a range of issues in auditory culture across a broad historical span. Instruction Mode: Lecture Grading Option: Letter

COLT 470 Literature and Media in Latin America
Units: 4 Study of the relations between Latin American literature and different mass-media genres. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SPAN-470

COLT 471 Literature, Theory, History
Units: 4 Examines the relation between historical and theoretical approaches to literary works. Instruction Mode: Lecture Grading Option: Letter

COLT 472 Los Angeles Crime Fiction
Units: 4 The noir tradition in books and films set in Los Angeles. Emphasis on generic conventions, representations of the city, and discourses of class, gender, race. Instruction Mode: Lecture Grading Option: Letter

COLT 474 Desire, Literature, Technology
Units: 4 Relations between technology, desire, power and literature through contemporary philosophers, theorists and literary critics. Examines literature and philosophy in relation to global technological planning. Instruction Mode: Lecture Grading Option: Letter

COLT 475 Politics and the Novel
Units: 4 Examination of the modern realist novel with special focus on the representation of social change (revolution, class conflict, sexual politics). Instruction Mode: Lecture Grading Option: Letter

COLT 476 Narrative and the Law
Units: 4 Study of the relationship between law and narrative through Western literature, including the realist novel, medieval morality plays and Greek drama. Instruction Mode: Lecture Grading Option: Letter

COLT 478 Family in Theory and Literature
Units: 4 Representations of the family in literary works and films across different cultures and historical periods. Readings in anthropology, philosophy, psychoanalysis, and feminist and gender theory. Instruction Mode: Lecture Grading Option: Letter

COLT 480 Dada and Surrealism
Units: 4 A comparative study of Dada and Surrealism in literature in relation to painting, sculpture, photography and cinema. Instruction Mode: Lecture Grading Option: Letter

COLT 485 The Shoah (Holocaust) in Literature and the Arts
Units: 4 A critical analysis, in their historical contexts, of representative literary, dramatic, musical and artistic works created by or about the victims of the Shoah (Holocaust). Instruction Mode: Lecture Grading Option: Letter

COLT 486 Deconstructive Thought
Units: 4 Deconstructive analysis of theories of language, representation, selfhood, the human, art and technology, politics and ethics. Study of works by Derrida and others. Instruction Mode: Lecture Grading Option: Letter

COLT 487 Critical Image
Units: 4 Introduction to critical reflection on the image. Analysis of criticism, fiction, film, and visual artifacts. Instruction Mode: Lecture Grading Option: Letter

COLT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. *Prerequisite:* departmental approval. Instruction Mode: Lecture Grading Option: Letter

COLT 495 Senior Honors Thesis
Units: 4 Writing of an honors thesis under individual faculty supervision. Instruction Mode: Lecture Grading Option: Letter

COLT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected author or authors in the context of a major literary tradition. Instruction Mode: Lecture Grading Option: Letter

COLT 525 Studies in Literary and Cultural History
Units: 4 Max Units: 8.0 Literary and cultural currents from classical antiquity through modernity. Varying focus on specific genres, periods, movements, or problematics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CLSC-525

COLT 545 Studies in Literature and the Other Arts
Units: 4 Max Units: 8.0 Study of intersections between the literary arts and music, opera, film, theatre, photography, dance, or painting. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-545

COLT 555 Studies in Literatures of the Americas
Units: 4 Max Units: 8.0 Comparative study of literary currents in the U.S., Canada, Latin America, and the Caribbean. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-555

COLT 565 Studies in Literatures of Asia
Units: 4 Max Units: 8.0 Study of major cultural paradigms and their divergent influences in the literatures of China, Japan, Korea, and Southeast Asia. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-565

COLT 575 Studies in Literature and Ethnicity
Units: 4 Max Units: 8.0 Study of literary expression in different cultural, racial, or religious communities. Possible focus on African, Asian, Hispanic, or Jewish themes across several national traditions. Instruction Mode: Lecture Grading Option: Letter

COLT 585 Studies in Literature and Gender
Units: 4 Max Units: 8.0 Emphasis on gender difference and sexual difference as signifying categories for literary works, criticism, or theory. Instruction Mode: Lecture Grading Option: Letter

COLT 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

COLT 602 Seminar in Literary Theory
Units: 4 Max Units: 12.0 Intensive study of a theoretical tradition or critical movement, or of an individual topic or thinker, in literary criticism or theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-602

COLT 620 Seminar in Literature, Culture, and Thought
Units: 4 Max Units: 12.0 Varying focus on social and political thought, psychoanalysis, and philosophy in relation to literary and cultural analysis. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSLC-620

Communication

COMM 200 Communication and Social Science
Units: 4 Terms Offered: FaSp
Social scientific inquiry into human communication; core theories of message production and reception in interpersonal, group and organizational contexts. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 203 Communication and Mass Media
Units: 4 Terms Offered: FaSp Survey of mass communication research; history, content, effects, theories and policy implications of various media. Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 204 Public Speaking
Units: 4 Principles and practices of effective oral communication; analysis of the speaking-listening process; selection and organization of speech materials; use of new presentation technologies. Instruction Mode: Lecture Grading Option: Letter

COMM 205x Communication Practicum
Units: 1, 2 Max Units: 4.0 Students address communication issues in a field setting. They will evaluate communication practices using appropriate methodology. Projects are jointly evaluated by internship supervisor and professor. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 206 Communication and Culture
Units: 4 Terms Offered: FaSpSm Examines cultural institutions, ideologies, artifacts,

and productions; role of culture in everyday life; cultural studies as methodology; culture and power. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ACAD-206

COMM 209 Communication and Media Economics
Units: 4 Terms Offered: FaSp Economic and political economic principles for the analysis of communication and media industries including broadcasting, newspapers, motion pictures, music, video games, advertising and public relations. Duplicates Credit in the former COMM 207 and COMM 208 Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 300 Entertainment, Communication and Society
Units: 4 Terms Offered: FaSp Theoretical foundation for understanding the construction, consumption, and consequences of entertainment from classical to contemporary times; situates entertainment within the ecology of information and communication. Instruction Mode: Lecture Grading Option: Letter

COMM 301Lg Empirical Research in Communication
Units: 4 Terms Offered: FaSpSm Experimental and survey methods for communication study; basic statistical concepts, procedures, and tests. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

COMM 302 Persuasion
Units: 4 Theories and research in social influence; strategies and tactics of persuasive communications in such settings as politics, public relations, advertising, business. Instruction Mode: Lecture Grading Option: Letter

COMM 303 Learning from Case Studies in Communication
Units: 4 Case study approaches to communication research; reliability, validity, generalizability, and ethics in qualitative social research; cases in communication policy and practices. Instruction Mode: Lecture Grading Option: Letter

COMM 304 Interpersonal Communication
Units: 4 Analysis of face-to-face interaction; role of communication in the development, maintenance and destruction of relationships; communication processes in managing interpersonal conflict. Instruction Mode: Lecture Grading Option: Letter

COMM 305 Understanding Social Science Research
Units: 4 Students learn to be consumers rather than creators of social science research. Examines the challenges and opportunities of communicating research through mass media. Instruction Mode: Lecture Grading Option: Letter

COMM 306 Innovation, Entertainment, and the Arts
Units: 4 Terms Offered: FaSpSm Explorations of innovation in the entertainment business. The effects of digital mobile media on TV, movies, music, advertising, social networks and art. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-306

COMM 307 Sound Clash: Popular Music and American Culture
Units: 4 Music as inter-cultural communication and method for exploring race and ethnicity in the constitution of American culture and American self; role of music industry. Instruction Mode: Lecture Grading Option: Letter

COMM 308 Communication and Conflict
Units: 4 Nature and functions of communication in human conflict; development of communication skills for managing conflict productively in interpersonal, organizational and intercultural contexts. Instruction Mode: Lecture Grading Option: Letter

COMM 309 Communication and Technology
Units: 4 Terms Offered: FaSp Cultural, social, political, and economic dynamics of communication technologies, including internet architecture, social media, participatory cultures, privacy, surveillance, networked journalism, big data, algorithms, online activism. Duplicates Credit in the former COMM 202 Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 310 Media and Society
Units: 4 Interplay between media and society, including family and children's socialization, inter-group relations and community, pornography and violence, gender and race, media ethics, conduct of politics. Instruction Mode: Lecture Grading Option: Letter

COMM 311 Rhetoric and the Public Sphere
Units: 4 Terms Offered: FaSp Humanistic approaches to inquiry in communication; qualitative research techniques; core theories of message production and reception in social, political, and mediated contexts. Duplicates Credit in the former COMM 201 Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 312 The Business and Culture of Celebrity
Units: 4 Employs the concept of "celebrity" as an optic through which to view and assess some of the key aspects of the communication revolution. Instruction Mode: Lecture Grading Option: Letter

COMM 313 Communication and Mass Media
Units: 4 Terms Offered: FaSp Survey of mass communication research; history, content, effects, theories, and policy implications of various media. Duplicates Credit in COMM 203 Instruction Mode: Lecture, Discussion Grading Option: Letter

COMM 315 Health Communication
Units: 4 Behavioral approaches to health communication; communication competencies in health care settings, theories of risky behaviors, and behavioral change programs; special emphasis on AIDS-related issues. *Recommended Preparation:* COMM 301Lg. Instruction Mode: Lecture Grading Option: Letter

COMM 320 Small Group and Team Communication
Units: 4 Group process theories relevant to communicative behavior in small group/team settings, including information exchange, decision making, leadership, and meetings; student team projects testing theoretic propositions. Instruction Mode: Lecture Grading Option: Letter

COMM 321 Communication and Social Media
Units: 4 Social media within the broader social, political, and historical contexts; key themes include labor, Web 2.0, self-branding, celebrity, participation, privacy, online shaming, and activism. Instruction Mode: Lecture Grading Option: Letter

COMM 322 Argumentation and Advocacy
Units: 4 Basic argumentation theory including analysis, research and evidence, case construction, refutation; discursive and visual argument; diverse fields of advocacy including law, politics, organizations, interpersonal relations. Instruction Mode: Lecture Grading Option: Letter

COMM 323 Public Deliberation
Units: 4 Introduction to deliberative democracy in culture and governance; examines historical and contemporary institutions of democratic discourse and emerging communication norms. Instruction Mode: Lecture Grading Option: Letter

COMM 324mw Intercultural Communication
Units: 4 Terms Offered: FaSpSm Cultural variables and social psychological processes that influence intercultural interaction; relationship between communication and culture in diverse settings including business, medicine, and education. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

COMM 325 Intercultural Britain: Media, History and Identity
Units: 4 Examines urgent social and political issues as they are shaped, represented and expressed by the institutions of media, culture and communication within the United Kingdom. Instruction Mode: Lecture Grading Option: Letter

COMM 330 Rhetoric in Classical Culture
Units: 4 Theories of communication and persuasion in ancient Greece and Rome; cultural and social contexts of classical rhetorical theory; major historical figures and concepts. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 335 Rhetoric in Contemporary Culture
Units: 4 Theories of communication and persuasion in contemporary society; cultural and social contexts of contemporary rhetorical theory; major theorists, concepts and controversies. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 339 Communication Technology

and Culture
Units: 4 Examination of philosophies and popular representations of technology from the origins of western culture to the present and identifies the complex attitudes toward technology. Instruction Mode: Lecture Grading Option: Letter

COMM 340 The Cultures of New Media
Units: 4 Cultural implications of computer-mediated communication and related media. Ideological responses to media innovation; debates over artificial intelligence, virtual communities, and virtual reality. *Recommended Preparation:* COMM 339. Instruction Mode: Lecture Grading Option: Letter

COMM 345 Social and Economic Implications of Communication Technologies
Units: 4 Social and economic impacts of information and communication technologies; social factors that shape technological change; issues include access, privacy, freedom of expression, productivity, democratic control. Instruction Mode: Lecture Grading Option: Letter

COMM 350 Video Games: Content, Industry, and Policy
Units: 4 Introduction to the medium; history of video games; video games as aesthetic products, cultural products, economic outputs; policy issues, effects, and sites of community. Instruction Mode: Lecture Grading Option: Letter

COMM 355 Advertising and Communication
Units: 4 Advertising as a mode of communication; U.S. advertising history and institutions; economic and policy contexts (domestic and global); critical analysis of advertising texts. Instruction Mode: Lecture Grading Option: Letter

COMM 360 The Rhetoric of Los Angeles
Units: 4 Representations of Los Angeles communicated in diverse media; the city as a rhetorical text; analysis of cultural identities, art, architecture, and representations in popular culture. Instruction Mode: Lecture Grading Option: Letter

COMM 363 Media Consumption
Units: 4 Theoretical approaches to the study of media consumption and audiences; examines international media and consumption practices; explores new media's impact on consumption. Instruction Mode: Lecture Grading Option: Letter

COMM 364 Comparative Media: United States and the United Kingdom
Units: 4 Cross-national approaches to the study of U.S. and U.K. media; focuses on news and entertainment media products; examines content, industries, technologies and audiences. Instruction Mode: Lecture Grading Option: Letter

COMM 365 The Rhetoric of London
Units: 4 Terms Offered: FaSpSm Examination of the modern city as a communicative text with London as the case study. Instruction Mode: Lecture Grading Option: Letter

COMM 366 Designing Media and Communication Projects for Social Change
Units: 4 Terms Offered: FaSpSm Students explore the theoretical and practical issues involved in designing effective media and communication projects for social change in international contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-366

COMM 367 Community Engagement and Service Learning
Units: 2 Max Units: 04 Students engage with a community partner, bridging classroom learning with "real world" experiences by working within the diverse community surrounding USC. Instruction Mode: Lecture Grading Option: Letter

COMM 369w Public Diplomacy and Global Citizenship
Units: 4 (Enroll in PUBD 369w)

COMM 370 The Rhetoric of Ideas: Ideology and Propaganda
Units: 4 Techniques of propaganda in public discourse; communication strategies through which ideas become ideologies; case studies in wartime and corporate propaganda, imperialism, and cultural colonialism. Instruction Mode: Lecture Grading Option: Letter

COMM 371 Censorship and the Law: From the Press to Cyberspace
Units: 4 The study of current and historical battles over the limits of free expression from press and public parks to television, movies, music and cyberspace. Duplicates Credit in former JOUR 371. Instruction Mode: Lecture Grading Option: Letter Crosslisted as JOUR-371

COMM 372 The Image of the Journalist in Popular Culture
Units: 4 (Enroll in JOUR 375)

COMM 375 Business and Professional Communication
Units: 4 Terms Offered: FaSpSm Oral and written communication skills demanded in the workplace including informative and persuasive speeches; interviewing; team communication; and training material preparation. *Recommended Preparation:* COMM 204. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-375

COMM 380 Forensics Laboratory
Units: 1, 2, 3, 4 Max Units: 8.0 Directed individual research studies of contemporary problems. Supervised laboratory experience. Registration Restriction: Open only to members of the University debate squad. Instruction Mode: Lecture Grading Option: Letter

COMM 381 Issues in Contemporary Sport
Units: 4 Explores social, political and ethical issues in elite sports and how issues are addressed through popular media; examination includes the relationship between sports and politics. Instruction Mode: Lecture Grading Option: Letter

COMM 382 Sports, Business and Media in Today's Society
Units: 4 (Enroll in JOUR 380)

COMM 383m Sports, Communication and Culture
Units: 4 Rhetorical and critical approaches to sports and public discourse; application to sports organizations, the news and popular media; representations of gender and race in sports. Instruction Mode: Lecture Grading Option: Letter

COMM 384 Interpreting Popular Culture
Units: 4 Popular culture as an indicator of cultural values, a producer and reflection of cultural meaning, and a means of communication; theory and case studies. Instruction Mode: Lecture Grading Option: Letter

COMM 385 Organizational Communication
Units: 4 How communication processes both create organizations and are constrained by them. Theory and research into topics such as culture, technology, power, leadership and decision-making in a variety of organizational contexts. Instruction Mode: Lecture Grading Option: Letter

COMM 387 Sports and Social Change
Units: 4 Application of critical, sociological and rhetorical theories to sports events and sport media; examination of the role of sports in enacting social change. Instruction Mode: Lecture Grading Option: Letter

COMM 388 Ethics in Human Communication
Units: 4 Value perspectives on communication in varied settings: interpersonal, organizational, and public. Issues of truth and responsibility in family and social interactions, advertising, and governmental communication. Instruction Mode: Lecture Grading Option: Letter

COMM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

COMM 391 Made in Italy-The Marketing of an Ideal
Units: 4 Terms Offered: FaSp Examines case studies on important Italian companies, ranging from the transportation to the luxury goods industries from both an economical and business point of view. Registration Restriction: Open only to Communication, Journalism and Public Relations majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 391

COMM 392 Media and Migration in Times of European Crisis
Units: 4 Terms Offered: FaSp Investigates the implications of the perceptual process of mass media generated immigration discourse in Europe Registration Restriction: Open only to Communication, Journalism, and Public Relations majors Instruction Mode: Lecture Grading Option: Letter Crosslisted as JOUR 392, PR 392

COMM 393 Rhetoric of Rome
Units: 4 Terms Offered: FaSp Examination of the modern city as a communicative text with Rome as the case study. Registration Restriction: Open only to Communication,

Journalism, and Public Relations majors Instruction Mode: Lecture Grading Option: Letter

COMM 395m Gender, Media and Communication
Units: 4 Issues of gender in communication, including: media representations of femininity and masculinity; and gender's role in communication at the interpersonal, public, and cultural levels. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 395

COMM 396 Fashion, Media and Culture
Units: 4 Fashion as a form of communication and culture; fashion's role in identity, body politics, art, nationhood, celebrity and Hollywood culture, youth cultures and subversive practices. Instruction Mode: Lecture Grading Option: Letter

COMM 400 Seminar in Communication
Units: 4 Max Units: 12.0 Advanced readings in communication theory and research (broadly defined); specialized interest areas of individual faculty on the frontiers of knowledge; seminar topics change each semester. Instruction Mode: Lecture Grading Option: Letter

COMM 401 Audience Analysis
Units: 4 Examines audience analysis methodologies including focus groups, shadow juries, surveys, test marketing and content analysis; application of statistical sampling procedures, data analysis, interpretation and presentation. *Prerequisite:* COMM 301Lg. Instruction Mode: Lecture Grading Option: Letter

COMM 402 Public Communication Campaigns
Units: 4 Theory and research in public health communication campaigns; design, implementation, and evaluation; extensive discussion of historical case studies and reasons for success or failure. Instruction Mode: Lecture Grading Option: Letter

COMM 411 Communication Criticism
Units: 4 Methods and functions of criticism in forms of public communication; historical-contextual, textual, and interpretive procedures; diverse theoretical approaches including formalism, dramatism, genre, and ideology. *Prerequisite:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 412 Communication and Social Movements
Units: 4 Social and political movements as rhetorical phenomena; ideology, organization, and influence of such movements as civil rights, "New Left," feminism, "New Right," environmentalism. Instruction Mode: Lecture Grading Option: Letter

COMM 413 Propaganda, Ideology and Public Controversy
Units: 4 Seminar examining the relationship between propaganda, ideology, critical thinking and rhetoric; application to contemporary controversies, both domestic and global; role of public argument. Duplicates Credit in COMM 370. Instruction Mode: Lecture Grading Option: Letter

COMM 414 Communication and Social Change in China
Units: 4 Examines social, political, and cultural implications of media and communication on Chinese society; regulations relevant to Chinese communication; market reforms, telecommunication, Internet and creative industries. Instruction Mode: Lecture Grading Option: Letter

COMM 415m African American Rhetoric and Image
Units: 4 Interactive course addresses how people of color use symbols to construct identities and communities and disrupt networks through media, politics, entertainment and technology. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 417 Global Engagement: Designing Public Diplomacy Strategies
Units: 4 (Enroll in PUBD 417)

COMM 418 International Exchanges and Public Diplomacy
Units: 4 (Enroll in PUBD 418)

COMM 419 Public Diplomacy in Los Angeles
Units: 4 (Enroll in PUBD 419)

COMM 420 Regional Studies in Public Diplomacy
Units: 4 Max Units: 08 (Enroll in PUBD 420)

COMM 421 Legal Communication
Units: 4 Analytical and communicative aspects of judicial argument; philosophy and techniques of jury trials, cross examination, and appellate advocacy; research, preparation, and presentation of case briefs. *Prerequisite:* COMM 322. Instruction Mode: Lecture Grading Option: Letter

COMM 422 Legal Issues and New Media
Units: 4 Examines laws and regulatory policies shaping new media, especially the Internet; impact of regulation on development and use of communication technology. Instruction Mode: Lecture Grading Option: Letter

COMM 425 Communicating Religion
Units: 4 Genres of religious communication, including sermon, prayer, ritual, polemic, and revival. Impact of technological and cultural change on religious advocacy, beliefs, and practices. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-425

COMM 426 Religion, Media and Hollywood: Faith in TV
Units: 4 How religion, ethics and spirituality are embedded, embodied and emplotted in television drama; how secular texts represent "lived religion" to increasingly diverse audiences. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-426

COMM 427 Topics in Media Economics, Law and Policy
Units: 4 Max Units: 8 Selected current topics in the overlapping areas of media economics, law, and policy. Instruction Mode: Lecture Grading Option: Letter

COMM 430 Global Entertainment
Units: 4 Survey of economic, political, and cultural dimensions of the global entertainment marketplace; focuses on the international production and distribution of media products and services. Instruction Mode: Lecture Grading Option: Letter

COMM 431 Global Strategy for the Communications Industry
Units: 4 Addresses the practical and theoretical aspects of the international economy that are most relevant to management strategy in the communications industry. Instruction Mode: Lecture Grading Option: Letter

COMM 432 American Media and Entertainment Industries
Units: 4 Examines the history, technology, regulations and business practices of American broadcast and entertainment industries. Instruction Mode: Lecture Grading Option: Letter

COMM 433 Home Entertainment
Units: 4 History and impact of television and ancillary home entertainment (pay television, cable television, home video, DVD, DVR, video-on-demand, etc.) on media industries and consumer experience. Instruction Mode: Lecture Grading Option: Letter

COMM 434 Italian Media: Popes, Politicians, and Popular Culture
Units: 4 Terms Offered: FaSp Provides an overview of 2,000 years of Italian-style communications, from Julius Caesar to Machiavelli, Mussolini and the Mafia. Instruction Mode: Lecture Grading Option: Letter

COMM 440 Music as Communication
Units: 4 Examines music's unique characteristics as a communicative form and the cultural, economic, political and social influences in music interpretation and production. Instruction Mode: Lecture Grading Option: Letter

COMM 443 Communicating Health Messages and Medical Issues
Units: 4 How communication — interpersonal, mass media, and information technologies — shapes health behavior. Topics: doctor-patient consults; public campaigns; health issues in entertainment, news, and on the Internet. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HP-443

COMM 444 Critical Theories of Sport
Units: 4 Focuses on critical theories that examine social and political roles of sport in society and how these roles play out in media and broadcast platforms. Instruction Mode: Lecture Grading Option: Letter

COMM 445 Global Networks of Sport
Units: 4 Focuses on global technologies, media, money, and labor in the sport sector. Investigates both deviant and regulatory networks of sport in the context of globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 449 Perspectives on the Networked Press
Units: 4 Critical survey of the forces defining today's networked press, examining the people, technologies, and institutions that

produce news in today's online environments. *Recommended Preparation:* COMM 309 Instruction Mode: Lecture Grading Option: Letter

COMM 450 Visual Culture and Communication
Units: 4 Examines issues of visual images in communication related to history, modernity, cityscapes, news media, advertising, evidence, science, digital technology, and globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 451 Visual Communication and Social Change
Units: 4 Analysis of photography's evolution; new strategies for the photographic image, photo documentary work and global social issues; analysis of images on blogs and Websites. Instruction Mode: Lecture Grading Option: Letter

COMM 454 Media, Money, and Society
Units: 4 Money as communication; social scientific analysis of money and financial markets; money and popular culture; the business press; representations of Wall Street in Hollywood cinema. Instruction Mode: Lecture Grading Option: Letter

COMM 455 Advertising and Society
Units: 4 Examination of the role of advertising in contemporary society as an economic force and a cultural form of representation. *Recommended Preparation:* COMM 311 Instruction Mode: Lecture Grading Option: Letter

COMM 456 Entertainment, Marketing and Culture
Units: 4 Explores blurring of entertainment, marketing and culture in advanced information economies; intersections of culture and media and their social ramifications. Instruction Mode: Lecture Grading Option: Letter

COMM 457 Youth and Media
Units: 4 Exploration of youth media and culture, including television, movies, video games, toys, magazines, music, social media. Examines representations of youth and youth as audience. *Prerequisite:* COMM 300 Instruction Mode: Lecture Grading Option: Letter

COMM 458m Race and Ethnicity in Entertainment and the Arts
Units: 4 Terms Offered: FaSpSm Examines how race and ethnicity as social categories are shaped by communication media; focuses on how race and ethnicity sustain entertainment and media industries. *Prerequisite:* COMM 206. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-458

COMM 459 Fact and Fiction: From Journalism to the Docudrama
Units: 4 (Enroll in JOUR 459)

COMM 460 Collaboration and Group Decision Making
Units: 4 Advanced seminar examining the theoretical, empirical and practical aspects of human and technological communication in group processes; experiential and/or field experiences in group observation. Instruction Mode: Lecture Grading Option: Letter

COMM 464 Social Responsibility of the News Media
Units: 4 Terms Offered: Sp (Enroll in JOUR 460)

COMM 465m Gender in Media Industries and Products
Units: 4 Examination of the effect of gender stratification in media industries upon the cultural products they create, especially gender and gender/race role portrayals. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-465

COMM 466m People of Color and the News Media
Units: 4 (Enroll in JOUR 466m)

COMM 467 Gender and the News Media
Units: 4 (Enroll in JOUR 467)

COMM 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 Application of intercultural communication theories and negotiation theories in the preparation and execution of global negotiations; strategies for creating mutual gains and sustained partnerships. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MOR-468, PPD-468

COMM 470 Information and Communication Technologies Strategic Analysis
Units: 4 Frameworks for strategically analyzing information and communication technologies; issues of regulation, control and social impacts of evolving ICTs; original research project of ICT strategy. Duplicates Credit in COMM 345. Instruction Mode: Lecture Grading Option: Letter

COMM 473 Advanced Issues in Communication and Technology
Units: 4 Advanced level readings into human-computer interfaces; social interaction with artifacts; concept of presence, and emerging social and psychological issues of new communication and computer technologies. *Prerequisite:* COMM 301 . Instruction Mode: Lecture Grading Option: Letter

COMM 475 Environmental Communication
Units: 4 Communication about environmental controversies in the public sphere: history of environmentalism; forms of citizen participation; media coverage; advocacy campaigns and movements; scientific and industrial discourses. Instruction Mode: Lecture Grading Option: Letter

COMM 480 Nonverbal Communication
Units: 4 Theory and research; examination of the influence of environmental factors, physical behavior, and vocal cues on human communication. Instruction Mode: Lecture Grading Option: Letter

COMM 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm (Enroll in JOUR 482)

COMM 486 Human and Technological Systems in Organizations
Units: 4 How communication and information technologies are linked to organizational control, design, cultures; technology and competitive advantage; ethics and policy issues; technology-mediated work. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 487 Communication and Global Organizations
Units: 4 The role of communication in global organizations; information, networks, and communication technologies for global organizing; computer-based collaborative work and virtual organizations. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 488 Communication Research in Organizations
Units: 4 Seminar in application of communication research tools; diagnosis and analysis of communication problems; current topics in organizational communication scholarship; students complete original research projects. *Recommended Preparation:* COMM 385. Instruction Mode: Lecture Grading Option: Letter

COMM 489 Campaign Communication
Units: 4 Problems in political communication: creating an informed electorate, use of mass media, factors in voter persuasion. Guest experts in political analysis, opinion polling, communication evaluation. Instruction Mode: Lecture Grading Option: Letter

COMM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

COMM 494x Research Practicum
Units: 2, 3, 4 Max Units: 4.0 Students gain research experience in the design, implementation, analysis, and reporting of communication research. Students serve as research assistants to faculty members. Instruction Mode: Lecture Grading Option: Letter

COMM 495 Honors Seminar
Units: 4 Max Units: 8.0 Advanced study of issues in communication; recent developments in communication and rhetorical theories. Recommended for seniors. *Recommended Preparation:* COMM 301Lg. Registration Restriction: Open only to students in COMM honors program. Instruction Mode: Lecture Grading Option: Letter

COMM 497x Honors Thesis
Units: 4 Terms Offered: FaSp Writing of the honors thesis. Instruction Mode: Lecture Grading Option: Letter

COMM 498 Ethical Issues in Entertainment and Communication
Units: 4 Terms Offered: FaSpSm Examines social and political controversies over conflicting ethical standards for communication in a variety of media: mass-media, communication technology, and entertainment. *Prerequisite:* COMM 310. Instruction Mode: Lecture Grading Option: Letter

COMM 499 Special Topics

Units: 2, 3, 4 Max Units: 8.0 Selected topics in communication Instruction Mode: Lecture Grading Option: Letter

COMM 502 Theoretical Approaches to Multidisciplinary Design Projects
Units: 4 Focuses on theories and research in communication and social sciences to bridge disciplines to produce a proposal, business plan, publication, or a research project. Instruction Mode: Lecture Grading Option: Letter

COMM 504x Interpersonal Communication
Units: 4 Theories of communication behavior in relatively unstructured, face-to-face situations; examination of decoder-encoder, message, channel, and situational variables. Instruction Mode: Lecture Grading Option: Letter

COMM 508x Power, Politics and Conflict in Communication
Units: 4 Human communicative behavior involving the creation and resolution of conflict in interpersonal, small group, and formal organizational settings. Instruction Mode: Lecture Grading Option: Letter

COMM 509x Classical Rhetorical Theory
Units: 4 Theories of rhetoric from the fifth century B.C. through the fifth century A.D.; emphasis on the Sophists, Plato, Aristotle, Cicero, Quintilian, and St. Augustine. Instruction Mode: Lecture Grading Option: Letter

COMM 511x Contemporary Rhetorical Theory
Units: 4 Theories of rhetoric from the 18th century to the present; emphasis on Perelman, Burke, Habermas, Grassi, and Booth. Instruction Mode: Lecture Grading Option: Letter

COMM 512x Rhetorical Criticism
Units: 4 Theories and methods of assessing popular persuasive art forms such as contemporary drama, music, poetry, and journalism as well as traditional forms of public address. Instruction Mode: Lecture Grading Option: Letter

COMM 513x Neoclassical Rhetorical Theory
Units: 4 Theories of rhetoric from the fifth century A.D. through the 18th century; emphasis on dictamin, praedicandi, poetriae, Alquin, Ramus, Port-Royalists, Bacon, Campbell, Blair, and Whately. Instruction Mode: Lecture Grading Option: Letter

COMM 514x Social Movements as Rhetorical Form
Units: 4 Study of the rhetoric of social change; methodologies for analysis and appraisal; investigation of specific collective protest and reform movements. Instruction Mode: Lecture Grading Option: Letter

COMM 515x Postmodern Rhetorical Theory
Units: 4 Implications of postmodernity for rhetorical theory and criticism; issues of textuality, agency, and subjectivity in communication; study of selected postmodern figures. Instruction Mode: Lecture Grading Option: Letter

COMM 516x Feminist Theory and Communication
Units: 4 Implications of feminist theory for communication; topics include epistemology, critique of science/technology, women and language, feminist approaches to media and film, women and the workplace. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-516

COMM 517x Rhetorical Theory and Culture
Units: 4 Issues of culture in recent rhetorical theory; in-depth examination of representative idealist, pragmatist, structuralist, critical, and post-modern accounts of the symbolic construction of cultural forms. Instruction Mode: Lecture Grading Option: Letter

COMM 518x American Public Address
Units: 4 History and criticism of major American speakers and speeches with reference to the social, political, and intellectual background of their times. Instruction Mode: Lecture Grading Option: Letter

COMM 519x Cultural Studies in Communication
Units: 4 Theoretical foundations, history, and development of cultural studies in communication; implications of issues of nationalism, colonialism, technologies, popular culture, and politics of bodies for communication. Instruction Mode: Lecture Grading Option: Letter

COMM 520 The Rhetoric of the Presidential Campaign Trail
Units: 4 Students follow the ongoing presidential campaign and consider topics such as gender, race, new media, polling, religion, and advertising on election outcomes. Instruction Mode: Lecture Grading Option: Letter

COMM 521x Argumentation
Units: 4 Foundation of critical deliberation; the nature of informal reasoning; logical and ethical problems; analysis and appraisal of naturalistic argument. Instruction Mode: Lecture Grading Option: Letter

COMM 522x Kenneth Burke's Dramatistic Theory
Units: 4 Studies the contributions of Kenneth Burke, among the most significant figures in the development of contemporary rhetorical theory and criticism. Instruction Mode: Lecture Grading Option: Letter

COMM 524x Small Group Process
Units: 4 Contemporary theoretical models; problems in determination and measurement of variables in small group communication environments; assessment of recent research. Instruction Mode: Lecture Grading Option: Letter

COMM 525x Humanistic and Social Scientific Approaches to Human Communication I
Units: 4 Overview of the humanistic and social scientific approaches to the study of communication; emphasis on rhetorical/critical and macro social scientific perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 526x Humanistic and Social Scientific Approaches to Human Communication II
Units: 4 Overview of the humanistic and social scientific approaches to the study of communication; emphasis on macro and micro social scientific, symbolic and structural perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 546 The Political Economy of Innovation
Units: 4 How does innovation occur and spread? How has innovation changed over time? Instruction Mode: Lecture Grading Option: Letter

COMM 550 Quantitative Research Methods in Communication
Units: 4 Epistemological assumptions, design, and beginning methods of quantitative analysis in communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 552 Qualitative Research Methods in Communication
Units: 4 Developing expertise in qualitative methods, including participant-observation, ethnography, discourse analysis and historiography in communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 553 Political Economy of Global Telecommunications and Information
Units: 4 The political, economic, regulatory, and technological changes that are together creating a new world information economy. The politics of international telecommunications is emphasized. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR-553

COMM 554 Regression and Multivariate Communication Research
Units: 4 Advanced analysis of variance, regression models, path analysis, MANOVA, and discriminant analysis. Instruction Mode: Lecture Grading Option: Letter

COMM 556 Advanced Methods in Communication Research
Units: 4 Structural Equation Modeling, LISREL, log linear and other advanced statistical methods used in contemporary communication research. Instruction Mode: Lecture Grading Option: Letter

COMM 559 Globalization, Communication and Society
Units: 4 Comparative analysis of social, cultural and political impacts of communication technology and media; emphasis given to communication's influence in the social dimensions of globalization. Instruction Mode: Lecture Grading Option: Letter

COMM 560 Global Media and Communication in China and Asia
Units: 4 The characteristics of global communication in global capitalism and the political economic processes within which policies, interests, and implications of global communication are embedded. Instruction Mode: Lecture Grading Option: Letter

COMM 561 Leading and Communicating Change in Global Organizations

Units: 4 Communication perspectives on the process and outcomes of globalization; role of large media organizations in the global flow of information; and leadership and multiculturalism. Instruction Mode: Lecture Grading Option: Letter

COMM 563 Black Popular Culture: Theory and Central Debates
Units: 4 Examines black popular cultures as indexes for historical struggles over race, gender, nationalism, identity, subjectivity, aesthetics, institutional resources, political/cultural autonomy, and ideology. Instruction Mode: Lecture Grading Option: Letter

COMM 564 Communication, Culture and Capitalism
Units: 4 A survey of scholarship about the relationship between money and culture, with emphasis on poststructural accounts of neoliberalism. Instruction Mode: Lecture Grading Option: Letter

COMM 566 Using Theory to Craft Policies to Affect Change
Units: 4 Review path-breaking ideas from Nobel-winning economists; examine specific cases, trying to understand the process by which markets and institutions transform ideas into results. Instruction Mode: Lecture Grading Option: Letter

COMM 567 The Political Economy of Privacy and Cybersecurity
Units: 4 Considers the challenges of maintaining and protecting privacy while improving cybersecurity in the United States and globally. Instruction Mode: Lecture Grading Option: Letter

COMM 570 Economics of the Communication Industries
Units: 4 The economic forces that determine the structure and outputs of communication and media industries, including newspapers, broadcasting, cable, and telecommunications. Instruction Mode: Lecture Grading Option: Letter

COMM 572 Theories of Computer-Mediated Communication
Units: 4 Selected topics in the study of new technologies for human communication: adoption of CMC technologies; social networking; self-presentation and impression formation in CMC; online friendships. Instruction Mode: Lecture Grading Option: Letter

COMM 573 Networked Publics: Theories and Encounters
Units: 4 Examines models of a democratic public sphere, with special focus on design and use of networked information infrastructures supporting free speech. Instruction Mode: Lecture Grading Option: Letter

COMM 575 Advocacy and Social Change in Entertainment and the Media
Units: 4 Examines how diverse groups (i.e., governmental agencies, advertisers, health organizations, advocacy groups, actors, social scientists) attempt to influence audiences through entertainment and traditional media channels. Instruction Mode: Lecture Grading Option: Letter

COMM 576 Civic Media and Participatory Politics
Units: 4 Examines tools and practices enabling activists to exert voice and influence public policies; ways citizens are working to meet the information needs of their communities. Instruction Mode: Lecture Grading Option: Letter

COMM 577 Fandom, Participatory Culture and Web 2.0
Units: 4 Emerging models of audience engagement and participation in a networked culture with a strong focus on grassroots communities and their relationships with cult media content. Instruction Mode: Lecture Grading Option: Letter

COMM 578 New Media Literacies
Units: 4 Examines intersection of education and participatory culture, literacy and media change, the participation gap, informal learning and knowledge communities, emerging social skills and cultural competencies. Instruction Mode: Lecture Grading Option: Letter

COMM 579 Entrepreneurship in the New Media
Units: 4 Examination of how the digital revolution is creating news media entrepreneurs, and changing the way news is disseminated by journalists and heard by consumers. Instruction Mode: Lecture Grading Option: Letter

COMM 580 Media and Politics
Units: 4 Mass media in American political life, including political reporting, election campaigns, non-electoral politics, and the media as a political issue. Instruction Mode: Lecture Grading Option: Letter

COMM 582 Information and Communication Technology for Development
Units: 4 Roles of media institutions and communications behavior in national development, including political, economic, and social spheres; Western and non-Western conceptions of development processes. Instruction Mode: Lecture Grading Option: Letter

COMM 585x Organizational Communication
Units: 4 Theory and research; field experience in analyzing and solving communication problems in organizations. Instruction Mode: Lecture Grading Option: Letter

COMM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Duplicates Credit in former COMM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 598 Practicum in Global Communication Research
Units: 4 Terms Offered: Sp Development and assessment of research into global communication; selection of appropriate research methodologies; production of scholarly research; and completion of an internship/practicum. Registration Restriction: Open only to Global Communication master students Instruction Mode: Lecture Grading Option: Letter

COMM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

COMM 602 Seminar in Persuasion
Units: 4 Classical and contemporary theories of persuasion, attitude formation and change; impact of cognition, affect and emotions; cultural and group influences; message strategies and framing. Instruction Mode: Lecture Grading Option: Letter

COMM 605 Advanced Macro Theories of Communication
Units: 4 Advanced macro theories of communication and culture creation/change; emphasis on structural-functionalism, neo-Marxism, critical theory, symbolic interactionism, phenomenology, post-structuralism, deconstruction. Instruction Mode: Lecture Grading Option: Letter

COMM 610 Studies in Rhetorical Theory
Units: 4 Max Units: 12.0 Problems in rhetorical theory and criticism; advanced, specialized interest areas of individual faculty on the frontiers of knowledge. Instruction Mode: Lecture Grading Option: Letter

COMM 611 Communication Technology and Healthcare
Units: 4 Impact on healthcare and patient empowerment of new communication technologies including social media and mobile communications, online interventions, syndromic surveillance, user-generated reviews, electronic health records. Instruction Mode: Lecture Grading Option: Letter

COMM 612 Designing Health Communication Interventions
Units: 4 Effectively changing health outcomes for target population using games, mobile and online interventions; formative and summative evaluation; virtual environments for fMRI studies. Instruction Mode: Lecture Grading Option: Letter

COMM 613 Grant Writing in Communication
Units: 4 Finding the right grant; how to develop theory, optimize funding, write critial components of grants, form collaborations with experts; how review panels work. Instruction Mode: Lecture Grading Option: Letter

COMM 614 Computational Approaches in Health Communication
Units: 4 Statistical and computational approaches to health communication data;

better understanding, using simulations, of how theory might better guide empirical research. Instruction Mode: Lecture Grading Option: Letter

COMM 615 Health Communication
Units: 4 Evaluation of research about communication in patient care, health campaigns for diverse publics, tools for disease management, and outreach to producers in mass media. Instruction Mode: Lecture Grading Option: Letter

COMM 616 Health Communication for Prevention
Units: 4 Examination of health communication efforts for the prevention of diseases or other adverse physical or mental health outcomes by the promotion of behavior change. Instruction Mode: Lecture Grading Option: Letter

COMM 618 Mass Media Effects
Units: 4 Theoretical and research questions about mass communication effects; criticism and interpretation of current research and theory, and formulation of new theory. Instruction Mode: Lecture Grading Option: Letter

COMM 620 Studies in Communication Theory
Units: 4 Max Units: 12.0 Current problems in communication theory and research: advanced, specialized interest areas of individual faculty on the frontiers of knowledge. Instruction Mode: Lecture Grading Option: Letter

COMM 629 Global Culture
Units: 4 Examines the relationship of culture to globalization, ranging from nationalism and colonialism to global cultural products, multinational cultural production, diasporic cultures, global media, and cosmopolitanism. Instruction Mode: Lecture Grading Option: Letter

COMM 630 Communication Technology and Social Change
Units: 4 Impact of technological advances on human communication practices and theories; trends, forecasts, implications. Instruction Mode: Lecture Grading Option: Letter

COMM 635 Economics of Information
Units: 4 Applications of macro and microeconomic principles: economic role of the information sector; production, distribution, and pricing of information products; information in the functioning of markets. Instruction Mode: Lecture Grading Option: Letter

COMM 636 Interpretive and Cultural Approaches in Organizational Communication
Units: 4 Interpretive, critical and cultural research in organizational communication; emphasis on narrative approaches to ethnographic studies, critical essays, and quantitative intercultural research in organizational communication. Instruction Mode: Lecture Grading Option: Letter

COMM 637 Current Readings in Organizational Communication
Units: 4 Recent developments in organizational communication theory and research; emerging issues and methodologies; future directions. Instruction Mode: Lecture Grading Option: Letter

COMM 638 Global, International and Intercultural Communication in Organizations
Units: 4 Communication processes in global organizational transformation; influences of information technology, intercultural variables, and globalization on decision-making, operations and practices of international and transnational organizations. Instruction Mode: Lecture Grading Option: Letter

COMM 640 Communication and Organizational Change
Units: 4 Analysis of communication and information networks in organizations and their relationships with communication technologies, organizational behavior, and management. Instruction Mode: Lecture Grading Option: Letter

COMM 641 Organizations and Communication Technologies
Units: 4 Communication technology impacts on organizations; organizational influence on technology development and deployment; methods for organizational communication technology studies; critiques and implications for theory and research. Instruction Mode: Lecture Grading Option: Letter

COMM 645 Communication Networks
Units: 4 Conceptual and analytic issues in network perspectives; emphasis on communication patterns, processes, content, influences and impacts. Instruction Mode: Lecture Grading Option: Letter

COMM 647x Network Society
Units: 4 Advanced research seminar examining the interaction between communication technology, society, economy, politics and culture from interdisciplinary and cross-cultural perspectives. Instruction Mode: Lecture Grading Option: Letter

COMM 648 Online Communities and Networks
Units: 4 Examination of academic research on the social, cultural, political, and economic effects of online communities; policy implications of this research; mobile technology's role in community building. Instruction Mode: Lecture Grading Option: Letter

COMM 650 Survey Construction and Validation
Units: 4 Principles of survey construction and validation; format selection, sampling, question wording, adaptation for international audiences, response option formats, order, and avoiding acquiescence bias and breakoffs. Instruction Mode: Lecture Grading Option: Letter

COMM 651 Experimental and Quasi-Experimental Designs
Units: 4 Advantages and drawbacks to experimental designs and quasi experimental designs for social research and theory building. Emphasis on how to design and report experiments. Instruction Mode: Lecture Grading Option: Letter

COMM 652 Field Research in Communication
Units: 4 Examines quantitative and qualitative field methods in communication research; survey development and scaling, content analysis, ethnographic study; quasiexperimental design; time series analysis. Instruction Mode: Lecture Grading Option: Letter

COMM 653 Research, Practice and Social Change
Units: 4 Examination of theoretical models and best practices of academic research and advocacy relationships; students conduct a community-based research project using a model of community-based participatory research. Instruction Mode: Lecture Grading Option: Letter

COMM 654 Art, Artists and Society
Units: 4 Cultural and temporal differences in defining arts, artists and audiences; transmitting cultural beliefs through art; understanding aesthetic responses; experiences of alienation and incomprehension with art. Instruction Mode: Lecture Grading Option: Letter

COMM 655 Studies in Sound, Music and Communication
Units: 4 An introduction to listening as a methodology of critical practice. Key topics in the study and interpretation of sound and music as forms of communication. Instruction Mode: Lecture Grading Option: Letter

COMM 656 Theorizing Race, Culture, Cross-Cultural Exchange
Units: 4 Intersection of communication and culture; focus on race, ethnicity, interracial and intraracial relations in shaping political, social dynamics of U.S. in late 20th and early 21st centuries. Instruction Mode: Lecture Grading Option: Letter

COMM 660 Entertainment and Games
Units: 4 Contemporary meaning of "entertainment," historical and cultural developments of entertainment; entertainment as psychological process of responding to/interacting with various media. Instruction Mode: Lecture Grading Option: Letter

COMM 662 Video Games Research
Units: 4 History and content, motivation and selection, reception and reaction processes, and effects of video games; students conduct original research into video game usage and effects. Instruction Mode: Lecture Grading Option: Letter

COMM 670 Economic Cultures
Units: 4 Explores and analyzes the interaction between culture and economy by observing different types of economic practices. Instruction Mode: Lecture Grading Option: Letter

COMM 672 Experiments in Critical Writing
Units: 4 Seminar and workshop dedicated to the practice of critical non-fiction writing, and the role of the creative impulse in scholarly criticism and print journalism. Instruction Mode: Lecture Grading Option:

Letter

COMM 675 Independent Study
Units: 1, 2, 3, 4 A supervised course tailored to specific student interests. The professor and student develop a syllabus that permits exploration of advanced or specialized topics. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 694 Preliminary Research Paper
Units: 2 Independent research designed to demonstrate the student's ability to conceptualize, conduct, and present scholarly research. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as Parallel to COMM 794a COMM 794b COMM 794c COMM 794d COMM 794z .

COMM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

COMM 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

COMM 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Thematic Option

CORE 101g Symbols and Conceptual Systems: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Study of the structures through which we shape our experience in religion, philosophy, literature, music, and the visual arts, and of competing theories of interpretation. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 102gp Culture and Values: Thematic Option Honors Program
Units: 4 Terms Offered: Fa Systematic reasoning about values and ways of living; close reading of major texts within the Western tradition; Biblical and classical through contemporary sources. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 103g The Process of Change in Science: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Critical problems in the development of scientific thought, studied as vehicles for understanding the content and structure of the sciences. Specific subject matter in selected scientific disciplines will be presented. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 104gw Change and the Future: Thematic Option Honors Program
Units: 4 Terms Offered: FaSp Analysis of historical change; social and political theory and revolutionary thought; introduction to competing images of future states of affairs; the continuing process of change. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CORE 111 Writing Seminar I: Thematic Option Honors Program
Units: 4 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

CORE 112 Writing Seminar II: Thematic Option Honors Program
Units: 4 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

CORE 195 Summer Seminar
Units: 3 Terms Offered: Sm An honors course for high school students in summer; each section focuses on a topic in the arts or humanities, social or natural sciences. Instruction Mode: Lecture Grading Option: Letter

CORE 200 Liberal Arts Reading Salon
Units: 2 Terms Offered: FaSp Critical readings of a series of texts in the liberal arts designed to promote discussion of important themes, theoretical approaches, research directions, and interdisciplinary connections. Instruction Mode: Lecture Grading Option: Credit/No Credit

CORE 301 Modes of Inquiry
Units: 4 Terms Offered: FaSp Modern tools of cultural and discursive analysis which seek to demystify "the natural," as it appears in the formation of cultures, their institutions, and individuals. Instruction Mode: Lecture Grading Option: Letter

CORE 400 Capstone
Units: 2 Guided study of select works of classical literature in relation to contemporary issues and concerns. Capstone for minor in Classical Perspectives. *Recommended Preparation:* completion of at least 10 units towards the Classical Perspectives minor, including CORE 200 Registration Restriction: registration requires departmental approval (D-clearance) Instruction Mode: Lecture Grading Option: Letter

CORE 401x Ethics and Leadership
Units: 4 Terms Offered: FaSpSm Debates concerning moral and cultural ethics in a globalizing world; paradigms of leadership, ethical conduct, moral courage, and humanitarianism. Instruction Mode: Lecture Grading Option: Credit/No Credit

CORE 450 Los Angeles: A Polymathic Inquiry
Units: 2, 4 Max Units: 4 Terms Offered: FaSp A guided polymathic inquiry into Los Angeles as fact and imaginative creation, featuring in-depth student research and projects. Instruction Mode: Lecture Grading Option: Letter

CORE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive interdisciplinary exploration of a selected theme, problem process, or period. Instruction Mode: Lecture Grading Option: Letter

CORE 601 Teaching Analytical Writing Through Readings in the Humanities
Units: 1 Max Units: 4.0 Terms Offered: Fa Theories and practices in the university-level teaching of close-reading and analytical writing, using texts central to Western tradition. Graduate student professionalism through topical workshops and discussions. Instruction Mode: Lecture Grading Option: Credit/No Credit

School of Art and Design (Critical Studies)

CRIT 150gp Histories of Art, Design and Visual Culture
Units: 4 Terms Offered: FaSp A loosely chronological, thematic survey of art, visual culture, design, and critical theory from the early modern period through modernism (1500 – 1950). Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former FACS 150 Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 160g Critical Theory in Art, Design and Visual Culture
Units: 4 Terms Offered: FaSp An issues-based introduction to critical theory in the twentieth and twenty-first centuries, especially as it relates to philosophy, art, design, and visual culture. *Recommended Preparation:* CRIT 150 Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to Roski Art majors and minors Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 350gw Global Art, Design and Visual Culture since 1960
Units: 4 Terms Offered: FaSp A critical history of art, design, visual culture, and visual theory since 1960, addressing through a postcolonial/decolonial lens the concepts and practices of "global" art. *Recommended Preparation:* CRIT 150gp and CRIT 160g Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Registration Restriction: Open only to Roski Art majors and minors Duplicates Credit in former FA 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

CRIT 371 Art in the Public Realm:

Contemporary Issues
Units: 4 Terms Offered: FaSpSm Critical frameworks and theoretical perspectives of contemporary public art issues explored through case studies and discussions with artists, architects, and designers engaging the public realm. Duplicates Credit in former PAS 371. Instruction Mode: Lecture Grading Option: Letter

CRIT 410 Deconstruction in Design
Units: 4 Terms Offered: FaSpSm Addresses overlapping issues in contemporary design and art relating to activism, audience, and technologies of making and dissemination. *Recommended Preparation:* CRIT 150, CRIT 160 and CRIT 350, or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 415 Event, Action, and Situation: Performance Art since 1960
Units: 4 Terms Offered: FaSpSm The role of the body, performance, action, and the question of the "event" in contemporary art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 420 The Artist in History and Popular Culture
Units: 4 Addresses relationships among contemporary art, design, and popular culture, with a focus on specific visual media and their histories. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 425 Identity and Visual Representation
Units: 4 A critical study of the relationship between identity or coalitional politics and specific practices, meanings, and sitings of contemporary art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 430 Undergrounds and Avant-Gardes in Film and Visual Culture
Units: 4 Terms Offered: FaSpSm Study of theories of critique or resistance in art and cultural studies, particularly in relation to developments in contemporary art, design, and/or popular culture. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 435 Artists' Magazines as Alternative Spaces
Units: 4 Terms Offered: FaSpSm Histories of art and/or design from alternative points of view, exposing the limits of conventional histories of art and design. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 440 Exhibition and Museum Histories
Units: 4 Terms Offered: FaSpSm History and theory of curating, exhibitions, and museums, critically examining the historical structures and current politics informing contemporary practices and institutions. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350gw or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 445 Art in the Public Realm
Units: 4 Terms Offered: FaSpSm Focuses on contemporary artistic and design practices in relation to questions of the public sphere and audience, addressing topics from public art to social practice. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350 or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 450 Visual Culture in Southern California: Images in and of the City
Units: 4 Terms Offered: FaSpSm Exploration of the relationships among art, design, visual culture, urban spaces and institutions, through urban, social, and visual theory. *Recommended Preparation:* CRIT 150gp, CRIT 160g, CRIT 350 or permission of instructor Instruction Mode: Lecture Grading Option: Letter

CRIT 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Comprehensive exploration of particular aspects of public art. Duplicates Credit in former PAS 499. Instruction Mode: Lecture Grading Option: Letter

CRIT 510 History and Theory of Art and Exhibitions
Units: 4 Terms Offered: Fa Gives broad and deep overview of history of "art" as a conceptual and practical category, emphasizing development of exhibitionary sites and engagement with public sphere. Instruction Mode: Lecture Grading Option: Letter

CRIT 512 Art and Curatorial Visits
Units: 2 Terms Offered: Fa Site visits relating to art and curatorial practices, from art museums and artists' studios to public art offices and performance venues, and meet professionals. Instruction Mode: Lecture Grading Option: Letter

CRIT 515 Visiting Artist and Scholar Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp (Enroll in ART 515)

CRIT 525 Making and Curating Art: Pedagogy and Praxis
Units: 4 Terms Offered: Sp Provides students with a foundation in the history and theory of studio art and curatorial education and develops their teaching skills in these areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ART-525

CRIT 530 Global Art Seminar: the Globalization of Art and Culture
Units: 4 Terms Offered: Sm (Enroll in ART 530)

CRIT 555 Methods of Curating: Introduction to Curatorial Practicum
Units: 4 Terms Offered: Sp First in a sequence of three courses on history/ theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. Duplicates Credit in PAS 555a. Instruction Mode: Lecture Grading Option: Letter

CRIT 556 Curatorial Practicum: Individual/Group Projects
Units: 4 Terms Offered: Fa Second in a sequence of three courses on history/ theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. *Prerequisite:* CRIT 555. Duplicates Credit in PAS 555b. Instruction Mode: Lecture Grading Option: Letter

CRIT 557 Curatorial Practicum: Group Project Summation
Units: 4 Terms Offered: Sp Third in a sequence of three courses on history/ theory of curatorial methods, with practical experience necessary to mounting exhibitions and devising interfaces with the public. *Prerequisite:* CRIT 556. Duplicates Credit in PAS 555c. Instruction Mode: Lecture Grading Option: Letter

CRIT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former PAS 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CRIT 591 Field Internship Experience
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Supervised internship in an art institution or an art agency, or with an independent curator or artist, on projects and research specific to public space. *Recommended Preparation:* Completion of first year of courses. Duplicates Credit in former PAS 591. Instruction Mode: Lecture Grading Option: Credit/No Credit

CRIT 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 28 units of coursework. Duplicates Credit in former PAS 594abz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CRIT 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in various specialty areas of public art. Duplicates Credit in former PAS 599. Instruction Mode: Lecture Grading Option: Letter

Computer Science

CSCI 100xg Explorations in Computing
Units: 4 A behind-the-scenes overview of the computational/algorithmic principles

that form the basis of today's digital society. Exploration areas include social media, web search, videogames and location-based services. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 101L Fundamentals of Computer Programming
Units: 3 Terms Offered: FaSp Introduction to the design of solutions to computer solvable problems. Algorithm design, solution implementation using a high-level programming language, program correctness and verification. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 102L Fundamentals of Computation
Units: 2 Fundamental concepts of algorithmic thinking as a primer to programming. Introduction to C++. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 103L Introduction to Programming
Units: 4 Terms Offered: FaSp Basic datatypes, assignments, control statements (if, switch, for, while), input/output (printf, scanf, cin, cout), functions, arrays, structures, recursion, dynamic memory, file handling. Programming in C/C++. *Corequisite:* CSCI 109 or EE 109 Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 104L Data Structures and Object Oriented Design
Units: 4 Terms Offered: FaSp Introduces the student to standard data structures (linear structures such as linked lists, (balanced) trees, priority queues, and hashtables), using the C++ programming language. *Prerequisite:* CSCI 103L; *Corequisite:* CSCI 170. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 109 Introduction to Computer Science
Units: 2 Terms Offered: FaSp An introduction to, and overview of, Computer Science; both as a discipline and a body of knowledge. Instruction Mode: Lecture Grading Option: Letter

CSCI 110 Introduction to Digital Logic
Units: 3 (Enroll in EE 101)

CSCI 170 Discrete Methods in Computer Science
Units: 4 Terms Offered: FaSp Sets, functions, series. Big-O notation and algorithm analysis. Propositional and first-order logic. Counting and discrete probability. Graphs and basic graph algorithms. Basic number theory. *Prerequisite:* CSCI 103L and (CSCI 109 or EE 109L) Duplicates Credit in former CSCI 271 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

CSCI 201L Principles of Software Development
Units: 4 Terms Offered: FaSp Object-oriented paradigm for programmingin-the-large in Java; writing sophisticated concurrent applications with animation and graphic user interfaces; using professional tools on team project. *Prerequisite:* CSCI 104L.

CSCI 270 Introduction to Algorithms and Theory of Computing
Units: 4 Terms Offered: FaSp Algorithm analysis. Greedy algorithms, divide and conquer, dynamic programming, graph algorithms. NP-completeness and basic recursion theory and undecidability. Sorting lower bounds. Number-theory based cryptography. *Prerequisite:* CSCI 104L and CSCI 170. Duplicates Credit in CSCI 303. Instruction Mode: Lecture, Quiz Grading Option: Letter

CSCI 280 Video Game Production
Units: 4 Terms Offered: FaSpSm (Enroll in ITP 280)

CSCI 281 Pipelines for Games and Interactives
Units: 4 Terms Offered: FaSp Explores the aesthetic development/technical implementation necessary to achieve unique, compelling, intuitive visual design in games. Students will develop group visual game design portfolios. Instruction Mode: Lecture Grading Option: Letter

CSCI 310 Software Engineering
Units: 4 Terms Offered: Sp Introduction to the software engineering process and software lifecycle. Covers project management, requirements, architecture, design, implementation, testing, and maintenance phase activities in team based projects. *Prerequisite:* CSCI 201L Duplicates Credit in former CSCI 377 Instruction Mode: Lecture Grading Option: Letter

CSCI 350 Introduction to Operating Systems
Units: 4 Basic issues in concurrency, deadlock control, synchronization scheduling, memory management, protection and access control, inter-process communication, and structured design. Laboratory experiences with Unix-like operating system. Duplicates credit in CSCI 402. *Prerequisite:* CSCI 201L and (CSCI 356 or EE 354L) Duplicates Credit in CSCI 402 Instruction Mode: Lecture, Quiz Grading Option: Letter

CSCI 352L Computer Organization and Architecture
Units: 3 Terms Offered: Sp (Enroll in EE 352L)

CSCI 353 Introduction to Internetworking
Units: 4 Global Internet: design principles, layering, protocol design/analysis. Networked applications, Internet structure/architecture, Protocols for transport/congestion control, network layer/routing, link layer/MAC. Network security. *Prerequisite:* CSCI 201; *Recommended Preparation:* Familiarity with C and C++. Duplicates Credit in EE 450. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 356 Introduction to Computer Systems
Units: 4 Computer organization; entity abstraction and representation; program execution; code optimization; memory usage; exception handling; processing control; computer performance; hands-on work done in C and assembly. *Prerequisite:* CSCI 104L *Recommended Preparation:* Familiarity with memory management and parameter passing used in the C++ programming language Duplicates Credit in EE 352L Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 357 Basic Organization of Computer Systems
Units: 3 (Enroll in EE 357)

CSCI 360 Introduction to Artificial Intelligence
Units: 4 Concepts and algorithms underlying the understanding and construction of intelligent systems. Agents, problem solving, search, representation, reasoning, planning, machine learning. *Prerequisite:* CSCI 104L and CSCI 170 Duplicates Credit in former CSCI 460 Instruction Mode: Lecture Grading Option: Letter

CSCI 368 Programming Graphical User Interfaces
Units: 3 (Enroll in ITP 368)

CSCI 380 Video Game Programming
Units: 4 Terms Offered: FaSpSm (Enroll in ITP 380)

CSCI 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

CSCI 401 Capstone: Design and Construction of Large Software Systems
Units: 4 Max Units: max 8 Terms Offered: FaSp Group project with an outside stakeholder to develop real-world software solutions to large-scale problems. Topics include software engineering, professional preparation, and recent computer science research. *Prerequisite:* CSCI 270 and CSCI 310 Duplicates Credit in the former CSCI 477a and CSCI 477b Instruction Mode: Lecture Grading Option: Letter

CSCI 402 Operating Systems
Units: 4 Terms Offered: FaSpSm Concurrency, deadlock control, synchronization, process and thread scheduling, memory management, file systems, security and access control, communication and networking, distributed file systems, data management. *Recommended Preparation:* CSCI 201L or CSCI 455x; CSCI 356 or EE 352L Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 404 Capstone: Creating Your High-Tech Startup
Units: 4 Capstone class in which students create their own technology startup, leveraging comprehensive CS knowledge and best industry practices. *Prerequisite:* CSCI 201 and CSCI 270 and ITP 466 Instruction Mode: Lecture Grading Option: Letter

CSCI 410x Translation of Programming Languages
Units: 3 Concepts of assemblers, compilers, interpreters and their design; macro assemblers, Polish notation and translation techniques; operator precedence parsing, push down automata, code generation. *Prerequisite:* CSCI 201L Credit Restriction:

Not available for graduate credit to computer science majors Instruction Mode: Lecture Grading Option: Letter

CSCI 420 Computer Graphics
Units: 4 Terms Offered: FaSp Computer graphics, OpenGL, 2D and 3D transformations, Bézier splines, computer animation, rendering including ray tracing, shading and lighting, artistic rendering, virtual reality, visualization. *Prerequisite:* CSCI 104L and (MATH 225 or (EE 141L and (MATH 126 or MATH 127 or MATH 129))) Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 423 Native Console Multiplayer Game Development
Units: 4 Implementation of AAA style multiplayer game running on consoles and DX11. Console development in native C++, console SDKs, engine components, gameplay, networking, data prediction/replication. *Prerequisite:* CSCI 522 or ITP 380; *Recommended Preparation:* ITP 485. Instruction Mode: Lecture Grading Option: Letter

CSCI 424 Game Engine Tool Development
Units: 4 Tool development for a C++ console game. Animation export, compression. FBX parsing. Level editing, object live update tools. Debugging tools. Texture compression. Data Pipeline. *Prerequisite:* ITP 380; *Recommended Preparation:* ITP 485. Instruction Mode: Lecture Grading Option: Letter

CSCI 425 Immersive Game Development
Units: 4 Implementation of a console multiplayer game leveraging input devices such as Kinect, PSMove, Console + IPad/PSVita, Cloud Computing, to achieve creative design. *Prerequisite:* CSCI 423. Instruction Mode: Lecture Grading Option: Letter

CSCI 426 Game Prototyping
Units: 4 Developing games or technology based on current and relevant special topics. Instruction Mode: Lecture Grading Option: Letter

CSCI 430 Introduction to Computer and Network Security
Units: 4 Terms Offered: Sp A broad overview of security threats and defenses, security systems and functionalities, as well as current security practices. Includes homeworks and in-class exercises to provide practical experience working with such systems. *Prerequisite:* CSCI 201. Instruction Mode: Lecture Grading Option: Letter

CSCI 435 Professional C++
Units: 3 Terms Offered: Sp (Enroll in ITP 435)

CSCI 439 Compiler Development
Units: 3 (Enroll in ITP 439)

CSCI 445L Introduction to Robotics
Units: 4 Terms Offered: FaSpSm Designing, building and programming mobile robots; sensors, effectors, basic control theory, control architectures, some advanced topics, illustrations of state-of-theart. Teamwork; final project tested in a robot contest. *Prerequisite:* CSCI 103. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as EE-445

CSCI 450 Introduction to Computer Networks
Units: 3 Terms Offered: FaSpSm (Enroll in EE 450)

CSCI 452 Parallel and Distributed Computation
Units: 4 (Enroll in EE 451)

CSCI 454L Introduction to System-on-Chip
Units: 4 Terms Offered: Fa (Enroll in EE 454L)

CSCI 455x Introduction to Programming Systems Design
Units: 4 Terms Offered: FaSp Intensive introduction to programming principles, discrete mathematics for computing, software design and software engineering concepts. *Prerequisite:* departmental approval. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-455

CSCI 457 Computer Systems Organization
Units: 3 (Enroll in EE 457)

CSCI 458 Numerical Methods
Units: 4 (Enroll in MATH 458)

CSCI 459 Computer Systems and Applications Modeling Fundamentals
Units: 3 Terms Offered: Sp Techniques and tools needed to construct/evaluate models of computer systems and applications. Analytical and simulation methods, capacity planning, performance/reliability evaluation, and decision-making. *Prerequisite:* MATH 225, CSCI 201. Instruction Mode: Lecture Grading Option: Letter

CSCI 476 Cryptography: Secure Communication and Computation
Units: 4 Introduction to modern Cryptography; mathematical/algorithmic studies of methods for protecting information in computer and communication systems: Public-Key Cryptosystems, zero-knowledge proofs, data privacy. *Prerequisite:* CSCI 270. Instruction Mode: Lecture Grading Option: Letter

CSCI 485 File and Database Management
Units: 4 Terms Offered: FaSp File input/output techniques, basic methods for file organization, file managers, principles of databases, conceptual data models, and query languages. *Prerequisite:* CSCI 201 Instruction Mode: Lecture Grading Option: Letter

CSCI 487 Programming Game Engines
Units: 4 Terms Offered: FaSp (Enroll in ITP 485)

CSCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CSCI 491aL Final Game Project
Units: 4 Terms Offered: FaSpSm Design, iterative prototyping, and development of a 1st playable level. Registration Restriction: Open only to seniors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 491bL Final Game Project
Units: 2 Terms Offered: FaSpSm Design, iterative stage 2 prototyping and development of a refined game. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 495 Senior Project
Units: 3 (Enroll in PHYS 495)

CSCI 499 Special Topics
Units: 2, 3, 4 Selected topics in computer science. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 501 Numerical Analysis and Computation
Units: 3 (Enroll in MATH 501)

CSCI 502a Numerical Analysis
Units: 3 (Enroll in MATH 502a, MATH 502b)

CSCI 502b Numerical Analysis
Units: 3 (Enroll in MATH 502a, MATH 502b)

CSCI 504a Numerical Solutions of Ordinary and Partial Differential Equations
Units: 3 (Enroll in MATH 504a, MATH 504b)

CSCI 504b Numerical Solutions of Ordinary and Partial Differential Equations
Units: 3 (Enroll in MATH 504a, MATH 504b)

CSCI 505a Applied Probability
Units: 3 (Enroll in MATH 505a, MATH 505b)

CSCI 505b Applied Probability
Units: 3 (Enroll in MATH 505a, MATH 505b)

CSCI 510 Software Management and Economics
Units: 4 Theories of management and their application to software projects. Economic analysis of software products and processes. Software cost and schedule estimation, planning and control. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 512

CSCI 511 Personal Software Process (PSP) and Project
Units: 3 Terms Offered: Sp Individual analysis, planning, development and maintenance of a software product or development artifact, using the principles and practices of PSP. Analysis of project's lessons learned. Instruction Mode: Lecture Grading Option: Letter

CSCI 512 Testing and Analysis of Software Systems
Units: 4 Introduces students to the topic of automated testing and analysis of large-scale modern software systems. *Recommended Preparation:* CSCI 571; Java programming skills; Linux system administration. Instruction Mode: Lecture Grading Option: Letter

CSCI 520 Computer Animation and Simulation
Units: 4 Fundamental techniques of computer animation and simulation, knowledge and/or experience in the design, scripting, production and post-production

stages of computer animation. *Prerequisite:* CSCI 420 or CSCI 580 *Recommended Preparation:* Familiarity with calculus, linear algebra, and numerical computation; C/C++ programming skills Instruction Mode: Lecture Grading Option: Letter

CSCI 521 Optimization: Theory and Algorithms
Units: 3 Terms Offered: Fa (Enroll in ISE 520)

CSCI 522 Game Engine Development
Units: 4 Terms Offered: Fa The principles of developing game engines targeted at modern PC and game console hardware. Instruction Mode: Lecture Grading Option: Letter

CSCI 523L Networked Games
Units: 4 Terms Offered: FaSpSm Design and implementation of networked games, from the origins of the supporting technologies in distributed systems, visual simulations, networked virtual environments, and shipped games. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 524 Networked Artificial Intelligence
Units: 4 Networked game communication architectures, protocol development, architecting networked game AI clients/services. Character following, knowledge representation and reasoning, dynamic play strategies, search, learning, and planning. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 526 Advanced Mobile Devices and Game Consoles
Units: 4 Terms Offered: FaSpSm Explore the complex engineering process required to design and build a real-time graphics engine to support physical realism on mobile devices. *Recommended Preparation:* CSCI 420 or CSCI 580 or an equivalent course in graphics Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 529a Advanced Game Projects
Units: 4 Terms Offered: FaSp Team projects intended to address the multifaceted technical and creative challenges that are inherent to comprehensive game development. *Recommended Preparation:* CSCI 522 or CTIN 488. Instruction Mode: Lecture Grading Option: Letter

CSCI 529b Advanced Game Projects
Units: 2 Terms Offered: FaSpSm Provides students in various areas of game specialization the practice of design, iterative stage 2 prototyping and development of a refined game. *Prerequisite:* CSCI 529a Instruction Mode: Lecture, Lab Grading Option: Letter

CSCI 530 Security Systems
Units: 4 Terms Offered: FaSp Protecting computer networks and systems using cryptography, authentication, authorization, intrusion detection and response. Includes lab to provide practical experience working with such systems. *Prerequisite:* CSCI 402. Instruction Mode: Lecture Grading Option: Letter

CSCI 531 Applied Cryptography
Units: 4 Intensive overview of cryptography for practitioners, historical perspective on early systems, number theoretic foundations of modern day cryptosystems and basic cryptanalysis. *Recommended Preparation:* Programming in C/C++ (CSCI 103), Data structures (CSCI 104) Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 533 Algebraic Combinatorics
Units: 3 Terms Offered: Irregular (Enroll in MATH 533)

CSCI 534 Affective Computing
Units: 4 Terms Offered: Sp Overview of the theory of human emotion, techniques for recognizing and synthesizing emotional behavior, and design application. *Recommended Preparation:* CSCI 561 Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC 532

CSCI 535 Multimodal Probabilistic Learning of Human Communication
Units: 4 Principles and techniques to understand, build, and utilize multimodal machine learning algorithms through automatically understanding, recognizing, and analyzing phenomena of human communication. *Recommended Preparation:* CSCI 542 or CSCI 567 or CSCI 573 or equivalent Instruction Mode: Lecture Grading Option: Letter

CSCI 536 Linear Programming and Extensions
Units: 3 Terms Offered: Fa (Enroll in ISE 536)

CSCI 537 Foundations of Data Management
Units: 4 Terms Offered: FaSp (Enroll in INF 551)

CSCI 540 Self-Organization
Units: 4 Massively distributed systems whose global behavior emerges from local interactions of components. Global to local compilation; robot swarms; formation of shapes/spatial patterns; self-assembly; programmable matter. Registration Restriction: Graduate standing in science or engineering Instruction Mode: Lecture Grading Option: Letter

CSCI 541 Foundations and Applications of Data Mining
Units: 4 (Enroll in INF 553)

CSCI 542 Neural Computation with Artificial Neural Networks
Units: 3 Terms Offered: Sp Computation and adaptation in networks of interconnected distributed processing units; classical and statistical approaches to neural nets; stateof- the-art neural network research. *Recommended Preparation:* basic statistics, linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 544 Applied Natural Language Processing
Units: 4 Introduction to key components of human language technologies, including: information extraction, sentiment analysis, question answering, machine translation. *Recommended Preparation:* proficiency in programming, algorithms and data structures, basic knowledge of linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 545 Robotics
Units: 4 Terms Offered: FaSpSm Fundamental skills for modeling and controlling of dynamic systems for robotic applications and graphics animations; control theory; kinematics; dynamics; sensor processing; real-time operating systems; robot labs. *Recommended Preparation:* Basic knowledge in linear algebra (matrices and vectors), calculus, programming in C/C++ or any another language or permission of the instructor Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as EE-545

CSCI 548 Information Integration on the Web
Units: 4 Terms Offered: FaSpSm Foundations and techniques in information integration as it applies to the Web, including view integration, wrapper learning, record linkage, and streaming dataflow execution. *Prerequisite:* CSCI 561 *Recommended Preparation:* CSCI 585 and some programming experience Instruction Mode: Lecture Grading Option: Letter

CSCI 549 Nanorobotics
Units: 3 Terms Offered: Sp Introduction to nanotechnology. Nanorobotic systems: sensing; actuation and propulsion; control; communication; power; programming and coordination of robot swarms. Nanomanipulation and nanoassembly with atomic force microscopes. Instruction Mode: Lecture Grading Option: Letter

CSCI 550 Advanced Data Stores
Units: 4 Selected topics on highly available, elastic data stores. Topics include non-relational data models, simple interfaces and query languages, weak consistency and benchmarking techniques. *Prerequisite:* CSCI 485 or CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 551 Computer Networking
Units: 4 Protocol design for computer communication networks, network routing, transport protocols, internetworking. *Prerequisite:* CSCI 350 (CSCI 353 or EE 450) and (CSCI 350 or CSCI 402) *Recommended Preparation:* C-language programming Instruction Mode: Lecture, Quiz Grading Option: Letter

CSCI 552 Asynchronous VLSI Design
Units: 3 (Enroll in EE 552)

CSCI 553 Computational Solution of Optimization Problems
Units: 3 (Enroll in EE 553)

CSCI 554 Real Time Computer Systems
Units: 3 (Enroll in EE 554)

CSCI 555L Advanced Operating Systems
Units: 4 Advanced topics in operating system research: new OS structures, novel memory management, communication, file system, process management, reliability and security techniques. *Prerequisite:* CSCI 350 or CSCI 402 Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

CSCI 556 Introduction to Cryptography
Units: 4 Modern secret codes. Public key cryptosystems of Rivest- Shamir-Adleman, Diffie-Hellman and others. The underlying number theory and computational complexity theory. *Prerequisite:* CSCI 570 or CSCI 581 Instruction Mode: Lecture Grading Option: Letter

CSCI 557 Computer Systems Architecture
Units: 3 (Enroll in EE 557)

CSCI 558L Internetworking and Distributed Systems Laboratory
Units: 3 Terms Offered: FaSp Students complete laboratory exercises in operating system and network management, distributed systems, TCP/IP, SNMP, NFS, DNS, etc. Term project required. *Prerequisite:* CSCI 402 and EE 450/CSCI 450; *Recommended Preparation:* CSCI 551 and CSCI 555. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CSCI 559 Mathematical Pattern Recognition
Units: 3 (Enroll in EE 559)

CSCI 560 Information Visualization
Units: 4 Terms Offered: Fa (Enroll in INF 554)

CSCI 561 Foundations of Artificial Intelligence
Units: 4 Terms Offered: FaSpSm Foundations of symbolic intelligent systems, search, logic, knowledge representation, planning, learning. *Recommended Preparation:* good programming and algorithm analysis skills Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as EE 561

CSCI 563 Building Knowledge Graphs
Units: 4 Terms Offered: Fa (Enroll in INF 558)

CSCI 564 Brain Theory and Artificial Intelligence
Units: 3 Terms Offered: Fa Introduces neural modeling, distributed artificial intelligence and robotics approaches to vision, motor control and memory. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR-535

CSCI 565 Compiler Design
Units: 4 Terms Offered: Sp Formal grammar; parsing methods and lexical analysis; code generation; local and global code optimization; and dynamic allocation. *Prerequisite:* CSCI 455x. Instruction Mode: Lecture Grading Option: Letter

CSCI 567 Machine Learning
Units: 4 Terms Offered: Fa Statistical methods for building intelligent and adaptive systems that improve performance from experiences; focus on theoretical understanding of these methods and their computational implications. *Recommended Preparation:* Undergraduate level training or course work in linear algebra, multivariate calculus, basic probability and statistics; an undergraduate level course in Artificial Intelligence may be helpful but is not required. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ISE-568

CSCI 568 Requirements Engineering
Units: 4 Techniques for successful requirements analysis and requirements engineering (RE) of software-intensive systems. Systematic process of developing requirements through cooperative problem analysis, representation, and validation. *Prerequisite:* CSCI 577a Instruction Mode: Lecture Grading Option: Letter

CSCI 569 Social Media Analytics
Units: 4 Introduction to quantitative analysis of social data. Topics include social network analysis, text analysis, machine learning and statistical methods and they are used to study influence, information diffusion, sentiment analysis and prediction of individual and social behavior online. *Recommended Preparation:* statistics, AI and/or machine learning, knowledge of at least one programming language (Java, C++, Python) Instruction Mode: Lecture Grading Option: Letter

CSCI 570 Analysis of Algorithms
Units: 4 Terms Offered: FaSpSm Explores fundamental techniques such as recursion, Fourier transform ordering, dynamic programming for efficient algorithm construction. Examples include arithmetic, algebraic, graph, pattern matching, sorting, searching algorithms. Instruction Mode: Lecture Grading Option: Letter

CSCI 571 Web Technologies
Units: 4 Terms Offered: FaSpSm Advanced study of programming languages with application to the Web. Languages for client-side and server-side processing. Examples taken from: HTML, Java, JavaScript, Perl, XML and others. *Recommended Preparation:* knowledge of at least two programming languages. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 572 Information Retrieval and Web Search Engines
Units: 4 Terms Offered: FaSpSm Examines key aspects of information retrieval as they apply to search engines; web crawling, indexing, querying and quality of results are studied. *Recommended Preparation:* Familiarity in programming in multiple languages, C, C++, and/or Java and experience with a database Instruction Mode: Lecture Grading Option: Letter

CSCI 573 Probabilistic Reasoning
Units: 3 Terms Offered: Fa Reasoning under uncertainty, statistical directed and undirected graphical models, temporal modeling, inference in graphical models, parameter learning, decisions under uncertainty. *Recommended Preparation:* An undergraduate level course in probability theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-574

CSCI 574 Computer Vision
Units: 3 Terms Offered: Fa Description and recognition of objects, shape analysis, edge and region segmentation, texture, knowledge based systems, image understanding. *Prerequisite:* CSCI 455x. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-574

CSCI 575 Wireless and Mobile Networks Design and Library
Units: 3 (Enroll in EE 579)

CSCI 576 Multimedia Systems Design
Units: 4 End-to-end multimedia systems - content creation, compression, distribution using modern standards, DRM solutions, Digital-Cinema pipeline, multimedia classification, virtual-augmented reality, natural-language multimedia queries, multimodal media analysis, stereoscopic-holographic technologies. *Recommended Preparation:* familiarity with C or C++ Instruction Mode: Lecture Grading Option: Letter

CSCI 577a Software Engineering
Units: 4 Terms Offered: FaSp Software life cycle processes; planning considerations for product definition, development, test, implementation, maintenance. Software requirements elicitation and architecture synthesis. Team project. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter

CSCI 577b Software Engineering
Units: 4 Terms Offered: FaSp Software development, test, implementation, and maintenance methods. CASE tools and software environments. Software product engineering, configuration management, quality engineering, documentation. Application via projects. *Prerequisite:* CSCI 577a. Instruction Mode: Lecture Grading Option: Letter

CSCI 578 Software Architectures
Units: 4 Study of concepts, principles and scope of software system architectures, including architectural styles, languages, connectors, middleware, dynamism, analysis, testing and domain-specific approaches. Instruction Mode: Lecture Grading Option: Letter

CSCI 579a Computational Molecular Biology
Units: 3 Terms Offered: FaSp (Enroll in MATH 578a, MATH 578b)

CSCI 579b Computational Molecular Biology
Units: 3 Terms Offered: FaSp (Enroll in MATH 578a, MATH 578b)

CSCI 580 3-D Graphics and Rendering
Units: 4 Course outlines the process of creating images from 3D models. Includes transformations, shading, lighting, rastorization, texturing, and other topics. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 581 Logic and its Applications
Units: 3 Formal systems, first order logic, truth, completeness, compactness, Godel incompleteness, recursive functions, undecidability. Selected applications, e.g., theorem proving, artificial intelligence, program verification, databases, computational complexity. *Prerequisite:* CSCI 430 and MATH 470. Instruction Mode: Lecture Grading Option: Letter

CSCI 582 Geometric Modeling
Units: 3 Terms Offered: Sp Mathematical models and computer representations for threedimensional solids; underlying topics from set theory, geometry, and topology.

Fundamental algorithms; applications to CAD/CAM and robotics. *Recommended Preparation:* Linear algebra and data structures. Instruction Mode: Lecture Grading Option: Letter

CSCI 585 Database Systems
Units: 4 Terms Offered: FaSpSm Database system architecture; conceptual database models; semantic, object-oriented, logic-based, and relational databases; user and program interfaces; database system implementation; integrity, security, concurrency and recovery. *Recommended Preparation:* Knowledge of relational databases, SQL, relational algebra and physical database design is required Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

CSCI 586 Database Systems Interoperability
Units: 4 Federated and multi-database systems, database networking, conceptual and schematic diversity, information sharing and exchange, knowledge discovery, performance issues. *Prerequisite:* CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 587 Geospatial Information Management
Units: 4 Techniques to efficiently store, manipulate, index and query geospatial information in support of real-world geographical and decision-making applications. *Prerequisite:* CSCI 485 or CSCI 585 or SSCI 582 *Recommended Preparation:* Familiarity with conceptual data modeling tools such as Entity-Relationship (ER) data model, logical data models such as the relational and object-relational data model, SQL3 as a commercial query language, normal forms and logical data design. Familiarity with the physical design of a database using persistent data structures such as B+-tree and Hash indexes Instruction Mode: Lecture Grading Option: Letter

CSCI 589 Software Engineering for Embedded Systems
Units: 4 Terms Offered: FaSpSm Software engineering methods and techniques for embedded, resource constrained, and mobile environments. Applications to real-time operating systems and wireless networking systems. Class project. Instruction Mode: Lecture Grading Option: Letter

CSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 591 Computer Science Research Colloquium
Units: 1 Max Units: 2 Exploration and critical assessment of research activities in computer science. Course will serve as a forum for current research presentations from academia and industry Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 593 Mathematical Foundations for Computer-Aided Design of VLSI Circuits
Units: 3 (Enroll in EE 581)

CSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 596 Scientific Computing and Visualization
Units: 4 Hands-on training on the basics of parallel computing and scientific visualization in the context of computer simulations in science and engineering. *Recommended Preparation:* CSCI 455x and MATH 458. Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 598 Professional Writing and Communication for Computer Scientists
Units: 1 Instruction in discipline-specific workplace writing and communication skills for computer science graduate students. Registration Restriction: Open only to graduate students in Computer Science Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content to be selected each semester from recent developments in computer science. Instruction Mode: Lecture Grading Option: Letter

CSCI 610 Advanced Program Analysis and Verification
Units: 4 Advanced techniques for analyzing and verifying software systems; topics include program analysis, automated verification, and software testing. *Recommended Preparation:* CSCI 512, Java Programming Skills Instruction Mode: Lecture Grading Option: Letter

CSCI 620 Computer Animation and Simulation
Units: 4 Animation and Simulation techniques for computer games, virtual reality, and film visual effects. Research methods, SIGGRAPH papers. Deformable objects, fluids, sound, collision detection, haptics, rigid bodies, GPUs. *Prerequisite:* CSCI 420 or CSCI 520 or CSCI 580 *Recommended Preparation:* Familiarity with calculus, linear algebra, and numerical computation and C++ programming skills Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 621 Digital Geometry Processing
Units: 4 Digital geometry processing (subfield of computer graphics), that covers the full pipeline from 3D scanning, processing, to 3D printing. *Recommended Preparation:* Solid background in linear algebra, numerical optimization, and C/C++ programming. CSCI 420 Computer Graphics is recommended. Open only to Computer Science doctoral students. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 631 Privacy in the World of Big Data
Units: 4 Privacy challenges that arise in the world driven by data. An overview of algorithmic and technical approaches to addressing them. *Recommended Preparation:* thorough understanding of algorithms, proof-based mathematics, and basic probability Instruction Mode: Lecture Grading Option: Letter

CSCI 644 Natural Language Dialogue Systems
Units: 4 Computational models of natural language dialogue; conversational interfaces to artificial systems; dialogue system architectures and applications; Reinforcement learning of dialogue policies. *Recommended Preparation:* CSCI 544 or CSCI 561 or CSCI 662 or EE 619; Java, C++ or Python Instruction Mode: Lecture Grading Option: Letter

CSCI 646 Coordinated Mobile Robotics
Units: 4 State-of-the-art techniques for coordinating robot teams. Distributed approaches; task allocation; control and stability; network topology; coverage and monitoring; caging; bio-inspired approaches; persistence; probabilistic methods. *Recommended Preparation:* Solid background in linear algebra, programming and algorithm analysis skills. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 648 Advanced Information Integration
Units: 4 Focus on foundations and techniques for information integration. Topics include Semantic Web, linked data, data integration, entity linkage, source modeling, and information extraction. *Prerequisite:* CSCI 561; *Recommended Preparation:* CSCI 585 and programming experience. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 651 Advanced Computer Networking
Units: 4 Computer communication protocols and systems, including classic and contemporary literature. The emphasis is on conceptual issues in the design and implementation of computer internetworks. *Prerequisite:* EE 450 (CSCI 353 or CSCI 350) and (CSCI 350 or CSCI 402) Registration Restriction: Open to PhD students in Computer Science Instruction Mode: Lecture Grading Option: Letter

CSCI 652 Internet Measurement
Units: 4
The investigation of problems, techniques, results, and challenges that arise in measuring the Internet, including what

measurements tell us about the Internet and how to improve Internet services. *Prerequisite:* CSCI 551 Instruction Mode: Lecture Grading Option: Letter

CSCI 653 High Performance Computing and Simulations
Units: 4 Terms Offered: FaSpSm Advanced high-performance computer simulation techniques; multiscale deterministic and stochastic simulation algorithms on parallel and distributed computing platforms; immersive and interactive visualization of simulation data. *Prerequisite:* CSCI 596 Instruction Mode: Lecture, Discussion Grading Option: Letter

CSCI 656 Networked Systems in Cloud Computing
Units: 4 Systems and network design and protocols in cloud computing and data centers networks. *Prerequisite:* CSCI 551 or CSCI 651 Instruction Mode: Lecture Grading Option: Letter

CSCI 657 Advanced Distributed Systems
Units: 4 The foundations and modern applications of distributed systems. Topics include: logical time, fault tolerance, group communication, consensus, consistency, transactions, and peer-to-peer. *Recommended Preparation:* Proficiency in a high-level language, ideally C++, and familiarity with Git. Registration Restriction: Open only to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Letter

CSCI 658 Diagnosis and Design of Reliable Digital Systems
Units: 3 (Enroll in EE 658)

CSCI 662 Advanced Natural Language Processing
Units: 4 Computational models of natural language. Formalisms for describing structures of human language, and algorithms for learning language structures from data. *Recommended Preparation:* proficiency in programming, algorithms and data structures, discrete math, probability theory, and calculus. Registration Restriction: Open only to doctoral students Duplicates Credit in former CSCI 562. Instruction Mode: Lecture Grading Option: Letter

CSCI 668 Search and Planning
Units: 4 Foundations of the design and implementation of search and planning techniques from artificial intelligence, including their theory and applications. *Prerequisite:* CSCI 561 *Recommended Preparation:* undergraduate introduction to algorithms and data structures undergraduate or graduate introduction to artificial intelligence ability to program in C/C++ Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 670x Advanced Analysis of Algorithms
Units: 4 Terms Offered: FaSpSm Fundamental techniques for design and analysis of algorithms. Dynamic programming; network flows; theory of NP-completeness; linear programming; approximation, randomized, and online algorithms; basic cryptography. *Prerequisite:* CSCI 570; *Recommended Preparation:* familiarity with algorithms and discrete mathematics. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-670

CSCI 671 Randomized Algorithms
Units: 4 Standard techniques in the design and analysis of randomized algorithms and random structures. Topics include tail bounds, Markov Chains, VC-dimension, probabilistic method. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* Basic background in probability and linear algebra Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-671

CSCI 672 Approximation Algorithms
Units: 4 Algorithmic techniques include combinatorial algorithms and rounding of linear and semi-definite programs. Applications include network design, graph cuts, covering problems, and approximation hardness. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* basic background in probability and linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 673 Structure and Dynamics of Networked Information
Units: 4 Algorithms for analyzing network data and spreading information over networks. Focuses on broadly applicable mathematical tools and techniques, including spectral techniques, approximation algorithms and randomization. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* basic background in probabilities, linear algebra. Instruction Mode: Lecture Grading Option: Letter

CSCI 674a Advanced Topics in Computer Vision
Units: 3 Selected topics from current active research areas including image segmentation, shape analysis and object recognition, inference of 3-D shape, motion analysis, knowledge-based system, neural nets. *Prerequisite:* CSCI 574. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-674A

CSCI 674b Advanced Topics in Computer Vision
Units: 3 Selected topics from current active research areas including image segmentation, shape analysis and object recognition, inference of 3-D shape, motion analysis, knowledge-based system, neural nets. *Prerequisite:* CSCI 574. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-674B

CSCI 675 Convex and Combinatorial Optimization
Units: 4 Topics include: Convex sets and functions; convex optimization problems; geometric and Lagrangian duality; simplex algorithm; ellipsoid algorithm and its implications; matroid theory; submodular optimization. *Prerequisite:* CSCI 570 or CSCI 670 *Recommended Preparation:* Mathematical maturity and a solid grounding in linear algebra Instruction Mode: Lecture Grading Option: Letter

CSCI 677 Advanced Computer Vision
Units: 4 Fundamental issues in computer vision: theory, algorithms and applications. Image formation, image segmentation, inference and measurement of 3-D, motion analysis, object and activity recognition. *Recommended Preparation:*

1. Mathematics: Knowledge of and ability to use calculus, analytical geometry, linear algebra and probability theory.
2. Programming: Ability to program in C or C++, facility with data structures such as trees and graphs. Students should also be familiar with basic algorithms such as sorting and searching, traversing trees and graphs and finding minimum cost paths. Instruction Mode: Lecture Grading Option: Letter

CSCI 685 Advanced Topics in Database Systems
Units: 4 Advanced techniques in database management. Topics include optimization, cache management, data mining and knowledge discovery, decision support, spatial indexes, parallel and distributed systems, extendible storage. *Prerequisite:* CSCI 485 or CSCI 585 Instruction Mode: Lecture Grading Option: Letter

CSCI 686 Advanced Big Data Analytics
Units: 4 Advanced statistical inference and data mining techniques for data analytics, including: topic modeling, structure learning, time-series analysis, learning with less supervision, and massive-scale data analytics. *Prerequisite:* CSCI 567 Instruction Mode: Lecture Grading Option: Letter

CSCI 697 Seminar in Computer Science Research
Units: 1 Max Units: 2.0 Terms Offered: FaSp Introduction of Ph.D. students to the broad range of computer science research. Two semesters registration required. Duplicates Credit in former CSCI 597. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 698 Practicum in Teaching Computer Science
Units: 1 Max Units: 2.0 Terms Offered: FaSp Practical principles for the longterm development of effective teaching in Computer Science. Intended for teaching assistants for classes offered by the Computer Science department. Registration Restriction: Only open to Computer Science doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 699 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Course content to be selected each semester from recent developments in computer science. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

CSCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSCI 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSCI 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Comparative Studies in Literature and Culture

CSLC 501 Introduction to Comparative Media Studies
Units: 4 Ways of thinking about the differences and relations among different cultural media: literature, film, video, manga/comics, "new media," and so forth. Instruction Mode: Lecture Grading Option: Letter

CSLC 502 Introduction to Literary Theory
Units: 4 Major developments in 20th century literary criticism, with special attention to theoretical work of the past three decades. Duplicates Credit in former COLT 502. Instruction Mode: Lecture Grading Option: Letter

CSLC 503 Introduction to Comparative Studies in Culture
Units: 4 Examines culture as an instrument of discursive practice that shapes social formations in Asia, Europe, North and Latin America. Instruction Mode: Lecture Grading Option: Letter

CSLC 525 Studies in Literary and Cultural History
Units: 4 Max Units: max 8 (Enroll in COLT 525)

CSLC 545 Studies in Literature and the Other Arts
Units: 4 Max Units: max 8 (Enroll in COLT 545)

CSLC 555 Studies in Literatures of the Americas
Units: 4 Max Units: max 8 (Enroll in COLT 555)

CSLC 565 Studies in Literatures of Asia
Units: 4 Max Units: max 8 (Enroll in COLT 565)

CSLC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Duplicates Credit in former COLT 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 600 Professional Development I: Publication
Units: 2 Terms Offered: Sp Preparation of book and article manuscripts for publication and placement in presses and journals; revising dissertations for publication; preparing papers for conferences. Students produce an article manuscript ready for submission to a journal. Registration Restriction: Open only to doctoral students. Duplicates Credit in former COLT 603. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 601 Seminar in Comparative Media Studies
Units: 4 Max Units: 12.0 Intensive comparative study of visual and literary media. Instruction Mode: Lecture Grading Option: Letter

CSLC 602 Seminar in Literary Theory
Units: 4 Max Units: max 12 (Enroll in COLT 602)

CSLC 603 Seminar in Comparative Studies in Culture
Units: 4 Max Units: 12.0 Intensive study of intellectual and cultural history, with a focus on key literary and theoretical texts. Instruction Mode: Lecture Grading Option: Letter

CSLC 620 Seminar in Literature, Culture, and Thought
Units: 4 Max Units: max 12 (Enroll in COLT 620)

CSLC 640 Seminar in Film and Visual Studies
Units: 4 Max Units: 12.0 Intensive study of various types of discourse (film, photography, literature) and their intersection with wider social, political, and theoretical issues. Instruction Mode: Lecture Grading Option: Letter

CSLC 700 Professional Development II: Applying for Positions
Units: 2 Terms Offered: Fa Familiarizes students with the process of seeking an academic position, from assembling a dossier to interviews and on-campus visits. Duplicates Credit in former COLT 601. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 790 Research
Units: 1 Max Units: 12.0 Research leading to the doctorate. Maximum units that may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CSLC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CSLC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Animation

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTAN 101L Introduction to the Art of Animation
Units: 2 Terms Offered: Fa Theory and practice of animation across organic and digital media with an emphasis on self-exploration. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 102L Introduction to the Art of Movement
Units: 2 Terms Offered: Sp Theory and practice of animation with a focus on movement, gesture, timing and performance. *Prerequisite:* CTAN 101. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 200g The Rise of Digital Hollywood
Units: 4 Terms Offered: Sp An overview of the evolution of computer graphics in modern media. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTAN 201L Intermediate Animation Production
Units: 3 Terms Offered: Fa Tools, skills and procedures used in animation production with a focus on professional execution of independent and collaborative productions. *Prerequisite:* CTAN 102. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 202L Introduction to 3-D Character Animation
Units: 3 Terms Offered: Sp 3-D animation performance utilizing preset rigs and virtual characters. Emphasis on timing, gesture, and performance. *Prerequisite:* CTAN 201L. Registration Restriction: Open only to sophomores in Animation and Digital Arts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 301L 3-D Character Performance Animation
Units: 3 Terms Offered: Fa Advanced 3-D character animation with an emphasis on performance, lip-syncing, timing and execution. *Prerequisite:* CTAN 202L. Registration Restriction: Open only to juniors in Animation and Digital Arts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 302L Expanded Concepts in 2-D/3-D Animation
Units: 3 Terms Offered: Sp Integration of advanced concepts to create and produce a short 2-D/3-D animated work with original sound and content. *Prerequisite:* CTAN 301L. Registration Restriction: Open only to juniors in Animation and Digital Arts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 305 Professionalism of Animation
Units: 2 Terms Offered: FaSp Understanding

the business of the animation industry. Developing presentation skills for interviewing and pitching, preparing personal marketing tools, researching employment opportunities, and practicing networking techniques. Instruction Mode: Lecture Grading Option: Letter

CTAN 330 Animation Fundamentals
Units: 2 Terms Offered: Sp An introduction to the fundamentals of animation, covering such topics as timing, anticipation, reaction, overlapping action, and metamorphosis. Instruction Mode: Lecture Grading Option: Letter

CTAN 336 Ideation and Pre-Production
Units: 2 Terms Offered: Sp Emphasis on lateral thinking working across boundaries to find underlying principles in terms of ideation: the act of becoming an agent of ideas. *Prerequisite:* CTAN 301L Registration Restriction: Open only to juniors in the School of Cinematic Arts Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 401a Senior Project
Units: 4 Terms Offered: Fa Understanding the requirements and relationships between theory and practice regarding the complexity of an animated film in idea and execution. *Prerequisite:* CTAN 336 Registration Restriction: Open only to seniors in the School of Cinematic Arts Instruction Mode: Lecture Grading Option: Letter

CTAN 401b Senior Project
Units: 4 Terms Offered: FaSp Completion and exhibition of the short animated film to demonstrate understanding and further examination of the possibilities of animation time based graphic media. *Prerequisite:* CTAN 401a Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 410 Audio Design for Animation and Immersive Media
Units: 2 Terms Offered: FaSp Experimental and traditional audio design practices for animation, culminating in an immersive audio project utilizing acoustic design, surround sound, and professional recording and editing tools. Instruction Mode: Lecture Grading Option: Letter

CTAN 420 Concept Design for Animation
Units: 2 Terms Offered: FaSp Creating characters and environments for animation, live action, and video games. Instruction Mode: Lecture Grading Option: Letter

CTAN 423L Principles of Digital Animation: Visualizing Science
Units: 2 Terms Offered: FaSp Principles of 2-D and 3-D digital animation applied to scientific themes and research topics. Duplicates Credit in former CTAN 523. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 432 The World of Visual Effects
Units: 2 Terms Offered: FaSpSm Introduction to the expanding field of visual effects; topics include integration for cinematic storytelling and the study of digital productions employing the latest visual effects. Instruction Mode: Lecture Grading Option: Letter

CTAN 435 Story Art Development
Units: 2 Terms Offered: FaSp Using basic storyboarding techniques to develop a sense of character, plot, and continuity. Technical aspects of developing ideas into films. Instruction Mode: Lecture Grading Option: Letter

CTAN 436 Writing for Animation
Units: 2 Terms Offered: Fa Workshop exploring concept and structure of long and short form animated films through practical writing exercises. Instruction Mode: Lecture Grading Option: Letter

CTAN 443L Character Development for 3-D Animation and Games
Units: 2 Terms Offered: FaSpSm Development, modeling, and animation with an emphasis on character setup features: rigging, skeletons, deformers, and scripting. Applying principles of traditional animation to 3-D character rig/puppet. *Prerequisite:* CTAN 452. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 448 Introduction to Film Graphics — Animation
Units: 4 Terms Offered: FaSp An introduction to methods for creating analog animation through experimentation with imagery, concepts and materials. Emphasis on basic timing principles and hands-on techniques. Instruction Mode: Lecture Grading Option: Letter

CTAN 450a Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Methods for creating animation blending traditional techniques with contemporary technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 450b Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Instruction in methods for planning and executing a short animated film. Topics covered include storyboarding, visual development and production planning. Instruction Mode: Lecture Grading Option: Letter

CTAN 450c Animation Theory and Techniques
Units: 2 Terms Offered: FaSp Practical completion of a short animated film. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 451 History of Animation
Units: 2 Terms Offered: Fa In-depth survey of historical developments, styles, techniques, theory and criticism of animation as an art form. Instruction Mode: Lecture Grading Option: Letter

CTAN 452 Introduction to 3-D Computer Animation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Lecture and laboratory in computer animation: geometric modeling, motion specification, lighting, texture mapping, rendering, compositing, production techniques, systems for computer-synthesized animation. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 455L Organic Modeling for Animation
Units: 2 Terms Offered: FaSp The art of digital sculpting for animated characters, with visual effects integration. *Recommended Preparation:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 460 Character Design Workshop
Units: 2 Terms Offered: Sp The basics of character design for animation: anatomy, poses, facial expressions, silhouettes, and anthropomorphism. Development of a portfolio. Instruction Mode: Lecture Grading Option: Letter

CTAN 462 Visual Effects
Units: 2 Terms Offered: FaSp Survey of contemporary concepts and approaches to production in the current state of film and video effects work. Digital and traditional methodologies will be covered, with a concentration on digital exercises illustrating modern techniques. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 463L Creative Workflow in Visual Effects
Units: 2 Terms Offered: FaSp Spherical panoramic photography, 3-D digital environment techniques and a range of visual effects work while providing the stage for the student's storytelling. *Prerequisite:* CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 464L Digital Lighting and Rendering
Units: 2 Terms Offered: FaSp Concepts, tools and techniques used to create cinematic lighting and rendering in computer-generated imagery (CGI). *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 465L Digital Effects Animation
Units: 2 Terms Offered: FaSp All aspects of digital effects animation, including particles, dynamics, and fluids. Creating water, fire, explosions, and destruction in film. *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 470 Documentary Animation Production
Units: 2 Terms Offered: FaSp Examination of the history, techniques, and methods of documentary animation production. Collaboration on a short film project. Instruction Mode: Lecture Grading Option: Letter

CTAN 485L Pipeline and Character Modeling for Animation
Units: 2 Terms Offered: FaSp Modeling and pipeline integration for 3-D animation props, sets and characters. Prior knowledge in Maya preferred. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 495 Visual Music
Units: 2 Terms Offered: Fa Experimental animation providing the opportunity to produce individual or group projects. Focus is non-conventional techniques for image creation and collaboration between composer and visual artist. Instruction Mode: Lecture Grading Option: Letter

CTAN 496 Directed Studies
Units: 2 Max Units: 4 Terms Offered:

FaSp Individual research under faculty guidance. Registration Restriction: Open only to Animation and Digital Arts majors Instruction Mode: Lecture Grading Option: Letter

CTAN 497L Generative Animation
Units: 2 Terms Offered: FaSp Introduction to software packages and practices exploring current animation techniques that leverage simulation systems. Artificial intelligence as a tool for animation. *Prerequisite:* CTAN 452. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTAN 501 Experiments in 2-D Digital Animation
Units: 2 Terms Offered: FaSp 2-D Digital animation exploring the art form as a fertile terrain for experimentation, exhibition and activism. *Recommended Preparation:* 2-D digital experience. Instruction Mode: Lecture Grading Option: Letter

CTAN 502L Experiments in Immersive Design
Units: 2 Terms Offered: FaSp An in-depth exploration of aesthetics and techniques involved in the conceptualization, design and creation of immersive media and stereoscopic imaging. Duplicates Credit in former CTAN 502a. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 503 Storyboarding for Animation
Units: 2 Terms Offered: Sp Focus on film grammar, perspective, and layout, staging and acting as it relates to storyboarding for animation. Instruction Mode: Lecture Grading Option: Letter

CTAN 504L Creative Production in Virtual Reality
Units: 2 Terms Offered: FaSp A creative studio course in producing both a linear cinematic virtual reality short film and associated real-time immersive experience. *Prerequisite:* CTAN 502L Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 505 The Business of Animation
Units: 2 Terms Offered: Sp Professional knowledge and application of fundamental business skills associated with working in the animation industry, academia or the arts. Instruction Mode: Lecture Grading Option: Letter

CTAN 508L Live Action Integration with Visual Effects
Units: 2 Terms Offered: Sp Survey of the digital techniques required to successfully marry live action shooting with CGI elements and green screen footage. *Prerequisite:* CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 522 Animation Department Seminar
Units: 1 Max Units: 6.0 Terms Offered: FaSp A weekly seminar required of all MFA Animation students. This course includes guest speakers, faculty and student presentations followed by lively and critical discussion. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTAN 524 Contemporary Topics in Animation and Digital Arts
Units: 2 Terms Offered: FaSp Topics exploring the evolution of the brain, development of art, technology, science and culture. How this correlates to the evolution of animation-digital media. Instruction Mode: Lecture Grading Option: Letter

CTAN 525 Gesture Movement for Animation
Units: 2 Terms Offered: FaSp The concepts of animation performance, body and facial gesture, and the emotional and psychological resonance through cinematic arts. Instruction Mode: Lecture Grading Option: Letter

CTAN 536 Storytelling for Animation
Units: 2 Terms Offered: Sp Storytelling workshop for animators; application of dramatic techniques to visual concepts to derive three-dimensional stories which can serve as bases for finished films. Registration Restriction: Open only to cinematic arts students. Duplicates Credit in CTAN 436. Instruction Mode: Lecture Grading Option: Letter

CTAN 544 Introduction to the Art of Animation
Units: 3 Terms Offered: Fa Fundamentals of film, video and computer animation production. Orientation to assist students on determining future emphases and specialties. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 547 Animation Production I
Units: 3 Terms Offered: Sp Practicum in film, video and computer animation emphasizing the production process through individual projects. *Prerequisite:* CTAN 544. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 550 Stop Motion Puppet and Set Design
Units: 2 Terms Offered: Fa Puppet and set design for stop motion animation while providing guidance on armature rigs that allow the character to be animated effectively. Instruction Mode: Lecture Grading Option: Letter

CTAN 551 Stop Motion Performance
Units: 2 Terms Offered: Sp Incorporating classic stop motion techniques for puppet performance and animation. Emphasis on timing, performance, movement, animation and gesture. *Prerequisite:* CTAN 550. Instruction Mode: Lecture Grading Option: Letter

CTAN 555 Animation Design and Production
Units: 4 Terms Offered: Fa Exploring creative strategies to designing form and content. Developing style and investigating multiple techniques, including live action and sound. Production of a 30–60 second work. *Prerequisite:* CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTAN 563 Advanced Computer Animation
Units: 2 Terms Offered: Irregular Investigation of advanced computer techniques related to character representation and various types of algorithmically defined animation produced on either film or videotape. *Prerequisite:* CTAN 443L. Instruction Mode: Lecture Grading Option: Letter

CTAN 564L Motion Capture Fundamentals
Units: 2 Terms Offered: Fa Fundamental principles of motion capture technology explored while working through a structured series of assignments based around performance, gesture and motion. *Prerequisite:* CTAN 452 or CTAN 462. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 565L Motion Capture Performance
Units: 2 Terms Offered: Sp The art of directing, acting, and creating story for motion capture will be explored while learning the technology behind bringing virtual actors to life. *Prerequisite:* CTAN 564. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTAN 577a Fundamentals of Animation
Units: 2 Terms Offered: Fa The exploration of the techniques of the art of character animation with an emphasis on discipline, performance and personality observation, specializing in classical Hollywood animation. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture Grading Option: Letter

CTAN 577b Fundamentals of Animation
Units: 2 Terms Offered: Sp The exploration of the techniques of the art of character animation with an emphasis on discipline, performance and personality observation, specializing in classical Hollywood animation. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture, Lab Grading Option: Letter

CTAN 579 Expanded Animation
Units: 2 Terms Offered: Sp Incorporation of traditional image making methods as well as digital and new media technologies to convey non-linear narratives over internal and external landscapes. Instruction Mode: Lecture Grading Option: Letter

CTAN 582 Basic Animation Production Technologies
Units: 2 Terms Offered: Fa Introduction for animation majors to the basic techniques and processes of film, video and computer systems, including cinematography, editing and sound. Registration Restriction: Open only to M.F.A. animation and digital arts students. Duplicates Credit in former CTAN 482. Instruction Mode: Lecture Grading Option: Letter

CTAN 591 Animation Pre-Thesis Seminar
Units: 2 Terms Offered: Sp A pre-production seminar, where students complete the research, development, script and storyboards for their thesis project to be executed in CTAN 594a, CTAN 594b, CTAN 594z. Instruction Mode: Lecture Grading Option: Letter

CTAN 592 Master Class
Units: 2, 3, 4, 5, 6 Max Units: 12.0 Terms Offered: Fa A special projects course in which students produce a major work through weekly meetings with a master artist/animator. Topics must be approved prior to enrollment. *Recommended Preparation:* previous advanced animation production experience. Instruction Mode: Lecture Grading Option: Letter

CTAN 593 Directed Studies in Animation
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Individual exploration in the areas of contemporary technology, animation techniques or experimental film through internships, residencies or directed studies. Registration Restriction: Open only to Animation and Digital Arts master students. Instruction Mode: Lecture Grading Option: Letter

CTAN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

CTAN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Cinema and Media Studies

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTCS 190g Introduction to Cinema
Units: 4 Terms Offered: FaSp Gateway to majors and minors in cinematic arts. Technique, aesthetics, criticism, and social implications of cinema. Lectures accompanied by screenings of appropriate films. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 191 Introduction to Television and Video
Units: 4 Terms Offered: FaSp Exploration of the economic, technological, aesthetic, and ideological characteristics of the television medium; study of historical development of television and video including analysis of key works; introduction to TV/video theory and criticism. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 192gm Race, Class, and Gender in American Film
Units: 4 Terms Offered: FaSpSm Analyzes issues of race, class and gender in contemporary American culture as represented in the cinema. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTCS 200g History of the International Cinema I
Units: 4 Terms Offered: Fa The development of international cinema from its beginnings to World War II. Lectures, screenings, and discussions. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

CTCS 201 History of the International Cinema II
Units: 4 Terms Offered: Sp The development of international cinema from World War II to the present. Lectures, screenings, and discussions. Instruction Mode: Lecture Grading Option: Letter

CTCS 303 Japanese Anime
Units: 2 Explores the visual, dramatic and social conventions of Japanese animation in film and television. Examines anime fan communities, manga and their impact. Instruction Mode: Lecture Grading Option: Letter

CTCS 306 Cinema and Media Theory and Practice
Units: 2 Max Units: max 10 Terms Offered: FaSpSm Theories and case studies of contemporary issues in film, television and digital media research. Students will be required to design their own undergraduate research projects. Instruction Mode: Lecture Grading Option: Letter

CTCS 367 Global Media
Units: 4 Terms Offered: FaSp Studies in the global configurations of television industries and cultures, including new technologies and the textual and sociological analysis of global media events and programming. Instruction Mode: Lecture Grading Option: Letter

CTCS 373 Literature and Film
Units: 4 (Enroll in COLT 373)

CTCS 379 Nationalism and Postcolonialism in Southeast Asian Cinema
Units: 4 (Enroll in COLT 379)

CTCS 392 History of the American Film, 1925–1950
Units: 4 Terms Offered: Sp Screenings of American film classics and their relationship to society. Lectures and discussions. Instruction Mode: Lecture Grading Option: Letter

CTCS 393 Postwar Hollywood, 1946-1962
Units: 4 Terms Offered: Fa Cinematic and extra-cinematic determinants of Post-Classical and Modernist Hollywood studio and independent genres, styles, and the star-phenomenon and their relationship to American history and culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 394 History of the American Film, 1977–present
Units: 4 Terms Offered: Sp Cinematic and extra-cinematic determinants of Postmodernist Hollywood studio and independent genres, styles, and the star-phenomenon and their relationship to American history and culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 400 Non-Fiction Film and Television
Units: 4 Terms Offered: Fa An international survey of documentary, informational, and independent experimental film, video and television. Instruction Mode: Lecture Grading Option: Letter

CTCS 402 Practicum in Film/Television Criticism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Exercise in writing film and television criticism using new and classic films and television programs. Instruction Mode: Lecture Grading Option: Letter

CTCS 403 Studies in National and Regional Media
Units: 4 Terms Offered: FaSp Detailed investigation of traditions, achievements, and trends of film and/or electronic media in a particular country or region. Instruction Mode: Lecture Grading Option: Letter

CTCS 404 Television Criticism and Theory
Units: 4 Terms Offered: Sp The evaluation of television programs and their reception from various theoretical perspectives which may include cultural studies, race and ethnic studies, psychoanalysis, gender and queer studies, and semiotics. Instruction Mode: Lecture Grading Option: Letter

CTCS 406 History of American Television
Units: 4 Terms Offered: Fa History of television as an entertainment, information, and art medium. Emphasis on programming and institutional history, including issues of regulation, censorship, aesthetics and activism. Instruction Mode: Lecture Grading Option: Letter

CTCS 407 African American Cinema
Units: 4 Terms Offered: Irregular Intensive survey of African American cinema; topics include history, criticism, politics, and cinema's relationship to other artifacts of African American culture. Instruction Mode: Lecture Grading Option: Letter

CTCS 408 Contemporary Political Film and Digital Media
Units: 4 Terms Offered: Irregular Examination of a variety of politically engaged films and digital media recently produced in the U.S. and abroad, with particular emphasis on aesthetic strategies. Instruction Mode: Lecture Grading Option: Letter

CTCS 409 Censorship in Cinema
Units: 4 Terms Offered: Fa An inquiry into the practice and patterns of censorship in cinema. Instruction Mode: Lecture Grading Option: Letter

CTCS 411 Film, Television and Cultural Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Detailed examination of film/television from the perspectives and insights of Cultural Studies; focus on the production

and reception of cultural texts, practices, and communities. Instruction Mode: Lecture Grading Option: Letter

CTCS 412 Gender, Sexuality and Media
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Examines how gender and sexuality are figured in cinema and television with an emphasis on the development of feminist media theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-412

CTCS 414 Latina/o Screen Cultures
Units: 4 Terms Offered: FaSpSm Examination of Latino/a moving image production including film, video, and digital media in the context of the politics of race, class, gender, sexuality, and international relations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-414

CTCS 462 Critical Theory and Analysis of Games
Units: 4 Terms Offered: FaSp (Enroll in CTIN 462)

CTCS 464 Film and/or Television Genres
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Rigorous examination of film and/or television genres: history, aesthetics, cultural context, social significance, and critical methodologies. Instruction Mode: Lecture Grading Option: Letter

CTCS 466 Theatrical Film Symposium
Units: 4 Max Units: 8.0 Terms Offered: FaSp Lectures and readings on creative problems in the motion picture industry; current films; interviews with visiting producers, directors, writers, performers. Instruction Mode: Lecture Grading Option: Letter

CTCS 467 Television Symposium
Units: 4 Max Units: 8.0 Lectures and readings on creative problems in the television industry; study of current and historical trends, interviews with producers, directors, writers and performers. Instruction Mode: Lecture Grading Option: Letter

CTCS 469 Film and/or Television Style Analysis
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Intensive study of the style of an auteur, studio, film or television making mode in terms of thematic and formal properties and their influences upon the art of film. Instruction Mode: Lecture Grading Option: Letter

CTCS 473 Film and Media Theory
Units: 4 Terms Offered: FaSp Influential ideas and theoretical approaches that have shaped the making and study of film. Students are encouraged to take this course in their junior year. *Prerequisite:* CTCS 190 Instruction Mode: Lecture Grading Option: Letter

CTCS 478 Culture, Technology and Communications
Units: 4 Terms Offered: FaSp Cultural study of communications technology and its relationship to society. Evaluation of the social and cultural impact of technologies from the telegraph to the Internet. Instruction Mode: Lecture Grading Option: Letter

CTCS 482 Transmedia Entertainment
Units: 4 Terms Offered: FaSp An examination of transmedia, or cross-platform, entertainment: commercial and grassroots texts, theoretical framework, historical context, and commercial projects. Developing transmedia strategies for existing media properties. Instruction Mode: Lecture Grading Option: Letter

CTCS 494 Advanced Cinema and Media Studies Seminar
Units: 4 Terms Offered: FaSp Rotating topics involving detailed study of the historical, cultural and aesthetic analysis of film, television, and new media technologies. Registration Restriction: Not open to Freshmen Instruction Mode: Lecture Grading Option: Letter

CTCS 495 Honors Seminar
Units: 4 Terms Offered: FaSpSm Advanced work in the historical, cultural and aesthetic analysis of film, television, and new media technologies. *Corequisite:* CTCS 473. Registration Restriction: Open only to students in CTCS Honors program. Instruction Mode: Lecture Grading Option: Letter

CTCS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTCS 500 Seminar in Film Theory
Units: 4 Terms Offered: Fa Introduction to classical and contemporary film theory; exploration of their relationship to filmic experimentation. Instruction Mode: Lecture Grading Option: Letter

CTCS 501 World Cinema Before 1945
Units: 2 Terms Offered: FaSp Historical survey of global cinema from its beginnings until 1945. Instruction Mode: Lecture Grading Option: Letter

CTCS 502 World Cinema After 1945
Units: 2 Terms Offered: Fa Historical survey of film from a global perspective from 1945 until the present. Instruction Mode: Lecture Grading Option: Letter

CTCS 503 Survey History of the United States Sound Film
Units: 2 Terms Offered: Sp Survey history of the United States film from 1927 to the present, with emphasis upon film as art form, economic institution, technology, and cultural product. Instruction Mode: Lecture Grading Option: Letter

CTCS 504 Survey of Television History
Units: 2 Terms Offered: Sp An exploration of the historical, cultural, business, creative, and technological aspects of television. Instruction Mode: Lecture Grading Option: Letter

CTCS 505 Survey of Interactive Media
Units: 2 Terms Offered: Fa A survey course exploring the historical, cultural, business, creative and technological aspects of the new interactive media. Instruction Mode: Lecture Grading Option: Letter

CTCS 506 Critical Studies Colloquium/ Professional Seminar
Units: 2 Terms Offered: FaSpSm Provides orientation to the profession, opportunities for academic and professional growth and development. Recommended for entering students. Instruction Mode: Lecture Grading Option: Letter

CTCS 510 Case Studies in National Media and/or Regional Media
Units: 4 Max Units: 12.0 Terms Offered: FaSp Seminar on media's impact in defining nation and/or region in specific cultural contexts. Also addresses issues of exile, diaspora, transnationalism and globalism. Instruction Mode: Lecture Grading Option: Letter

CTCS 511 Seminar: Non-Fiction Film/ Video
Units: 4 Terms Offered: Sp Aesthetic, rhetorical, and ideological issues in nonfiction film and video. Instruction Mode: Lecture Grading Option: Letter

CTCS 517 Introductory Concepts in Cultural Studies
Units: 4 Terms Offered: Fa Introduction to central concepts, key theories, and/or leading figures in cultural studies, particularly as they relate to issues of popular culture and visual media. Instruction Mode: Lecture Grading Option: Letter

CTCS 518 Seminar: Avant-Garde Film/ Video
Units: 4 Terms Offered: Irregular Aesthetic, historical and ideological issues in avant-garde film and video. Instruction Mode: Lecture Grading Option: Letter

CTCS 520 Film History Through the Archives and Special Collections
Units: 4 Terms Offered: Fa A historical exploration of film and television through the artifacts, images and writings used in their creation. Instruction Mode: Lecture Grading Option: Letter

CTCS 521 Media Archiving: History and Practice
Units: 4 Terms Offered: Sp An introduction to the field of moving image archive and the complexities of preserving and managing moving image collections. Instruction Mode: Lecture Grading Option: Letter

CTCS 564 Seminar in Film and Television Genres
Units: 4 Max Units: 8 Terms Offered: FaSp Advanced study of a selected genre of film and/or television — its relationship to history, society, and culture, as well as to genre theory. Instruction Mode: Lecture Grading Option: Letter

CTCS 567 Seminar in Film/Television and a Related Art
Units: 4 Max Units: 8 Terms Offered: Irregular Historical, critical, aesthetic, and theoretical issues raised by a comparison of cinema and television and other allied art forms. Instruction Mode: Lecture Grading Option: Letter

CTCS 569 Seminar in Film and Television Authors
Units: 4 Max Units: 8 Seminar in the style of an auteur, studio, filmmaking, or televisual mode in terms of thematic and formal

properties and their influences upon the art of film and/or television. Instruction Mode: Lecture Grading Option: Letter

CTCS 585 Seminar in Film/Television Critical Theory and Production
Units: 4 Terms Offered: Irregular A conjoint theory/production seminar, in which the study of media texts will be combined with media production informed by the theoretical study. Specific themes and area of focus may vary. Instruction Mode: Lecture Grading Option: Letter

CTCS 587 Seminar in Television Theory
Units: 4 Max Units: 8.0 Terms Offered: Sp Detailed investigation and discussion of various aspects of television, including genre, textual analysis, production and distribution systems and audience studies. Instruction Mode: Lecture Grading Option: Letter

CTCS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTCS 673 Topics in Theory
Units: 4 Max Units: 8.0 Terms Offered: FaSp Contemporary theoretical frameworks and their relationship to film and television studies. Topics differ from semester to semester. Instruction Mode: Lecture Grading Option: Letter

CTCS 677 Cultural Theory
Units: 4 Terms Offered: FaSp Seminar in theoretical approaches to cultural studies; focus on interdisciplinary research of media and audiences, covering a range of methods and theoretical frameworks; concentration varies. Instruction Mode: Lecture Grading Option: Letter

CTCS 678 Seminar in Film Theory and Medium Specificity
Units: 4 Max Units: 8.0 Terms Offered: Irregular Explores the way film has been theorized in relationship to traditional media that preceded it and electronic media that followed. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-678

CTCS 679 Seminar in Genre and/or Narrative Theory
Units: 4 Terms Offered: Irregular Seminar in theoretical issues concerning genre and/or narrative as they pertain to media, literature or cultural forms. Areas of focus vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-679

CTCS 688 Moving Image Histories: Methods and Approaches
Units: 4 Terms Offered: FaSpSm Research seminar in methods and approaches to moving image history including film, television, and digital media. Focus on archival research and issues in writing history. Instruction Mode: Lecture Grading Option: Letter

CTCS 690 Special Problems
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Field production; organization and administration of local film-producing units; experimental aspects of film communication; advanced work in film history and criticism; teaching cinema. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTCS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTCS 791 Historical and Critical Research Methods
Units: 2 Max Units: 4.0 Terms Offered: FaSp Methods and procedures for historical and critical research in the visual media. Required tutorial with Ph.D. student's dissertation committee chair, designed to assist initial work on dissertation. Instruction Mode: Lecture, Lab Grading Option: Letter

CTCS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTCS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Interactive Media

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTIN 101 Fundamentals of Procedural Media
Units: 2 Terms Offered: FaSp Introduction to the procedural nature of interactive media and games, though the coding language Processing. Students will develop proficiency in reading and creating computational media. Duplicates Credit in former CTIN 400 Instruction Mode: Lecture Grading Option: Letter

CTIN 110 Statistical Analysis for Games: Storytelling with Numbers
Units: 4 Terms Offered: Sp An introductory course on using statistical analysis for user research and assessment of interactive projects. Instruction Mode: Lecture Grading Option: Letter

CTIN 190 Introduction to Interactive Entertainment
Units: 4 Terms Offered: FaSp Critical vocabulary and historical perspectives on interactive entertainment; students articulate their own ideas, while wrestling with the larger conceptual issues at play within the field. Duplicates Credit in former CTIN 309 Instruction Mode: Lecture Grading Option: Letter

CTIN 191 Survey of Themed Entertainment
Units: 4 Terms Offered: FaSp Introduction to the field of themed entertainment and education design, covering its history, and, especially, current practice. Instruction Mode: Lecture Grading Option: Letter

CTIN 200L The New Games Industry
Units: 2 Terms Offered: Sm An overview of what it means to be a professional game developer in the modern and rapidly changing economic environment. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 290 Digital Media Workshop
Units: 4 Terms Offered: FaSp Exploration of a variety of moving image aesthetics and methodologies in order to highlight how the language of cinema shapes contemporary digital and interactive media practices. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 332 Games for Animation
Units: 2 Terms Offered: Sp Contemporary examples and theories of the crossover between animation and video game practices. Instruction Mode: Lecture Grading Option: Letter

CTIN 401L Interface Design for Games
Units: 2 Terms Offered: Fa Introduction to the aesthetics, terminology and common trends of interface design for games. Topics include 2-D and 3-D spaces and user/camera perspectives. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 403L Advanced Visual Design for Games
Units: 2 Terms Offered: Sp The scope of visual game design, including the role of characters, architecture, indoor and outdoor spaces, and environmental effects and sounds. *Prerequisite:* CTIN 401L; *Recommended Preparation:* CTAN 443L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 404L Usability Testing for Games
Units: 2 Terms Offered: Sp Concepts and methods of usability assessment. The emphasis will be on understanding the issues surrounding game interfaces, and utilizing usability assessment methods. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 405L Design and Technology for Mobile Experiences
Units: 2 Terms Offered: Sp Critical and pragmatic insights into designing mobile experiences and technology. Design groups will develop a mobile project using principles from readings and class discussions. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 406L Sound Design for Games
Units: 2 Terms Offered: Sp Introduction

to the techniques, terminology, and implementation of sounds in games, including establishing a sense of place and concepts of realistic sound. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 426 Video Games, Identity, and Diversity
Units: 2 Terms Offered: FaSp Thinking about video games in relation to many personal and cultural factors, including race, disability, class, gender, sexuality, and body type. Instruction Mode: Lecture Grading Option: Letter

CTIN 444 Audio Expression
Units: 2 Terms Offered: Sp Foundational aesthetic principles and creative technologies for game audio. Processing, mixing, and controlling sound for games for expressive effect. *Recommended Preparation:* CTIN 406L. Instruction Mode: Lecture Grading Option: Letter

CTIN 452L Themed Entertainment Design
Units: 4 Terms Offered: Fa The fundamentals of design, technology, operations and process for the creation of themed entertainment experiences and story-centric place-making. *Prerequisite:* CTIN 488 or CTIN 541; *Recommended Preparation:* CTIN 489 or CTIN 532. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 456 Game Design for Business
Units: 2 Terms Offered: Sp Designed to provide the business professional with effective communication skills in working with the designers of games and game related venues. Instruction Mode: Lecture Grading Option: Letter

CTIN 458 Business and Management of Games
Units: 2 Terms Offered: FaSp Overview of current business models in games and interactive media, methods for pitching and getting products funded; copyright and intellectual property. Instruction Mode: Lecture Grading Option: Letter

CTIN 459L Game Industry Workshop
Units: 4 Terms Offered: Fa Exploration of industry-related game play research questions. Student teams will develop concepts and materials to solve a research problem posed by an industry partner. *Prerequisite:* CTIN 488; *Recommended Preparation:* CTIN 489. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 462 Critical Theory and Analysis of Games
Units: 4 Terms Offered: Sp Formal, aesthetic, and cultural aspects of digital games, critical discourse around gameplay, and the relationship of digital games to other media. *Recommended Preparation:* CTIN 488. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CTCS-462

CTIN 463 Anatomy of a Game
Units: 4 Terms Offered: Fa Examine two game products from concept to delivery; introduce students to each of the professional disciplines involved in making digital games. *Recommended Preparation:* CTIN 488. Instruction Mode: Lecture Grading Option: Letter

CTIN 464 Game Studies Seminar
Units: 2 Max Units: 4.0 Terms Offered: Fa Rigorous examination of interactive entertainment: genres, history, aesthetics, cultural context, and social significance. Topics vary by semester. Instruction Mode: Lecture Grading Option: Letter

CTIN 478 Level Design Workshop
Units: 2 Terms Offered: FaSp A workshop on focused design tasks, creating many levels on paper and in game engines. *Prerequisite:* CTIN 488 or CTIN 541 *Recommended Preparation:* CTIN 483 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 479 Documentary and Activist Games
Units: 2 Terms Offered: Sp How interaction design and games document reality. The unique abilities of interactive media in the realms of non-fiction, documentary, and activism. *Recommended Preparation:* CTIN 190, CTIN 488 or CTIN 541. Instruction Mode: Lecture Grading Option: Letter

CTIN 482 Designing Social Games
Units: 2 Max Units: 04 Terms Offered: FaSp Leading industry techniques and networking fundamentals; designing an original social game. Duplicates Credit in former CNTV 482 Instruction Mode: Lecture Grading Option: Letter

CTIN 483 Introduction to Game Development
Units: 4 Terms Offered: FaSp Introduction to technical and creative aspects of game development, including the art of creating the digital game prototype and development of games; coding experience required. *Prerequisite:* CTIN 101 or ITP 165 *Recommended Preparation:* CTIN 290 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 484L Intermediate Game Development
Units: 2 Terms Offered: FaSpSm Advanced topics in game programming and implementation such as using game engines, creating digital prototypes, player controls and level design. *Prerequisite:* CTIN 483, CTIN 488 or CTIN 541; *Concurrent Enrollment:* concurrent enrollment: CTIN 489. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 485L Advanced Game Development
Units: 2 Terms Offered: Sp Advanced concepts in 3-D game development: story and character progression, emergent game-play, comprehensive game mechanics, and artificial intelligence. *Prerequisite:* CTIN 483, CTIN 484L, CTIN 488, CTIN 489. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 486 Alternative Control Workshop
Units: 2 Terms Offered: Sp Design of game projects using immersive input devices. Development of play mechanics, feedback systems and game design for immersive environments. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 488 Game Design Workshop
Units: 4 Terms Offered: FaSp An introduction to making games. Students will explore the principles of game design through the entirely analog creation of card, board and tabletop games. *Recommended Preparation:* CTIN 190 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 489 Intermediate Game Design Workshop
Units: 2 Terms Offered: FaSp A follow-up to the introductory game design class, this course will introduce more advanced concepts in game design and game theories, including ideation, digital prototyping and level design. *Prerequisite:* CTIN 483, CTIN 488 or CTIN 541; *Concurrent Enrollment:* concurrent enrollment: CTIN 484. Instruction Mode: Lecture Grading Option: Letter

CTIN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

CTIN 491L Advanced Game Project I
Units: 4 Max Units: 08 Terms Offered: Fa Students work in teams on pre-production and production of a functional digital game suitable for showcases, festivals, and further development. *Prerequisite:* CTIN 404L or CTIN 406L or CTIN 484L or CTAN 452 or ART 442 or FASC 436 Duplicates Credit in former CTIN 491a Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 492L Experimental Game Topics
Units: 4 Max Units: 8.0 Terms Offered: FaSp Development of a game around a custom-made physical interface; various technologies and techniques involved in a software/hardware integration; peripheral design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 493L Advanced Game Project II
Units: 2 Max Units: 4.0 Terms Offered: Sp Students work in teams to polish and finalize a functional digital game suitable for distribution via the web and/or submission into independent games festivals. Duplicates Credit in former CTIN 491b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 497 Interactive Media Startup
Units: 1 Max Units: 3.0 Terms Offered: FaSp Pitching, production planning, forming a company and seeking funding for your creative media idea. Duplicates Credit in former CTIN 497ab. Instruction Mode: Lecture Grading Option: Letter

CTIN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema, television, and/or interactive media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTIN 501 Interactive Cinema
Units: 2 Terms Offered: FaSp Provide students with a vocabulary of conceptual and artistic means to create computer based

interactive works. Instruction Mode: Lecture Grading Option: Letter

CTIN 502a Experiments in Stereoscopic Imaging
Units: 2 (Enroll in CTAN 502ab)

CTIN 502b Experiments in Stereoscopic Imaging
Units: 2 (Enroll in CTAN 502ab)

CTIN 503 Interactive Entertainment, Science, and Healthcare
Units: 2 Terms Offered: FaSpSm Overview of foundational concepts required for design, development and evaluation of interactive entertainment and transmedia-based interventions at the intersection of neuroscience, public health and medicine. *Recommended Preparation:* Proficiency in conducting literature reviews; social media use; using interactive media and playing games. Registration Restriction: Open only to seniors and graduate students. Instruction Mode: Lecture Grading Option: Letter

CTIN 506 Procedural Expression
Units: 2 Terms Offered: Fa Developing procedural literacy in the analysis and creation of computational media; an introduction to how we create meaningful experiences using rules and interaction. Duplicates Credit in former CTIN 400. Instruction Mode: Lecture Grading Option: Letter

CTIN 510 Research Methods for Innovation, Engagement and Assessment
Units: 2 Terms Offered: Sp Planning, designing, and analyzing a research study for a digital media project. Production of a written report and presentation. *Recommended Preparation:* CTIN 506, CTIN 541, and CTCS 505. Instruction Mode: Lecture Grading Option: Letter

CTIN 511 Interactive Media Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminars on latest trends in interactive media content, technology, tools, business and culture. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 520 Experience and Design of Public Interactives
Units: 2 Terms Offered: Sp Introduction to the design of public interactives, the meaning of built space and environmental experiences, and the relationship between interactivity and social communication. Instruction Mode: Lecture Grading Option: Letter

CTIN 532L Interactive Design and Production I
Units: 4 Terms Offered: Fa The development of interactive experiences with an emphasis on prototyping and development. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 534L Experiments in Interactivity I
Units: 4 Terms Offered: Fa Experimental studio course to explore concepts of structure, aesthetics and content of interactive experience design. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTIN 541 Design for Interactive Media
Units: 2 Terms Offered: Fa Practical exploration and practicum on the fundamental technical and aesthetic principles in the design of interactive media. Students will develop design and prototyping skills. Instruction Mode: Lecture Grading Option: Letter

CTIN 542 Interactive Design and Production II
Units: 4 Terms Offered: FaSpSm Interactive design, prototyping and testing of projects developed in CTIN 548. *Prerequisite:* CTIN 532. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 544 Experiments in Interactivity II
Units: 2 Terms Offered: Sp Experimental studio course in application of technology to interactive experience. *Prerequisite:* CTIN 534. Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 548 Preparing the Interactive Project
Units: 2 Terms Offered: Sp An advanced production workshop in which students design and prepare for the production of their advanced project. *Prerequisite:* CTIN 532. Instruction Mode: Lecture Grading Option: Letter

CTIN 558 Business of Interactive Media
Units: 2 Terms Offered: Fa In-depth investigation of publication, distribution, business and legal aspects of the interactive entertainment business. Instruction Mode: Lecture Grading Option: Letter

CTIN 583 Game Development for Designers
Units: 2 Terms Offered: Sp The fundamentals of 3-D real time game engines, scripting for interactivity, and building games with digital tools. *Recommended Preparation:* CTIN 506 Instruction Mode: Lecture, Lab Grading Option: Letter

CTIN 584a Individual Interactive Workshop
Units: 4 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584b Individual Interactive Workshop
Units: 2 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584c Individual Interactive Workshop
Units: 2 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 584z Individual Interactive Workshop
Units: 0 Individual experimental projects involving the creative use of interactive media and film production skills. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTIN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research project leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 591 Advanced Development Project
Units: 2 Max Units: 8.0 Terms Offered: FaSp Students from many disciplines work in large teams to create an innovative, large-scale interactive media or game project. *Recommended Preparation:* CTCS 505, CTIN 541. Instruction Mode: Lecture Grading Option: Letter

CTIN 593 Integrative Project: Media-based Interventions in Healthcare
Units: 2, 4 Max Units: 4 A project that showcases integrative mastery of prior and newly acquired knowledge, skills and interests. Permission of instructor required. *Prerequisite:* CTIN 503. *Corequisite:* IML 543. Registration Restriction: Open only to Media Arts, Games and Health majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTIN 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CTIN 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTIN 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* CTIN 548. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

CTIN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of interactive media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Production

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTPR 240x Practicum in Production
Units: 2 or 4 Terms Offered: Sm Basic production techniques: introduction to the cinematic elements, production techniques, and equipment; film and/or videotape production. Instruction Mode: Lecture Grading Option: Letter

CTPR 241 Fundamentals of Cinema Technique
Units: 2 Terms Offered: FaSp Introduction to cinema production techniques and equipment including producing, directing, camera, lighting, and editing. Instruction Mode: Lecture Grading Option: Letter

CTPR 242 Fundamentals of Cinematic Sound
Units: 2 Terms Offered: FaSp Introduction to sound design, recording, editing, mixing

and finishing. Lectures, demonstrations and exercises. Instruction Mode: Lecture Grading Option: Letter

CTPR 280 Structure of the Moving Image
Units: 2 Terms Offered: FaSp Basic theory and application of the concepts of time, space, composition, movement, light and color in motion picture production. Instruction Mode: Lecture Grading Option: Letter

CTPR 285 Lateral Thinking for Filmmaking Practice
Units: 2 Terms Offered: FaSp Introduces contemporary concepts of production, emphasizing the variety of contemporary media and significant related concepts. Projects created using laptops, phones and networks. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 288 Originating and Developing Ideas for Film
Units: 2 Terms Offered: FaSp Exercises in observation, imaginative association, visualization, etc., that deepen the creative process, leading to ideas, stories, characters and images for narrative, documentary and experimental films. Instruction Mode: Lecture Grading Option: Letter

CTPR 290 Cinematic Communication
Units: 4, 6 Terms Offered: FaSpSm Introduction to the interrelationship of visuals, sound, and editing in cinematic communication. Workshops in directing and producing. Individual and group projects. *Recommended Preparation:* CTPR 285. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 294 Directing in Documentary, Fiction and New Media
Units: 4 Terms Offered: FaSp Basic concepts of directing in new media, documentary and fictional narrative. Includes work with actors, documentary concepts, and creation of short new media projects. *Concurrent Enrollment:* CTPR 295L Instruction Mode: Lecture Grading Option: Letter

CTPR 295L Cinematic Arts Laboratory
Units: 4 Terms Offered: FaSp The aesthetics and tools of the major disciplines of cinematic arts: producing, cinematography, sound, and editing. *Concurrent Enrollment:* Concurrent enrollment: CTPR 294. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTPR 301 Creating the Non-Fiction Film
Units: 4 Terms Offered: Sp Research and writing challenges of non-fiction film (documentary, educational, industrial, political, etc.), from treatment to finished script. Duplicates Credit in former CTWR 301. Instruction Mode: Lecture Grading Option: Letter

CTPR 310 Intermediate Production
Units: 4, 6 Terms Offered: FaSpSm Principles of visual and aural communication; idea development and realization using image, movement, pace, the spoken word and other sounds; small crew projects. *Prerequisite:* CTPR 294, CTPR 295L. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 319 Directing for Writers: Fundamentals
Units: 2 Terms Offered: Sp A workshop in which students will direct original scene material in a stage environment on class time. Director's role and responsibilities, the process of translating the written word into image and action; basics of camera, working with actors and staging; working with and in various crew roles in a production team; editing dialogue scenes. Duplicates Credit in former CTWR 319. Instruction Mode: Lecture Grading Option: Letter

CTPR 327 Motion Picture Cinematography
Units: 3 Terms Offered: FaSpSm Use of high definition motion picture equipment to explore the fundamentals of shot design, movement and lighting. In class group projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 335 Motion Picture Editing
Units: 3 Terms Offered: FaSp Theory, techniques, and practices in picture editing; use of standard editing equipment; individual projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 340 Creating the Motion Picture Sound Track
Units: 2 Terms Offered: FaSpSm Techniques and aesthetics for recording production sound, editing dialogue, sound effects, music, Foley and preparing for the mix. For film, television, and other media. Instruction Mode: Lecture Grading Option: Letter

CTPR 371 Directing for Television
Units: 4 Terms Offered: FaSp Preparation of director's preproduction blockout; study of direction for live, tape, and film production, for both dramatic and informational television. Instruction Mode: Lecture Grading Option: Letter

CTPR 375 Functions of a Director
Units: 4 Terms Offered: Sp Theoretical considerations of the director in relationship to the multiple facets of film production. Instruction Mode: Lecture Grading Option: Letter

CTPR 376 Intermediate Cinematography
Units: 4 Terms Offered: FaSp Intermediate cinematography workshop; practical problems and assignments. *Prerequisite:* CTPR 241, CTPR 242, CTPR 290 and CTWR 413; *Recommended Preparation:* CTPR 280. Instruction Mode: Lecture Grading Option: Letter

CTPR 382 Advanced Multi-Camera Television Comedy Pilot
Units: 4 Terms Offered: FaSp A hands-on course which allows students to experience all aspects of multi-camera television production by creating a pilot episode of a situation comedy. *Recommended Preparation:* experience working at Trojanvision. Instruction Mode: Lecture Grading Option: Letter

CTPR 385 Colloquium: Motion Picture Production Techniques
Units: 4 Terms Offered: FaSpSm Basic procedures and techniques applicable to production of all types of films; demonstration by production of a short film from conception to completion. Instruction Mode: Lecture Grading Option: Letter

CTPR 386 Art and Industry of the Theatrical Film
Units: 4 Terms Offered: FaSp Detailed analysis of one theatrical film from conception through critical reception to develop an understanding of motion pictures as art, craft, and industry. Instruction Mode: Lecture Grading Option: Letter

CTPR 405 Filmic Expression
Units: 4 Terms Offered: Irregular Creative aspects of film production; analysis of audio and visual forces that make the film an expressive means of communication; individual projects. *Prerequisite:* CTPR 310, CTPR 376. Instruction Mode: Lecture Grading Option: Letter

CTPR 409 Practicum in Television Production
Units: 2, 4 Max Units: 8.0 Terms Offered: FaSp Television production laboratory course covers operating cameras, creating graphics, technical operations, controlling audio and floor-managing live productions. Students plan and produce actual Trojan Vision programs. Instruction Mode: Lecture Grading Option: Letter

CTPR 410 The Movie Business: From Story Concept to Exhibition
Units: 2 Terms Offered: FaSp Examination of the industry from story ideas through script development, production and exhibition; evaluation of roles played by writers, agents, studio executives, marketing and publicity. Instruction Mode: Lecture Grading Option: Letter

CTPR 421 Practicum in Editing
Units: 2 Terms Offered: FaSpSm Workshop in how editing can shape storytelling, using content from a variety of media and in various styles. Modern non-linear equipment and techniques. *Prerequisite:* CTPR 310 or CTPR 335. Instruction Mode: Lecture Grading Option: Letter

CTPR 422 Makeup for Motion Pictures
Units: 2 Terms Offered: FaSp Lecture-laboratory in makeup relating it to mood of the story and emulsion of the camera stock. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 423 Introduction to Special Effects in Cinema
Units: 2 Terms Offered: FaSp Introductory workshop in the aesthetics and practices of special effects, embracing both the classical and contemporary modes. Instruction Mode: Lecture Grading Option: Letter

CTPR 424 Practicum in Cinematography
Units: 2 Terms Offered: FaSp Camera and lighting workshop in color cinematography, beginning with 35mm still photography and moving into 16mm and digital motion picture formats. In-class exercises. *Prerequisite:* CTPR 310 or CTPR 327. Instruction Mode: Lecture Grading Option: Letter

CTPR 425 Production Planning
Units: 2 Terms Offered: FaSp Theory, discussion, and practical application of production planning during preproduction

and production of a film. Instruction Mode: Lecture Grading Option: Letter

CTPR 426 The Production Experience
Units: 2 Terms Offered: FaSp To provide students with basic working knowledge of both the skills of the motion picture set and production operations through classroom lectures and hands-on experience. Instruction Mode: Lecture Grading Option: Letter

CTPR 427 Introduction to Color Grading
Units: 2 Terms Offered: FaSpSm Exploration of the various aspects of color grading and how it can enhance storytelling. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 428 Summer Production Workshop
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sm To investigate disciplines of Cinema-TV with emphasis on one of the following areas: writing, directing, editing, camera, sound, editing, producing, interactive, computer animation or digital. Instruction Mode: Lecture Grading Option: Letter

CTPR 431 Developing the Documentary Production
Units: 3 Terms Offered: FaSp The tools and skills necessary to turn an idea into a documentary story, using sample reels, pitches, and writing to develop a professional proposal. Instruction Mode: Lecture Grading Option: Letter

CTPR 438 Practicum in Producing
Units: 2 Terms Offered: FaSp A comprehensive overview of the role of the producer. How projects are conceived, developed, packaged, financed and marketed. *Prerequisite:* CTPR 310 or CTPR 425. Instruction Mode: Lecture Grading Option: Letter

CTPR 440 Practicum in Sound
Units: 2 Max Units: 4.0 Terms Offered: FaSp Aesthetic and technical skills of production and postproduction sound necessary to create a motion picture soundtrack. *Prerequisite:* CTPR 310 or CTPR 340. Instruction Mode: Lecture Grading Option: Letter

CTPR 450 The Production and Post-Production Assistant
Units: 2 Terms Offered: FaSp Detailed view of the process of making media. Introducing fundamental thinking typical of each craft. Weekend crew experience and responsibilities. *Prerequisite:* CTPR 310. Registration Restriction: Open only to Cinematic Arts Film and Television Production majors. Instruction Mode: Lecture Grading Option: Letter

CTPR 454 Acting for Film and Television
Units: 4 Terms Offered: FaSp Intensive examination of skills and techniques necessary for successful performances in film and television. Practical application through in-class exercises and assigned projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 455 Survey of Production Design
Units: 2 Terms Offered: FaSpSm How production designers in film and television use graphic tools to create thematic visuals based on a script. Lectures, guest speakers, individual projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 456 Introduction to Art Direction
Units: 2 Terms Offered: FaSp Introduction to computer drafting, set design, rendering and model-making for students with diverse abilities. Guest lectures, group discussions and hands-on workshop. Instruction Mode: Lecture Grading Option: Letter

CTPR 457 Creating Poetic Cinema
Units: 2 Terms Offered: Fa An investigation of poetic cinema from four different perspectives: found poetry; applied poetry; poetry as image; and poetry in narrative fiction. Production of short films. Instruction Mode: Lecture Grading Option: Letter

CTPR 458 Organizing Creativity: Entertainment Industry Decision Making
Units: 2 Terms Offered: FaSp Analysis of the unique structures in the entertainment industry for organizing and managing creativity. Students research and chart pathways to leadership. Registration Restriction: Open only to juniors, seniors, and graduate students. Instruction Mode: Lecture Grading Option: Letter

CTPR 459 Introduction to Media and Social Change
Units: 4 The history and theory of media and social change, including various disciplines and approaches: social marketing, communication campaign design, entertainment-education and specific media. Instruction Mode: Lecture Grading Option: Letter

CTPR 460 Film Business Procedures and Distribution
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSpSm Financing, budgeting, management as applied to films; problems of distribution, including merchandising, cataloging, evaluation, and film library management. Instruction Mode: Lecture Grading Option: Letter

CTPR 461 Managing Television Stations and Internet Media
Units: 2 Terms Offered: FaSpSm Managing electronic media, including radio and television stations, broadcast and cable networks, and the Internet. Instruction Mode: Lecture Grading Option: Letter

CTPR 462 Masters of Directorial Style
Units: 2 Max Units: 4 Terms Offered: FaSp The study of exceptional directors from different eras with contrasting stylistic approaches, and how these techniques can creatively inform the student's own work. Instruction Mode: Lecture Grading Option: Letter

CTPR 464 Directing the Television Sketch Comedy Show
Units: 2 Max Units: 4 Terms Offered: FaSp Concepts and skills in directing sketch comedy shows, using the techniques of live television. Hands-on experience on live weekly shows. *Recommended Preparation:* CTPR 371 or CTPR 476 or CTPR 484 or CTPR 523 or CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTPR 465 Practicum in Production Design
Units: 2 Terms Offered: FaSp Introduction to visual storytelling: designing the look of a film, building visual continuity into a film, study of the production designer's art and craft. *Prerequisite:* CTPR 310 or CTPR 456. Instruction Mode: Lecture Grading Option: Letter

CTPR 466 The Art of the Pitch
Units: 2 Terms Offered: FaSpSm Presenting ideas for feature and television projects to buyers: shaping ideas for pitching, assessing and targeting the marketplace, in-class pitching of projects. *Prerequisite:* CTPR 310. Instruction Mode: Lecture Grading Option: Letter

CTPR 469 Creating Webisodes
Units: 2 Max Units: 4 Terms Offered: FaSp Production of a fully realized pilot episode, series bible and sizzle reel for a web series. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 470 Practicum in On-screen Direction of Actors
Units: 4 Terms Offered: FaSp Concentration on the basic skills in working with actors from a director's point of view. Instruction Mode: Lecture Grading Option: Letter

CTPR 473 Spotting Music for Cinema
Units: 2 Terms Offered: FaSp A real world approach to spotting music for film: why film music exists and the many ways it is used in storytelling. For filmmakers as well as composers. Instruction Mode: Lecture Grading Option: Letter

CTPR 474 Documentary Production
Units: 4 Terms Offered: FaSpSm Pairs produce, direct, shoot, and edit a short documentary on a subject of their choice. Finished projects will be suitable for broadcast/festivals. Instruction Mode: Lecture Grading Option: Letter

CTPR 475 Directing: Mise-en-Scene
Units: 4 Terms Offered: FaSpSm Through a semester-long collaboration, directors and actors learn how to work and communicate with each other while shooting two scenes on camera per director. *Prerequisite:* CTPR 310, CTPR 376. Instruction Mode: Lecture Grading Option: Letter

CTPR 476 Directing The Comedic Scene
Units: 2 Terms Offered: FaSpSm Directing comedy: casting, rehearsing, directing actors, scene analysis, staging, shooting, and editing, leading to the filming of a two-person comic scene. Instruction Mode: Lecture Grading Option: Letter

CTPR 477 Special Problems in Directing
Units: 2 or 4 Terms Offered: FaSp Detailed investigation and analysis of problems in directing. Individual projects. *Prerequisite:* CTPR 476 or CTPR 478 or CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTPR 478 Practicum in Directing
Units: 2 Terms Offered: FaSp Concepts of directing for motion pictures, emphasizing the working relationship of actors and directors. Scenes will be staged in class and filmed for class presentation. *Prerequisite:* CTPR 310. Instruction Mode: Lecture Grading Option: Letter

CTPR 479 Single Camera Television Dramatic Pilot
Units: 2 Terms Offered: Fa Collaborative writing, preproduction and shooting of a pilot act for an original episodic television drama, shot on stage sets built for the show. Instruction Mode: Lecture Grading Option: Letter

CTPR 480 Advanced Production Workshop
Units: 4 Terms Offered: FaSpSm Directors, producers, cinematographers, editors and sound designers collaborate to produce, shoot, edit and deliver fictional, documentary or experimental projects. *Prerequisite:* CTPR 450 *Recommended Preparation:* CTPR 478 required to direct Registration Restriction: Open only to Film and Television Production majors Instruction Mode: Lecture Grading Option: Letter

CTPR 484 Advanced Multi-Camera Television Workshop
Units: 4 Max Units: 8.0 Terms Offered: FaSp Exercises and practical application for writing and producing a multi-camera television project. Special attention to the development of the sitcom. *Recommended Preparation:* CTPR 371 required for students who wish to direct a sitcom. Instruction Mode: Lecture Grading Option: Letter

CTPR 486 Single Camera Television Dramatic Series
Units: 4 Terms Offered: FaSpSm Collaborative production and postproduction of an original episodic drama, shot on original sets on stage and on location. *Prerequisite:* CTPR 376, CTPR 450, CTPR 504, or CTPR 507; *Recommended Preparation:* CTPR 479. Instruction Mode: Lecture Grading Option: Letter

CTPR 487 Recording for Film Scores
Units: 2 Terms Offered: FaSp Exploration of the role of the recording studio in professional film and video productions. Emphasis on technical and hardware considerations. Instruction Mode: Lecture Grading Option: Letter

CTPR 489 Television Docudrama Production
Units: 4 Research, planning, and production of the docudrama. Instruction Mode: Lecture Grading Option: Letter

CTPR 496 The Film Industry: Career Challenges and Choices for Women
Units: 2 Terms Offered: FaSp This class discusses women's roles in the entertainment industry and career opportunities available for women in the business, corporate and creative sectors. Instruction Mode: Lecture Grading Option: Letter

CTPR 497 Music Video Production
Units: 2 Terms Offered: FaSpSm Writing the concept, budgeting, shooting, editing and directing a music video. Also covered: getting the job, dealing with the band, working with the record company. *Prerequisite:* CTPR 310 or CTPR 508 Instruction Mode: Lecture Grading Option: Letter

CTPR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTPR 504 Fundamentals of Production
Units: 4 Terms Offered: FaSpSm Each student writes/directs a group exercise; includes: collaboration, script breakdown, story beats, casting, directing, camera operation, expressive cinematography, scene structure, AVID, editing and sound design. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTPR 506 Visual Expression
Units: 2 Terms Offered: FaSp Definition, analysis, and structure of the visual components that make film an expressive medium; theory and practical application; individual projects and lecture/demonstration. *Prerequisite:* CTAN 547 or CTIN 534 or CTPR 504 or CTPR 507. Instruction Mode: Lecture Grading Option: Letter

CTPR 507 Production I
Units: 4 Terms Offered: FaSpSm The effective communication of ideas through the language of cinema; one directing exercise; two short HD projects; introductions to producing, directing, editing, cinematography, and sound. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 508 Production II
Units: 6 Terms Offered: FaSpSm Practicum in group production, emphasizing the collaborative process and the expressive use of sound and image. *Prerequisite:* CTPR 507 and CTPR 510 and CTWR 505. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 510 Concepts of Cinematic Production
Units: 2 Terms Offered: FaSpSm Overview of the process of making media. Introduces fundamental thinking typical of each craft. Presents realities of careers and ethical issues in media. *Corequisite:* CTPR 507. Instruction Mode: Lecture Grading Option: Letter

CTPR 515 Global Exchange Workshop
Units: 2 Terms Offered: Sm An intense workshop in documentary filmmaking. Student teams from USC and a Chinese university make short documentaries on Los Angeles and Beijing as global cities. Instruction Mode: Lecture Grading Option: Letter

CTPR 522 Reality Television Survey
Units: 2 Terms Offered: FaSpSm A comprehensive overview of the world of reality television; each student will develop and pitch an original reality-based program. Instruction Mode: Lecture Grading Option: Letter

CTPR 523 Introduction to Multiple-Camera Production
Units: 2 Terms Offered: FaSp How to direct comedy or dramatic scenes, using multiple camera techniques. Students also serve as crew members, learning lighting, mixing, studio controls, and stage management. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 531 Planning the Documentary Production
Units: 2 Terms Offered: FaSpSm A preproduction workshop for the research and planning of a documentary project to be executed in CTPR 547 or an advanced production workshop class. *Prerequisite:* CTPR 508. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 532 Intermediate Directing
Units: 2 Terms Offered: FaSp Practical experience in staging dramatic narrative scenes,emphasizing directing actors, rehearsal techniques and camera blocking. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 533 Directing Techniques
Units: 2 Terms Offered: FaSp Practicum in more complex directing issues concentrating both on performance and exploration of shaping scenes visually through blocking of action and placement of camera. *Prerequisite:* CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTPR 534 Intermediate Production Design
Units: 2 Terms Offered: Irregular Exercises in production design concentrating on practical and aesthetic approaches to designing for film, television and commercials. *Prerequisite:* CTPR 508. Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 535 Intermediate Editing
Units: 2 Terms Offered: FaSp Editorial construction of film sequences to analyze the interrelationships of the various film elements, both visual and aural. *Prerequisite:* CTPR 508 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 536 Editing for Scriptwriters
Units: 2 Terms Offered: FaSp Principles, techniques, practices and theories of editorial construction of film and TV scenes and sequences. Duplicates Credit in former CTWR 536. Instruction Mode: Lecture Grading Option: Letter

CTPR 537 Intermediate Cinematography
Units: 2 Terms Offered: FaSp Close study through practical in class exercises of the technical and aesthetic principles of cinematography. Introduction to 16mm film and advanced digital cameras. *Prerequisite:* CTPR 508 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 538 Intermediate Producing
Units: 2 Terms Offered: FaSp Definition, examination and practical experience in the role of the line producer as it relates to preproduction, production and post production. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 539 Intermediate Graphics
Units: 2 Terms Offered: Irregular An investigation into the nature and meaning of graphic concepts relative to their use in film and video. *Prerequisite:* CTPR 508. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CTPR 540 Intermediate Sound

Units: 2 Terms Offered: FaSp Practical and aesthetic considerations relating to recording, editing and sound design. *Prerequisite:* CTPR 507 or CTAN 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 542 Intermediate Electronic Imaging
Units: 2 Terms Offered: Irregular Technical and creative aspects of electronic imaging such as high definition television, multi-media, and digital television. Emphasis on understanding potential and limitations of state-of-the-art technologies. *Prerequisite:* CTPR 508. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CTPR 543 Editing the Advanced Project
Units: 2 Terms Offered: Irregular Utilitarian seminar focused on editing advanced projects. *Corequisite:* CTPR 481a, CTPR 581a or CTPR 587a. Instruction Mode: Lecture Grading Option: Letter

CTPR 545 Intermediate Multi-Camera Television Workshop
Units: 4 Terms Offered: FaSp Practicum in the creative usage of multi-camera and single camera electronic production techniques. Students will complete an 8–12 minute video piece using three camera production procedures. Instruction Mode: Lecture Grading Option: Letter

CTPR 546L Production III, Fiction
Units: 6 Max Units: 12.0 Terms Offered: FaSp An intensive workshop experience in which students, crewing in their area of specialization, complete the shooting and postproduction of projects up to thirty minutes in length. Qualifying courses: for directors, CTPR 532, and for cinematographers, CTPR 537; *Prerequisite:* CTPR 508. Instruction Mode: Lab Required, Lecture Grading Option: Letter

CTPR 547L Production III, Documentary
Units: 6 Terms Offered: FaSp Intensive workshop; students shoot and finish documentary projects up to about 25 minutes. Qualifying courses: for directors, CTPR 531 and crewing on either CTPR 546L or CTPR 547; for cinematographers, CTPR 537. *Prerequisite:* CTPR 508 Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTPR 551 Directing in a Virtual World
Units: 2 Terms Offered: FaSp Telling cinematic stories using visual effects and virtual backgrounds, environments, and characters. Hands-on exercises emphasizing directing. *Prerequisite:* CTAN 462; *Recommended Preparation:* CTAN 555 or CTPR 532 or CTPR 537. Registration Restriction: Open only to Cinematic Arts students. Instruction Mode: Lecture Grading Option: Letter

CTPR 552 Advanced Directing
Units: 2 Terms Offered: FaSp An advanced production class in directing. Encounters with experienced directors; and individual student production of a short. *Prerequisite:* CTPR 532 *Recommended Preparation:* CTPR 533 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 553 Developing the Advanced Project
Units: 1 Terms Offered: FaSp Script workshop for advanced projects. Covers key screenplay elements, including protagonist and objective, conflict, obstacles, premise and opening, main tension, emotional throughline, etc. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 554 Advanced Sound
Units: 2 Terms Offered: FaSpSm Study of the technical and aesthetic elements of sound design at the professional level. Intended for those contemplating a career in the field of audio. *Prerequisite:* CTPR 540 or one of the following in equivalent crew position: CTPR 546L or CTPR 547L. Instruction Mode: Lecture, Lab Grading Option: Letter

CTPR 555 Advanced Production Design
Units: 2 The execution of a production designer's in-depth analysis and fully detailed breakdown of a feature-length script for story, character, sets, locations, set dressing, props, fabrics, color and texture. *Prerequisite:* CTPR 534 Instruction Mode: Lecture, Discussion Grading Option: Letter

CTPR 556 Advanced Editing
Units: 2 Terms Offered: FaSpSm Advanced editorial theory and practice intended for those specializing in film and electronic editing. *Prerequisite:* CTPR 535 or one of the following in equivalent crew position: CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: Letter

CTPR 557 Advanced Cinematography
Units: 2 Terms Offered: FaSpSm Advanced camera and lighting techniques for those considering a professional career in cinematography. *Prerequisite:* CTPR 424 or CTPR 537 Instruction Mode: Lecture Grading Option: Letter

CTPR 558 Advanced Producing
Units: 2 Terms Offered: FaSpSm Defines and examines the role of the Executive/ Feature Producer through the preproduction, production and post production phases. *Prerequisite:* CTPR 538 or one of the following in equivalent crew position: CTPR 486, CTPR 546, CTPR 547. Instruction Mode: Lecture Grading Option: Letter

CTPR 559 Advanced Graphics
Units: 2 Terms Offered: Irregular Advanced study in graphic film/video production including writing, graphic arts, camera, editing and sound. *Prerequisite:* CTPR 539. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CTPR 561 Publicity for Cinema and Television
Units: 4 Terms Offered: Sp Analysis and preparation of advertising and publicity campaigns for entertainment films and television. Instruction Mode: Lecture Grading Option: Letter

CTPR 562 Seminar in Motion Picture Business
Units: 2 or 4 Max Units: 8.0 Terms Offered: FaSp Problems of studio operation, production, distribution, exhibition, or legal procedures relating to the motion picture. Instruction Mode: Lecture Grading Option: Letter

CTPR 563 The Business of Representation
Units: 4 Terms Offered: FaSp Various roles an agent, manager, attorney or publicist play in representing talent, producers and writers. Taught by professionals who are at the forefront of the entertainment industry. Instruction Mode: Lecture Grading Option: Letter

CTPR 565 Making Media for Social Change
Units: 2 Terms Offered: FaSp Each student will produce and direct a film incorporating a social issue of his/her choice into the narrative of the film. *Prerequisite:* CTPR 310 or CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 566 Developing and Selling Your Film and TV Projects
Units: 2 Terms Offered: FaSp Developing, pitching, and selling your feature motion picture and TV projects. Instruction Mode: Lecture Grading Option: Letter

CTPR 568 Advanced Electronic Imaging
Units: 2 Terms Offered: Irregular Electronic imaging in high definition television, interactive multi-media, and computer animation. Emphasis on creative use of the technologies for new forms of expression and communication. *Prerequisite:* CTPR 542. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

CTPR 572 The World of Television: From Concept to Air and Everything in Between
Units: 2 Terms Offered: FaSp Takes projects from conception to sale, including development, production, post-production, and marketing. Students will develop original projects. *Prerequisite:* CTPR 508. Instruction Mode: Lecture Grading Option: Letter

CTPR 573 Producing the Advanced Project
Units: 1 Terms Offered: FaSp Basic skills of production planning as applied to students' advanced project scripts. Covers all steps from breakdown to delivery. *Prerequisite:* CTPR 508; *Recommended Preparation:* submission of script required. Instruction Mode: Lecture Grading Option: Letter

CTPR 575a Directing for Writers
Units: 2 Terms Offered: Fa Fundamentals of directing for film through emphasis on enhancing the writer's understanding of the director's process. Students shoot each other's scenes on a soundstage, edit and re-edit scenes for in-class presentation. Instruction Mode: Lecture Grading Option: Letter

CTPR 575b Directing for Writers
Units: 4 Terms Offered: Sp Concerns, domains and responsibilities of the film director. Students will complete a five- to twelve-minute film which they will write and direct incorporating class presentations of work in progress. Instruction Mode: Lecture Grading Option: Letter

CTPR 581a Individual Production Workshop
Units: 4 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Qualifying courses: CTPR

532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers), CTPR 535 (for editors) CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 581b Individual Production Workshop
Units: 2 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers), CTPR 535 (for editors) CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 581c Individual Production Workshop
Units: 2 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers), CTPR 535 (for editors) CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 581z Individual Production Workshop
Units: 0 Terms Offered: FaSpSm Individual experimental projects involving the creative use of visuals (live action or animated) and sound. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers), CTPR 535 (for editors) CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 582a Advanced Production Seminar
Units: 2 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); and CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 582b Advanced Production Seminar
Units: 2 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); and CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 582z Advanced Production Seminar
Units: 0 Terms Offered: FaSpSm Advanced individual film or video projects under the guidance of a faculty mentor, without benefit of university equipment or resources. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); and CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 583 Graduate Television Production
Units: 6 Terms Offered: FaSp Advanced television group production workshop for students who want to produce an advanced multi-camera project. *Prerequisite:* directing and producing positions: CTPR 532, CTPR 553, CTPR 573; for all positions: CTPR 523 or CTPR 546L or CTPR 547L in equivalent crew position. Instruction Mode: Lecture Grading Option: Letter

CTPR 585a Advanced Producing Project
Units: 2 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. *Prerequisite:* CTPR 486 or CTPR 546L or CTPR 547L ; and CTPR 538 *Corequisite:* CTPR 558 Registration Restriction: Open only to Film and Television Production majors Instruction Mode: Lecture Grading Option: In Progress/ Letter

CTPR 585b Advanced Producing Project
Units: 2 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. *Prerequisite:* CTPR 486 or CTPR 546 or CTPR 547; and CTPR 538. *Recommended Preparation:* CTPR 558. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 585z Advanced Producing Project
Units: 0 Terms Offered: FaSpSm Supervised, individual study leading to the creation of a producer's package. The package will include script, schedule, budget, finance and marketing plan. *Prerequisite:* CTPR 486 or CTPR 546 or CTPR 547; and CTPR 538. *Recommended Preparation:* CTPR 558. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 587a Group Production Workshop
Units: 4 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 587b Group Production Workshop
Units: 2 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 587c Group Production Workshop
Units: 2 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 587z Group Production Workshop
Units: 0 Terms Offered: FaSpSm Advanced group project involving the creative use of visuals (live action or animated) and sound specifically designed for students who want to work in pairs. Qualifying courses: CTPR 532 and CTPR 573 (for directors); CTPR 573 (for producers); CTPR 537 (for cinematographers); CTPR 535 (for editors); CTPR 546L or CTPR 547L as production sound person (for sound). *Prerequisite:* CTPR 546L or CTPR 547L. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTPR 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

CTPR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Curriculum, Teaching and Special Education

CTSE 593a Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature from the student's area of focus. Required of all master's candidates who do not enroll in the Master's Thesis (594abz). Instruction Mode: Lecture Grading Option: Credit/No Credit

CTSE 593b Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature from the student's area of focus. Required of all master's candidates who do not enroll in the Master's Thesis (594abz). Instruction Mode: Lecture Grading Option: Credit/No Credit

Writing

Note: Instructor availability for a particular course or section cannot be guaranteed.

CTWR 100g Story: Character, Conflict, and Catharsis
Units: 4 Terms Offered: Fa Fundamentals course on the elements of scene writing, story structure, and character development. Registration Restriction: Open only to students in Writing for Screen and Television Instruction Mode: Lecture, Discussion Grading Option: Letter

CTWR 105 Nonverbal Thinking: Visual and Aural
Units: 2 Terms Offered: Sp An introduction to non-verbal elements of images and sounds which convey meaning, mood, and emotion. Instruction Mode: Lecture Grading Option: Letter

CTWR 106a Screenwriting Fundamentals
Units: 4 Terms Offered: FaSp Introduction to and overview of the elements of theme, plot, character, and dialogue in dramatic writing for film. Instruction Mode: Lecture Grading Option: Letter

CTWR 106b Screenwriting Fundamentals
Units: 4 Terms Offered: FaSp Exercises in dramatic writing: theme, plot, character, dialogue and images. Integration of these elements into scenes and sequences. Instruction Mode: Lecture Grading Option: Letter

CTWR 120 Genesis of the Screenplay
Units: 2 Terms Offered: Sp The evolution of the screenplay from its roots in myths, plays, and short stories. Writing original treatments for film and television inspired by literary masters. Instruction Mode: Lecture Grading Option: Letter

CTWR 206a Writing the Screenplay
Units: 4 Terms Offered: Fa Development of synopsis and treatment for a theatrical or documentary screenplay: theme, plot, character, mise-en-scene and utilization of cinematic elements. Instruction Mode: Lecture Grading Option: Letter

CTWR 206b Writing the Screenplay
Units: 4 Terms Offered: Sp Writing a feature-length screenplay based on treatment developed in CTWR 206a. Includes a first draft and a polish. Instruction Mode: Lecture Grading Option: Letter

CTWR 211g The Television Writer: An Agent of Change
Units: 4 Terms Offered: FaSp The television writer as an agent of change across current social issues including, but not limited to: race, gender, and class. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

CTWR 212 Fundamental Topics of Writing for Film and TV
Units: 2, 4 Max Units: max 8 Terms Offered: FaSpSm Introductory course focusing on varying topics of fundamentals for feature writing and television writing. Instruction Mode: Lecture Grading Option: Letter

CTWR 213 Content and Consciousness
Units: 2 Terms Offered: Fa Inquiry into the relationship between cognitive and affective knowledge as it relates to the art of screenwriting and the screenwriter. Instruction Mode: Lecture Grading Option: Letter

CTWR 215 Practicum in Writing Short Films
Units: 2 Terms Offered: Sp Developing stories less than feature length; writing screenplays from them; understanding what length each story demands; creating idiosyncratic forms and styles. Instruction Mode: Lecture Grading Option: Letter

CTWR 250 Breaking the Story
Units: 2 Terms Offered: SpSm Examination of the fundamental elements of a good story, and how to use those elements to develop new screenplay ideas. *Recommended Preparation:* CTWR 106b. Instruction Mode: Lecture Grading Option: Letter

CTWR 305 Advanced Screenwriting: The Relationship Screenplay
Units: 4 Terms Offered: FaSpSm An inquiry into the complex nature of human relationships by writing an original feature length screenplay that examines the multidimensional world of characters and the ties that bind them together. Registration Restriction: Open only to Writing for Screen and Television majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 306 Advanced Screenwriting: Alternative Narrative
Units: 4 Terms Offered: Sp Develop and write an original feature-length screenplay utilizing a non-linear narrative story structure that examines the creative use of time, perspective, and point of view to enhance both character and story. *Prerequisite:* CTWR 305. Instruction Mode: Lecture Grading Option: Letter

CTWR 314 Writing To Be Performed
Units: 2 Terms Offered: Fa Understanding the elements of screen performance to enhance the writing of complex characters and human relationships. *Prerequisite:* CTWR 100. Registration Restriction: Open only to Writing for Screen and Television majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 315x Filmwriting
Units: 3 Terms Offered: FaSpSm The basics of screenwriting: theme, story structure, characterization, format, dialogue, and scene description. A character profile, short treatment, and first 30 pages of the screenplay are written. Lectures, screenings, and in-class readings. Instruction Mode: Lecture Grading Option: Letter

CTWR 321 Introduction to Hour-Long Television Writing
Units: 2 Terms Offered: FaSpSm The fundamentals of writing for dramatic episodic television. Writing scenes from popular television shows and examination of television story structure. *Prerequisite:* CTWR 100 or CTWR 402 or CTWR 412 or CTWR 413. Instruction Mode: Lecture Grading Option: Letter

CTWR 324 Introduction to Half-Hour Television Writing
Units: 2 The fundamentals of writing for comedic episodic television. Writing scenes from popular comedy series and examination of half-hour television comedy story structure. *Prerequisite:* CTWR 412 or CTWR 413 *Recommended Preparation:* CTWR 404 Instruction Mode: Lecture Grading Option: Letter

CTWR 401 Writing the First Draft Feature Screenplay
Units: 4 Max Units: 8.0 Terms Offered: Sm Writing an outline and the first draft of a feature-length screenplay. Emphasis on character interrelationships, conflict, and three-act structure. Instruction Mode: Lecture Grading Option: Letter

CTWR 402 Writing and Social Change
Units: 2 An introductory course in writing for the screen with an emphasis on social issues. Duplicates Credit in CTWR 412. Instruction Mode: Lecture Grading Option: Letter

CTWR 404 Foundations of Comedy
Units: 2 Study of comedy theory and practical applications in film, television, and social media. Lectures and screenings of comedic forms tracing past, present and future. Instruction Mode: Lecture Grading Option: Letter

CTWR 405 Storytelling for Virtual and Augmented Reality
Units: 2 Terms Offered: FaSpSm Storytelling for the 360-degree visual arena. Focus on immersive worlds, challenges of virtual and augmented reality, and active audience engagement. *Prerequisite:* CTAN 436 or CTAN 536 or CTWR 100g or CTWR 412 or CTWR 413 or CTWR 505 or CTWR 513 or CTWR 518 Instruction Mode: Lecture Grading Option: Letter

CTWR 407 Creating the Comedic Character
Units: 2 Utilization of various techniques for character to emerge naturally in scene and stories. Creating multiple comedic characters to generate future stories. *Recommended Preparation:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 410L Character Development and Storytelling for Games
Units: 4 Terms Offered: Fa An exploration of characters and story worlds as they relate to gaming with an emphasis on emotionally rich environments in interactive entertainment.

Recommended Preparation: CTIN 488. Instruction Mode: Lecture, Lab Required Grading Option: Letter

CTWR 411 Television Script Analysis
Units: 2 Terms Offered: Sp In-depth analysis of the craft of writing prime-time episodic television. Examination of situation comedies and dramas through weekly screenings and lectures. Instruction Mode: Lecture Grading Option: Letter

CTWR 412 Introduction to Screenwriting
Units: 2 Introduction to the formal elements of writing the short film. Instruction Mode: Lecture Grading Option: Letter

CTWR 413 Writing the Short Script I
Units: 2 Preparation of scripts for short films: form, structure, planning. Registration Restriction: Open only to Cinematic Arts Film and Television production majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 414 The Screenplay
Units: 2 Students study story structure and develop several story outlines, write a short script for possible production, a feature film outline and first act. *Prerequisite:* CTWR 413; *Recommended Preparation:* CTWR 416. Registration Restriction: Open only to Cinematic Arts Film and Television Production majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 415a Advanced Writing
Units: 2 Principles of the feature film; creating theme, character and structure that combine into a feature-length story treatment. *Prerequisite:* CTWR 412 or CTWR 413; *Recommended Preparation:* CTWR 416. Instruction Mode: Lecture Grading Option: Letter

CTWR 415b Advanced Writing
Units: 2 Creation of script with extensive work-shopping of scenes in class leading to a first draft and revision as a final assignment. Instruction Mode: Lecture Grading Option: Letter

CTWR 416 Motion Picture Script Analysis
Units: 2 Critical analysis of story structure from classic films to contemporary works. Identification of key story concepts and elements of three-act structure. Instruction Mode: Lecture Grading Option: Letter

CTWR 417 Script Coverage and Story Analysis
Units: 2 Terms Offered: FaSp Evaluation of completed scripts prior to their production. Coverage and analysis of scripts as potential properties from the perspective of a production company. Instruction Mode: Lecture Grading Option: Letter

CTWR 418a Senior Thesis
Units: 4 Terms Offered: Fa Creation of feature-length treatment and first draft senior thesis screenplay, including "pitching" experiences. Instruction Mode: Lecture Grading Option: Letter

CTWR 418b Senior Thesis
Units: 4 Terms Offered: Sp Completion and revision of senior thesis project and introduction to motion picture industry procedures and practices through interaction with industry representatives. *Prerequisite:* CTWR 305. Instruction Mode: Lecture Grading Option: Letter

CTWR 419a Senior Thesis in Dramatic Television
Units: 4 Terms Offered: Fa Advanced workshop developing an original hour-long dramatic series including characters, world, and story lines for season one. Final assignment is completed hour-long pilot episode. *Prerequisite:* CTWR 305 and CTWR 421; *Recommended Preparation:* CTWR 411. Instruction Mode: Lecture Grading Option: Letter

CTWR 419b Senior Thesis in Dramatic Television
Units: 4 Terms Offered: Sp Revision of original pilot script, writing of mid-season episode, and completion of bible for original dramatic series developed in first semester. Instruction Mode: Lecture Grading Option: Letter

CTWR 420a Senior Thesis in Half-Hour Television Comedy
Units: 4 Intense study in developing an original half-hour television comedy pilot including special attention to development of multiple seasons and character evolution. *Prerequisite:* CTWR 437 or CTWR 439. *Recommended Preparation:* CTWR 404. Registration Restriction: Open only to Writing for Television and Screen majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 420b Senior Thesis in Half-Hour Television Comedy
Units: 4 Rewrite, casting, and stage performance of the comedy development process. A rewrite of the final draft and completion of the series bible with multiple seasons. *Prerequisite:* CTWR 420a. Registration Restriction: Open only to Writing for Television and Screen majors. Instruction Mode: Lecture Grading Option: Letter

CTWR 421 Writing the Hour-Long Dramatic Series
Units: 2 Max Units: 4 Writing an episode of an existing dramatic television series within the hour-long format with an emphasis on conception, pitching, characterization and structure. *Prerequisite:* CTWR 321 or CTWR 324 or CTWR 514a or CTWR 529 *Recommended Preparation:* CTWR 411 Instruction Mode: Lecture Grading Option: Letter

CTWR 422 Creating the Dramatic Television Series
Units: 2 Max Units: 4.0 Terms Offered: FaSm Examination and creation of the world, characters, and concept for an original hour-long dramatic series. Writing an outline for an original dramatic pilot. Instruction Mode: Lecture Grading Option: Letter

CTWR 430 The Writer in American Cinema and Television
Units: 2 Terms Offered: FaSp American and international writers in cinema; screenwriting; political and economic aspects of the writer in the motion picture industry. Lectures, guest speakers, screenings. Instruction Mode: Lecture Grading Option: Letter

CTWR 431 Screenwriters and Their Work
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Detailed investigation of a specific screenwriter's style and the works they've influenced. Lectures include screenings and visiting screenwriters. Instruction Mode: Lecture Grading Option: Letter

CTWR 432 Television Writers and Their Work
Units: 2 Max Units: 6.0 Detailed investigation of various television writers' styles, the worlds they have created, and the works they've influenced. Lectures include screenings and visiting television writers. Instruction Mode: Lecture Grading Option: Letter

CTWR 433 Adaptations: Transferring Existing Work to the Screen
Units: 2 Terms Offered: Fa An examination of motion picture adaptations; problems attendant upon translating a novel, play, or other creative forms into screenplays. *Prerequisite:* CTWR 206b or CTWR 414 or CTWR 514a or CTWR 529. Instruction Mode: Lecture Grading Option: Letter

CTWR 434 Writing the Half-Hour Comedy Series
Units: 2 Max Units: 6 Writing an episode of an existing half-hour comedy series, with emphasis on the anatomy of a joke, comedic structure, and character. *Prerequisite:* CTWR 321 or CTWR 324 or CTWR 529 *Recommended Preparation:* CTWR 404 Instruction Mode: Lecture Grading Option: Letter

CTWR 435 Writing for Film and Television Genres
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSp Preparation of proposals and scripts for different types of film or television programming: emphasis on conception, structure, characterization and format. *Prerequisite:* CTWR 206b or CTWR 415b *Recommended Preparation:* CTWR 416 Instruction Mode: Lecture Grading Option: Letter

CTWR 437 Writing the Original Situation Comedy Pilot
Units: 4 Max Units: 8 Advanced workshop for writing an original half-hour comedy series, including a pilot script, summary of characters, and story lines for first season. *Prerequisite:* CTWR 421 or CTWR 434 *Recommended Preparation:* CTWR 411 Instruction Mode: Lecture Grading Option: Letter

CTWR 438 Linked Narrative Storytelling for the Web
Units: 2, 4 Max Units: max 8 Terms Offered: FaSp Create, develop, and execute episodic video content for the web. Focus on content and characters that are viable in the internet landscape. *Prerequisite:* CTWR 206b or CTWR 414 or CTWR 514b or CTWR 529 Instruction Mode: Lecture Grading Option: Letter

CTWR 439 Writing the Original Dramatic Series Pilot
Units: 4 Max Units: 8 Terms Offered: FaSp

An advanced workshop in which students create an original dramatic series, including a first script and a summary of characters and storylines. *Prerequisite:* CTWR 421 or CTWR 434. Instruction Mode: Lecture Grading Option: Letter

CTWR 441 Writing Workshop in Creativity and Imagination
Units: 2 Terms Offered: FaSp Students will explore a variety of problem solving techniques to strengthen their creative work and apply these techniques to individual writing projects. Instruction Mode: Lecture Grading Option: Letter

CTWR 449 Rewriting the Original Dramatic Series Pilot
Units: 4 Max Units: 8.0 An advanced workshop in which an original hour-long television pilot will be rewritten with emphasis on character, world creation and future story lines. *Prerequisite:* CTWR 439; *Recommended Preparation:* CTWR 411. Instruction Mode: Lecture Grading Option: Letter

CTWR 453 Advanced Feature Rewriting
Units: 4 Max Units: max 8 Terms Offered: FaSpSm An advanced workshop in which a feature length screenplay will be rewritten using a specific methodology that focuses on a macro to micro approach to revision. *Prerequisite:* CTWR 305 or CTWR 415b Instruction Mode: Lecture Grading Option: Letter

CTWR 459a Entertainment Industry Seminar
Units: 2 Terms Offered: Fa Examination and analysis of various topics, issues and resources pertaining to creative, legal and business perspectives for writers in the entertainment industry. *Prerequisite:* CTWR 459a for CTWR 459b. Instruction Mode: Lecture Grading Option: Letter

CTWR 459b Entertainment Industry Seminar
Units: 2 Terms Offered: Sp Examination and analysis of various topics, issues and resources pertaining to creative, legal and business perspectives for writers in the entertainment industry. *Prerequisite:* CTWR 459a for CTWR 459b. Instruction Mode: Lecture Grading Option: Letter

CTWR 468 Screenwriting in Collaboration
Units: 4 Max Units: 8.0 Terms Offered: Sp Writing an original screenplay or pilot collaboratively with a partner, with special attention paid to the writing team dynamic and the 'third' writer's voice. *Prerequisite:* CTWR 305 or CTWR 415b or CTWR 514b or CTWR 533a; *Recommended Preparation:* CTWR 416 or CTWR 516. Instruction Mode: Lecture Grading Option: Letter

CTWR 477 Staff Writing the Sketch Comedy Show
Units: 2 Max Units: 6.0 Terms Offered: Sp Staff writing a sketch comedy show with emphasis on creating comedic characters, political humor, monologue writing, and joke construction. A live show will be produced. *Prerequisite:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 487 Staff Writing the Multi-Camera Television Series
Units: 4 Max Units: 8.0 Terms Offered: Fa Working on the writing staff of an original multi-camera television series, with emphasis on the writers' room experience and how to executive produce an episode. *Prerequisite:* CTWR 434. Instruction Mode: Lecture Grading Option: Letter

CTWR 497 Staff Writing the Single-Camera Half-Hour Series
Units: 4 Max Units: 8.0 Terms Offered: Fa Working on the writing staff for an original single-camera half-hour television series, with emphasis on the writers' room experience and challenges of single-camera half-hour television. *Prerequisite:* CTWR 434 or CTWR 534; *Recommended Preparation:* CTWR 404. Instruction Mode: Lecture Grading Option: Letter

CTWR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Detailed investigation of new or emerging aspects of cinema and/or television; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

CTWR 502 Graduate Writing Symposium
Units: 1 Terms Offered: Sp A survey of the creative and professional range of the working screenwriter. *Recommended Preparation:* CNTV 501. Instruction Mode: Lecture Grading Option: Credit/No Credit

CTWR 505 Creating the Short Film
Units: 2 Terms Offered: FaSp Strengthening and deepening the ability to conceive and develop ideas that will lead to compelling, authentic, and personally meaningful films. *Concurrent Enrollment:* Concurrent enrollment: CTPR 507, CTPR 510. Duplicates Credit in CTWR 528. Instruction Mode: Lecture Grading Option: Letter

CTWR 509 Understanding the Process of Film Making
Units: 2 Terms Offered: Sp An introduction for screenwriters to the process of creating a feature film, from script through release print, including pre-production, production and post-production. Instruction Mode: Lecture Grading Option: Letter

CTWR 513 Writing the Short Script
Units: 2 Terms Offered: Fa Preparation of scripts for short films; dramatic, informational, experimental, and other forms. *Concurrent Enrollment:* Concurrent enrollment: CTWR 514a. Instruction Mode: Lecture Grading Option: Letter

CTWR 514a Basic Dramatic Screenwriting
Units: 2 Terms Offered: Fa Dramaturgy for the fiction and nonfiction work. Techniques for creating the original or adapted theatrical script. Open to graduate screenwriting majors (CTWR) and dramatic writing (Theatre) majors only. Emphasizes narrative development, through short scripts, sequences, and story outlines. *Concurrent Enrollment:* Concurrent enrollment: CTWR 513. Instruction Mode: Lecture Grading Option: Letter

CTWR 514b Basic Dramatic Screenwriting
Units: 2 Terms Offered: Sp Dramaturgy for the fiction and nonfiction work. Techniques for creating the original or adapted theatrical script. Open to graduate screenwriting majors (CTWR) and dramatic writing (Theatre) majors only. Development of an outline and feature length, original script. Instruction Mode: Lecture Grading Option: Letter

CTWR 515a Practicum in Screenwriting
Units: 4 Terms Offered: FaSp Creation of a feature screenplay from presentation through treatment, including some scene work. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: Letter

CTWR 515b Practicum in Screenwriting
Units: 4 Terms Offered: FaSp Comprehensive rewriting of a second and third draft of a feature screenplay leading to a polished and professional piece. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTWR 515c Practicum in Screenwriting
Units: 1 Terms Offered: FaSp Supervised rewrite of feature screenplay. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

CTWR 515d Practicum in Screenwriting
Units: 1 Terms Offered: FaSp Supervised rewrite of feature screenplay. *Prerequisite:* CTWR 514a; CTWR 515a for CTWR 515b; CTWR 515b for CTWR 515c; CTWR 515c for CTWR 515d. Instruction Mode: Lecture Grading Option: Letter

CTWR 516 Advanced Motion Picture Script Analysis
Units: 2 Terms Offered: FaSp Critical analysis of the structure of films from the classics to current award winners. Students will learn how to identify key story concepts and break down three act structure in finished films and scripts. Instruction Mode: Lecture Grading Option: Letter

CTWR 517a Thesis in Half-Hour Television Comedy
Units: 4 Terms Offered: Fa Developing an original half-hour comedy television series, including characters, world and storylines for season one. Completion of a first draft script, polish, and series bible. *Prerequisite:* CTWR 514b; *Corequisite:* CTWR 534. Registration Restriction: Open only to Writing for Screen and Television master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 517b Thesis in Half-Hour Television Comedy
Units: 4 Terms Offered: Fa Developing an original half-hour comedy television series, including characters, world and storylines for season one. Completion of a first draft script, polish, and series bible. The re-write, casting, and performance stages of television comedy development. The completion of a

final draft of the pilot script and series bible. *Prerequisite:* CTWR 514b; *Corequisite:* CTWR 534. Registration Restriction: Open only to Writing for Screen and Televisions master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 518 Introduction to Interactive Writing
Units: 2 Terms Offered: Sp A series of exercises written and discussed for interactive experiences. Instruction Mode: Lecture Grading Option: Letter

CTWR 519a Thesis in Television Drama
Units: 4 Terms Offered: FaSpSm Part A — writing the pilot — is an intensive workshop in which master's students develop an original television 1-hour series including characters, world and storylines for season one. Final assignment is the finished pilot episode of the series. *Prerequisite:* CTWR 514b. *Corequisite:* CTWR 521. Registration Restriction: Open only to Writing for Screen and Television master students. Instruction Mode: Lecture Grading Option: Letter

CTWR 520 Advanced Scene Writing Workshop
Units: 2 Terms Offered: SpSm Intensive workshop oriented specifically to writing and rewriting the most effective and telling dramatic scenes to heighten audience participation and greater story impact. *Prerequisite:* CTWR 514b or CTWR 533a. Instruction Mode: Lecture Grading Option: Letter

CTWR 521 Advanced Hour-Long Television Drama
Units: 2 Max Units: 4.0 Terms Offered: Fa Writing the first draft and revision of an episode of an existing dramatic television series. *Corequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and in Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 522 Advanced Hour-Long Television Development
Units: 2 Terms Offered: FaSp Investigation of development process for hour-long television, addressing issues of character, world, story, and concept. Vetting of multiple series ideas for viability. *Prerequisite:* CTWR 514a or CTWR 529. Instruction Mode: Lecture Grading Option: Letter

CTWR 523 Introduction to the Screenplay
Units: 4 Introduction to formal elements of the screenplay through lectures and the workshopping of a complete first draft of a feature-length script. *Prerequisite:* CTAN 536 or CTWR 505 or CTWR 518; *Recommended Preparation:* CTWR 516. Instruction Mode: Lecture Grading Option: Letter

CTWR 526 Advanced Storytelling for Interactive Media
Units: 2 Advanced writing workshop addressing issues specific to interactive storytelling regarding construction of narrative and character as seen in games and other forms of interactive media. *Prerequisite:* CTWR 518. Instruction Mode: Lecture Grading Option: Letter

CTWR 528 Screenwriting Fundamentals
Units: 2 Terms Offered: FaSp Introduction to the principles of screenwriting with special emphasis on story, characterization and dramatization. Instruction Mode: Lecture Grading Option: Letter

CTWR 529 Intermediate Screenwriting
Units: 2 Terms Offered: FaSp Emphasizes structural elements crucial to the feature film. Techniques for creating an original and adapted theatrical-length script. *Prerequisite:* CTPR 507 and CTWR 505. Instruction Mode: Lecture Grading Option: Letter

CTWR 533a Writing the Feature Script
Units: 4 Terms Offered: FaSp Advanced screenwriting workshop. Development of characters and story to complete a treatment and first draft of a feature length script. *Prerequisite:* CTWR 529 *Corequisite:* CTWR 516 Registration Restriction: Open only to masters students in Cinematic Arts, Film and Television Production Instruction Mode: Lecture Grading Option: Letter

CTWR 533b Writing the Feature Script
Units: 4 Terms Offered: FaSp Advanced screenwriting workshop. Rewriting the first draft into a second draft through advanced work-shopping of script. A third draft polish is the final assignment. *Prerequisite:* CTWR 533a. Instruction Mode: Lecture Grading Option: Letter

CTWR 534 Advanced Half-Hour Television Comedy
Units: 2 Max Units: 4.0 Terms Offered: Fa Advanced workshop in writing the first draft and revision of an episode of an existing comedic television series. The comedy writing room will be emphasized. *Corequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and in Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 537 Advanced Half-Hour Comedy Series Pilot
Units: 4 Max Units: 8.0 Development of an original half-hour comedy series; writing of the pilot episode and series bible. *Prerequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 539 Advanced Hour-Long Drama Series Pilot
Units: 4 Max Units: 8.0 Development of an original one hour drama series; writing of the pilot episode and series bible. *Prerequisite:* CTWR 514a. Registration Restriction: Open only to master students in Theatre (Dramatic Writing) and Writing for Screen and Television. Instruction Mode: Lecture Grading Option: Letter

CTWR 541 Dreams, the Brain, and Storytelling
Units: 2 Terms Offered: FaSpSm Examination of the links between the brain, creativity, neuroscience and storytelling. Through lectures, screenings, and readings, students will log dreams for use in creative exercises. Instruction Mode: Lecture Grading Option: Letter

CTWR 543 The Character-Driven Screenplay
Units: 4 Terms Offered: FaSp Advanced screenwriting wherein a first draft of a feature-length script will be developed and written with an emphasis on character as story engine. *Prerequisite:* CTWR 533b; *Recommended Preparation:* CTWR 516. Registration Restriction: Open only to master students in Cinematic Arts Film and Television Production (CAPR). Instruction Mode: Lecture Grading Option: Letter

CTWR 549 Advanced Rewriting Workshop in Hour-Long Drama
Units: 4 Max Units: max 8 Advanced television writing, emphasizing the rewrite of a first draft pilot script and series bible for an hour-long television series. *Prerequisite:* CTWR 539 Instruction Mode: Lecture Grading Option: Letter

CTWR 550 Advanced Story Development
Units: 2 Terms Offered: FaSp Advanced development of the story creation process by examining the core elements of a good story. Compiling a portfolio of story ideas. *Prerequisite:* CTWR 514a or CTWR 529. Instruction Mode: Lecture Grading Option: Letter

CTWR 553 Advanced Rewriting Workshop
Units: 4 Max Units: max 8 Terms Offered: FaSp Advanced feature screenwriting, emphasizing the rewrite of a first draft script. *Prerequisite:* CTWR 514b or CTWR 533b Instruction Mode: Lecture Grading Option: Letter

CTWR 555 Pitching for Film and Television
Units: 2 Terms Offered: FaSp Development and pitching of ideas for motion pictures, episodic and television pilots. Reducing ideas to basic components enhancing verbal presentation skills. *Prerequisite:* CTWR 305 or CTWR 415b or CTWR 514b or CTWR 533b. Instruction Mode: Lecture Grading Option: Letter

CTWR 557 Seminar in the Business of Writing and Producing Television
Units: 2 Terms Offered: Sm Examination of the role of the television writer in production through lectures, readings, and practical experiences on set. *Prerequisite:* CTWR 537 or CTWR 539. Instruction Mode: Lecture Grading Option: Letter

CTWR 559 The Business of Writing for Screen and Television
Units: 2 Terms Offered: FaSp Examination and in-depth analysis of the studio system, the television development process, literary representation, new emerging markets, and the Writers Guild of America. *Prerequisite:* CTWR 514b. Instruction Mode: Lecture Grading Option: Letter

CTWR 560 Advanced Business Practices for Writers
Units: 2 Advanced seminar and analysis of the current state of the film and television markets as it relates to writers. Weekly industry guests and current trends.

Prerequisite: CTWR 559. Instruction Mode: Lecture Grading Option: Letter

CTWR 572 Practicum in Directing Actors for Film
Units: 2 or 4 Terms Offered: FaSp Seminar in directing actors for film; emphasis on demonstration and laboratory exercises, script analysis, and detailed study in character motivations. Instruction Mode: Lecture Grading Option: Letter

CTWR 574 Advanced Seminar in Directing Actors for Film
Units: 2 Terms Offered: FaSp Emphasis on detailed script analysis and character motivation. Individual projects. *Prerequisite:* CTWR 572, CTCS 673 or CTPR 532. Instruction Mode: Lecture Grading Option: Letter

CTWR 585 Advanced Genre Writing
Units: 2 or 4 Max Units: 8.0 Development and execution of writing in various genres of film, television, or new media scripts. *Prerequisite:* CTWR 514b. Instruction Mode: Lecture Grading Option: Letter

CTWR 587 Advanced Television Staff Writing
Units: 4 Max Units: max 8 An advanced workshop course in the development and writing of a television series as a writing staff including the production of episodes. *Prerequisite:* CTWR 521 or CTWR 534 *Recommended Preparation:* CTWR 537 or CTWR 539 Instruction Mode: Lecture Grading Option: Letter

CTWR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Detailed investigation of new or emerging aspects of cinema; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

Clinical and Experimental Therapeutics

CXPT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

CXPT 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Master's thesis. *Recommended Preparation:* Completion of all required course work for MS degree Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of master's thesis. *Prerequisite:* CXPT 594a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Masters thesis. *Prerequisite:* CXPT 594b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 609 Preclinical Experimental Drug Therapeutic Development
Units: 4 Terms Offered: Sp Evolution of a chemical entity as it is transformed into a drug candidate. Open only to students in clinical and experimental therapeutics and management of drug development. Registration Restriction: Open only to students in Clinical and Experimental Therapeutics and Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

CXPT 664 Clinical Problem Solving
Units: 3 Terms Offered: Sp (Enroll in PHRD 664)

CXPT 790 Research
Units: 1 Max Units: 12 Terms Offered: FaSpSm Research-based course for students enrolled in the CXPT PhD program who are preparing for their written and oral qualifying examination. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794c Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

CXPT 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Independent research course for students enrolled in the CXPT PhD program who have passed their written and oral qualifying examination and advanced to PhD candidacy. *Prerequisite:* CXPT 794d Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Dance

DANC 101 Colloquium: What is the Medium of Dance Today?
Units: 1 Max Units: 2.0 Terms Offered: FaSpSm Topics related to dance techniques, repertory and varied art forms. Aimed at the interdisciplinary expansion of dance literacy and connections to allied art forms. Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 103 Conditioning for Dancers
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Designed for the specific needs of the dancer in preparation for professional training, combining somatic work with the foundation of scientific principles. Instruction Mode: Lecture Grading Option: Letter

DANC 105 Dance Science: Analysis of Dance Movement
Units: 4 Max Units: 08 Terms Offered: FaSpSm A broad overview of the scientific principles of exercise physiology, functional anatomy, kinesiology, and bio-mechanics with applications to dance. *Prerequisite:* DANC 103 Instruction Mode: Lecture Grading Option: Letter

DANC 107 World Perspective on Dance Performance
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm The practice and aesthetics of international dance styles through lecture and participant-driven interaction. Instruction Mode: Lecture Grading Option: Letter

DANC 110 Dance Technique I
Units: 3 Max Units: 12 Terms Offered: FaSpSm Fundamental technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. Placement audition required. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 120 Repertory and Performance I
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of traditional and contemporary choreographic repertory. Emphasis in choreographic intention, stylistic approaches and performance technique. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 130 Improvisation and Composition I: Introduction
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to improvisational and composition skills that start to prepare students for the creative processes of dancing, dancemaking and performance. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 131 Improvisation and Composition II: Introduction
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued investigation and introduction to improvisational and compositional skills in preparation for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 130 Registration Restriction: Open only to dance

majors. Instruction Mode: Lecture Grading Option: Letter

DANC 170 Choreography and Performance
Units: 2 Max Units: 08 Terms Offered: FaSpSm Compositional methods and approaches to developing choreographic ideas; integration of improvisational techniques as a means to generate movement ideas and expand movement vocabulary, edit choreographic material, and evaluate and execute choreography and performance. Duplicates Credit in former DANC 385 and former THTR 385 Instruction Mode: Lecture Grading Option: Letter

DANC 175 Choreography for the Screen
Units: 2 Max Units: 04 Terms Offered: FaSpSm Creative choreography of theatrical dance for the screen. Emphasis on rhythmic analysis, versatility, composition, notation techniques, and stylizing. Duplicates Credit in former DANC 482 and former THTR 482 Instruction Mode: Lecture Grading Option: Letter

DANC 181a Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to methods developed from modern and post-modern dance techniques, including the study of the rebellious, individualistic, and democratic nature of dance in the 20th and 21st centuries. Duplicates Credit in former THTR 181a Instruction Mode: Lecture Grading Option: Letter

DANC 181b Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study in the fusion of modern, post-modern dance and classical ballet techniques encompassing the study of the democratic nature of dance and choreographic composition in the 20th and 21st centuries. *Prerequisite:* DANC 181a Duplicates Credit in former THTR 181b Instruction Mode: Lecture Grading Option: Letter

DANC 181c Contemporary Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An advanced exploration of modern, post-modern dance and classical ballet techniques encompassing the study of the democratic nature of dance, improvisation and choreographic composition in the 20th and 21st centuries. *Prerequisite:* DANC 181b Duplicates Credit in former DANC 182a Instruction Mode: Lecture Grading Option: Letter

DANC 183a Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to Classical Ballet technique with beginning-level barre and center work, focusing on correct body alignment and musicality. Development of a basic knowledge of ballet history and terminology. Duplicates Credit in former THTR 183a Instruction Mode: Lecture Grading Option: Letter

DANC 183b Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Classical Ballet technique with intermediate-level barre and center work, focusing on developing greater clarity, coordination, musicality, and knowledge of ballet history and terminology. *Prerequisite:* DANC 183a Duplicates Credit in former THTR 183b Instruction Mode: Lecture Grading Option: Letter

DANC 183c Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Advanced study of Classical Ballet technique with emphasis on clarity, precision, musicality, movement quality, and artistic expression. Introduction of beats, tours, advanced adagio and allegro combinations, and pointe work. *Prerequisite:* DANC 183b Duplicates Credit in former THTR 183c Instruction Mode: Lecture Grading Option: Letter

DANC 183d Ballet
Units: 2 Max Units: 04 Terms Offered: FaSpSm Elementary to intermediate-level pointe technique for women and men, including strengthening exercises, barre and center work, and variations from classical and contemporary ballets. *Prerequisite:* DANC 183c Duplicates Credit in former THTR 183d Instruction Mode: Lecture Grading Option: Letter

DANC 184a Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to Jazz Dance technique, focusing on African and Latin based diaspora dances with European influences, improvisation, and strength/stretching series. Duplicates Credit in former THTR 184a Instruction Mode: Lecture Grading Option: Letter

DANC 184b Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Jazz Dance technique at the intermediate level, focusing on African and Latin based diaspora dances with European influences, improvisation, center work, performance techniques, and strength/stretching series. *Prerequisite:* DANC 184a Duplicates Credit in former THTR 184b Instruction Mode: Lecture Grading Option: Letter

DANC 184c Jazz Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Advanced study of Jazz Dance technique, focusing on Broadway, commercial, and concert Jazz Dance, with a continued emphasis on improvisation, center work, and performance techniques. *Prerequisite:* DANC 184b Duplicates Credit in former THTR 184c Instruction Mode: Lecture Grading Option: Letter

DANC 185a Hip Hop Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to elements of Hip Hop Dance, including technique, movement, musical rhythm, tempo, and phrasing, as well as the historical context required to develop the skills needed to practice and perform this popular dance form. Duplicates Credit in former THTR 185 and former DANC 185 Instruction Mode: Lecture Grading Option: Letter

DANC 185b Hip Hop Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Hip Hop Dance elements on an intermediate level, augmenting the historical context, technique, fluidity, and musicality required to execute the form with greater movement acuity. *Prerequisite:* DANC 185a Instruction Mode: Lecture Grading Option: Letter

DANC 186 Afro Cuban Dance
Units: 2 Max Units: 4 Terms Offered: FaSpSm An introduction to Afro Cuban Dance techniques, basic drum rhythms, and musicality, with an understanding of cultural practices and vocalizations. Afro Cuban Dance examines the traditions related to specific ethnic groups in Latin Europe and West Africa, and the influences of Rumba and Salsa Dance on the form. Instruction Mode: Lecture Grading Option: Letter

DANC 187 Bollywood Dance
Units: 2 Max Units: 4 Terms Offered: FaSpSm An introduction to basic and intermediate Bollywood Dance, including technique, movement, musical rhythm, phrases, and choreography. Inspired by the high energy music from Indian films, Bollywood is a fusion form that combines traditional Indian folk and classical dances with Hip Hop, Jazz, Latin, and Middle-eastern dance. Instruction Mode: Lecture Grading Option: Letter

DANC 188a International Style Ballroom Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Introduction to International Standard, International Latin, and American Style ballroom dances. Designed to introduce students to the fundamentals of ballroom dance, emphasizing partner connection, communication, and creativity, with the practical application of dance within a social setting. Duplicates Credit in former THTR 188a Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 188b International Style Ballroom Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study in International Standard, International Latin, and American Style ballroom dances. Designed for advanced knowledge in ballroom styles, emphasizing rhythmic sequences, partnering techniques, complex patterns, and performance quality. *Prerequisite:* DANC 188a Duplicates Credit in former THTR 188b Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 189a Tap Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm An introduction to basic Tap Dance technique, rhythms, syncopation, and musicality, developing into complex steps and elementary dances with progressive understanding of weight change, improvisation, and combinations of sound. Duplicates Credit in former THTR 189a Instruction Mode: Lecture Grading Option: Letter

DANC 189b Tap Dance
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued study of Tap Dance technique, focusing on more complex rhythmic patterns and combinations and introducing advanced steps and

combinations, all with continued emphasis on improvisation and musicality. *Prerequisite:* DANC 189a Duplicates Credit in former THTR 189b Instruction Mode: Lecture Grading Option: Letter

DANC 201 Colloquium: History of Performance and Cultural Context
Units: 1 Max Units: 02 Terms Offered: FaSpSm Study of the historical and cultural context of selected dance techniques. Guest lectures and student presentations will inform class discussions. *Prerequisite:* DANC 101 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 210 Dance Technique II
Units: 3 Max Units: 12 Terms Offered: FaSpSm Intermediate technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 110 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 212g Dance in Popular Culture
Units: 4 Terms Offered: FaSpSm Examination of the role of dance in popular culture in a studio setting. Practical studies in styles and their evolution in recreational and professional settings. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 218 Introduction to Dance for the Camera: New Media and Editing
Units: 2 Max Units: 04 Terms Offered: FaSpSm Effective navigation and utilization of ubiquitous, portable digital technologies in film to create an individualized archive and portfolio of their choreographic projects and performances. Instruction Mode: Lecture Grading Option: Letter

DANC 220 Repertory and Performance II
Units: 2 Max Units: 04 Terms Offered: FaSpSm Continued studies and guided practice of choreographic repertory. Investigation of choreographic vocabulary, intention, stylistic approaches, and performance technique for group work. *Prerequisite:* DANC 120 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 230 Improvisation and Composition III: Intermediate
Units: 2 Max Units: 04 Terms Offered: FaSpSm Expansion of improvisation and composition skills for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 131 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 231 Improvisation and Composition IV: Intermediate
Units: 2 Max Units: 04 Terms Offered: FaSpSm Further development of improvisation and composition skills for the creative processes of dancing, dance-making and performance. *Prerequisite:* DANC 230 Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 280g Introduction to Dance as an Art Form
Units: 4 Terms Offered: FaSpSm Gateway to the minor in dance. An interdisciplinary overview of dance relating to the aesthetic and art in various subjects. Applications of the elements of dance studies, art criticism, and viewing productions to explore topic such as architecture, photography, poetry, technology, cinematic arts, sports, medicine, and more. Satisfies New General Education in Category A: The Arts Duplicates Credit in former THTR 280 Instruction Mode: Lecture Grading Option: Letter

DANC 285 Elements of Dance Production
Units: 4 Max Units: 08 Terms Offered: FaSpSm Theoretical aspects of creativity, choreography, accompaniment, dance notation, and production; application in individual and group composition. Duplicates Credit in former THTR 285 Instruction Mode: Lecture Grading Option: Letter

DANC 301 Colloquium: The Role of the Dance Artist in Society
Units: 1 Max Units: 02 Terms Offered: FaSpSm Examination of the role of the artist in society. Development of an individual understanding and guiding philosophy for professional development in the dance field. *Prerequisite:* DANC 201 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 302g Hip Hop Don't Stop: Exploring Black Vernacular Dance
Units: 4 Terms Offered: FaSpSm Introduction to the history and practice of Urban Folk Dance including hip hop, freestyle, street dance and the relevant social dances of the 20th century. Satisfies New General Education in Category A: The Arts Duplicates Credit in former DANC 402 Instruction Mode: Lecture Grading Option: Letter

DANC 305 Dance and New Media
Units: 1 Max Units: 02 Terms Offered: FaSpSm An introduction to existing and emerging technologies used in creating and delivering dance works. Instruction Mode: Lecture Grading Option: Letter

DANC 310 Dance Technique III
Units: 3 Max Units: 12 Terms Offered: FaSpSm Advanced technique studies in a studio setting. Concentration on classical ballet, hip hop and its derivatives, partnering and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 210 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 312gw African American Dance
Units: 4 Terms Offered: FaSpSm Exploration of the discursive foundations, political motivations, and aesthetic strategies of dance writers and artists whose works have enabled the category of "black dance." Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former DANC 412 Instruction Mode: Lecture Grading Option: Letter

DANC 320 Repertory and Performance III
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of new works and developing roles. Emphasis on the dancer as collaborator in the creative process. *Prerequisite:* DANC 220 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 330 Composition I: Advanced
Units: 2 Max Units: 08 Terms Offered: FaSpSm Intermediate and advanced compositional systems for generating and modifying movement. *Prerequisite:* DANC 231 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 333g Origins of Jazz Dance
Units: 4 Terms Offered: FaSpSm Examining the role that vernacular dance and music play in the creation of Jazz Dance, taught in lecture format; practical studies in Jazz Dance, from recreational to professional settings. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 342g International and Historical Perspectives on Dance
Units: 4 Terms Offered: FaSpSm Exploration of dance as an art form in its artistic, political, and socio-cultural climate. Studies of the continuum of dance within its historical context. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former DANC 442a Instruction Mode: Lecture Grading Option: Letter

DANC 345 Artist in Residence
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Investigation and development of choreographic methods and practices through observation and active participation with the guest artist. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 347 Artist Collaborative
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Development of an artistic work of two or more media, working with colleagues and or faculty in allied disciplines. Registration Restriction: Open only to dance majors. Instruction Mode: Lecture Grading Option: Letter

DANC 355 Performance Lab
Units: 1, 2, 3, 4 Max Units: 12 Terms Offered: FaSpSm Intermediate and advanced solo and partnering techniques in classical, contemporary, and street dance. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 362 Pilates Mat Training
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Mat exercises designed to promote healthy movement practices,

develop strength, balance, flexibility and coordination. Instruction Mode: Lecture Grading Option: Letter

DANC 363g Dancing on the Screen
Units: 4 Terms Offered: FaSpSm The study of dance in movies, television, internet, mobile devices and new media. Examining dance on screen, influenced by storytelling, camera technology and editing. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

DANC 388 Senior Seminar in Dance
Units: 4 Max Units: 08 Terms Offered: FaSpSm Synthesis of principles, philosophy, and history of dance, culminating in senior individual project. Duplicates Credit in former THTR 388 Instruction Mode: Lecture Grading Option: Letter

DANC 410 Dance Technique IV
Units: 3 Max Units: 12 Terms Offered: FaSpSm Pre-professional technique studies in a studio setting with concentration on classical ballet, hip hop and its derivatives, and contemporary techniques essential to the dancers' development. *Prerequisite:* DANC 310 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 420 Repertory and Performance IV
Units: 2 Max Units: 04 Terms Offered: FaSpSm Study and guided practice of significant roles in new and existing choreography. Emphasis on refinement of partnering, solo and group performance technique. *Prerequisite:* DANC 320 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 430 Composition II: Upper Level
Units: 2 Max Units: 08 Terms Offered: FaSpSm Complex strategies for creating and analyzing choreographic composition, as well as processing and composing embodied information in real-time at the upper level. *Prerequisite:* DANC 330 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 432 Creativity, Culture, Commerce and Community
Units: 4 Terms Offered: FaSpSm Exploration of artistic entrepreneurial mechanisms to initiate innovative endeavors in the professional dance world which are relevant to today's culture, communities, customs, and business landscape. Instruction Mode: Lecture Grading Option: Letter

DANC 442 International and Historical Perspectives on Dance II
Units: 4 Terms Offered: FaSpSm Exploration of dance as an art form in its artistic, political, and socio-cultural climate. Studies of the continuum of dance within its historical context. *Prerequisite:* DANC 342g Duplicates Credit in former DANC 442b Instruction Mode: Lecture Grading Option: Letter

DANC 452 Dancing with Words
Units: 4 Terms Offered: FaSpSm Development of descriptive and analytical skills for dance writing (journalism, education, scholarship, audience development, marketing) and refinement of social-media expertise to connect with relevant audiences. Instruction Mode: Lecture Grading Option: Letter

DANC 470 Dance Leadership
Units: 2 Terms Offered: FaSpSm Preparation for leadership in the dance world including structuring companies, marketing choreography, obtaining financing as a dance-maker, collaborating dance initiatives, and leading in dance education. Instruction Mode: Lecture Grading Option: Letter

DANC 480 Advanced Performance Studies: Senior Seminar
Units: 1 Max Units: 02 Terms Offered: FaSpSm Seminar and studio course in preparation of the senior project to be presented in spring semester, in performance, choreography, scholarship or entrepreneurship. Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 483 Dance Performance
Units: 2 Max Units: 08 Terms Offered: FaSpSm Preparation, rehearsal, and performance of experimental choreography in main stage repertory. Duplicates Credit in former THTR 483 Instruction Mode: Lecture Grading Option: Letter

DANC 485 Advanced Performance Studies: Senior Project
Units: 1 Max Units: 02 Terms Offered: FaSpSm Development and presentation of senior project in performance, choreography, media, music, scholarship or entrepreneurial enterprise. Senior projects presented to faculty panel in open performance venue. *Prerequisite:* DANC 480 Registration Restriction: Open only to dance majors Instruction Mode: Lecture Grading Option: Letter

DANC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Registration Restriction: Open only to dance majors and minors Instruction Mode: Lecture Grading Option: Letter

DANC 495 Dance Internship
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 Max Units: 16 Terms Offered: FaSpSm Practical experience linked with information and learned skills. Providing supervised field application of dance theories and practices within an employment context in dance. Registration Restriction: Open only to dance majors and minors. Instruction Mode: Lecture Grading Option: Letter

DANC 499 Special Topics
Units: 1, 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

DANC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

DANC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminars in selected areas of study. Instruction Mode: Lecture Grading Option: Letter

DANC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Dental Biochemistry

DBIO 310 Oral Biochemistry
Units: 2 Terms Offered: Fa Biochemical insight into oral tissues and saliva — emphasizing antimicrobial protection (systemic and therapeutic) against demineralization and connective tissue destruction. Instruction Mode: Lecture Grading Option: Letter

DBIO 501 Biochemistry and Molecular Biology
Units: 2 Biochemical properties of carbohydrates, lipids, amino acids, proteins, and nucleic acids — emphasizing molecular structure-function interrelatedness, integrated metabolism, and molecular biology of the cell. Instruction Mode: Lecture Grading Option: Letter

Dentistry

DENT 221 Introduction to Dentistry
Units: 1 History and current role of dental science in the health services field; review of research; overview of dental procedures with laboratory experience and practice observation. Instruction Mode: Lecture Grading Option: Letter

DENT 402 Formal Science-Writing
Units: 2 A scientist-taught, lecture-workshop-tutorial format for developing skills in formal science-writing (e.g., abstracts, journal articles, grants). Not open to students in the School of Dentistry. Instruction Mode: Lecture Grading Option: Letter

DENT 412 Fundamentals of Craniofacial and Dental Technology
Units: 3 Terms Offered: Sp Biomedical engineering and technology applied to oral health professions. Dental biomaterials, CAD-CAM, digital dental technology and tissue engineering applications to craniofacial diseases, disorders, and enhancements. Duplicates Credit in former BME 412. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BME-412

Dental Histology

DHIS 310 Basic Tissues and Histology and Embryology
Units: 2 Terms Offered: Fa Histology of basic tissues, oral histology, orofacial embryology, orofacial clefts and functional correlates. Instruction Mode: Lecture Grading Option: Letter

DHIS 701 Advanced Oral Histology
Units: 2 Microscopic anatomy, ultrastructure

and histochemistry of developing and functional oral tissues; based on recent advanced in oral LM, TEM, and SEM histology. Instruction Mode: Lecture Grading Option: Letter

Dental Hygiene

DHYG 311a Fundamentals of Clinical Dental Hygiene Practice
Units: 3 Principles and techniques of clinical dental hygiene with emphasis on preventive dentistry; laboratory and preclinical experience in techniques of complete oral prophylaxis services; and clinical application thereof. Instruction Mode: Lecture Grading Option: Letter

DHYG 311b Fundamentals of Clinical Dental Hygiene Practice
Units: 3 Principles and techniques of clinical dental hygiene with emphasis on preventive dentistry; laboratory and preclinical experience in techniques of complete oral prophylaxis services; and clinical application thereof. Instruction Mode: Lecture Grading Option: Letter

DHYG 314L Dental Morphology Laboratory
Units: 1 Fundamentals of tooth morphology and characteristics of the deciduous and permanent dentition. Instruction Mode: Lab Required Grading Option: Letter

DHYG 316 Patient Education in Preventive Dental Care
Units: 1 Principles and methods for teaching and motivating patients to practice effective oral care. Instruction Mode: Lecture Grading Option: Letter

DHYG 318 Dental Specialties
Units: 2 Procedures performed in selected dental specialty areas with emphasis on the role of the dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 320 Preventive Dental Therapy
Units: 2 Terms Offered: Sp Study of etiology, risk factors and preventive management of periodontal disease and dental caries. Setting up community and individual preventive oral health care programs. Instruction Mode: Lecture Grading Option: Letter

DHYG 401 Introduction to Advanced Dental Hygiene
Units: 2 Principles and techniques of advanced dental hygiene with emphasis on advanced root instrumentation and dental hygiene treatment planning. Instruction Mode: Lecture Grading Option: Letter

DHYG 410a Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 410b Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 410c Clinic: Dental Hygiene
Units: 2, 3, 4, 5, 6, 7 each Application of advanced techniques with emphasis on increased proficiency in skills: principles of prevention; periodontal examination; root planing; soft tissue curettage; local anesthesia; inhalation sedation. Instruction Mode: Lecture Grading Option: Letter

DHYG 411a Dental Literature Review
Units: 2 Seminar-discussion and analysis of current dental literature in selected topics related to dental hygiene practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

DHYG 411b Dental Literature Review
Units: 2 Seminar-discussion and analysis of current dental literature in selected topics related to dental hygiene practice. Instruction Mode: Lecture, Discussion Grading Option: Letter

DHYG 412 Preventive Dental Care Programs
Units: 1 Methods for development and implementation of programs involved with the delivery of preventive dental care. Instruction Mode: Lecture Grading Option: Letter

DHYG 413a Dental Hygiene Educational Concepts
Units: 2 Educational concepts for development of dental hygiene curriculum, including teaching and learning strategies, curriculum design, course development and evaluation methods. Instruction Mode: Lecture Grading Option: Letter

DHYG 413b Dental Hygiene Educational Concepts
Units: 2 Educational concepts for development of dental hygiene curriculum, including teaching and learning strategies, curriculum design, course development and evaluation methods. Instruction Mode: Lecture Grading Option: Letter

DHYG 414a Advanced Dental Hygiene
Units: 2 Advanced dental hygiene techniques: treatment, referral and maintenance of the advanced periodontitis patient emphasizing treatment planning and patient management. Instruction Mode: Lecture Grading Option: Letter

DHYG 414b Advanced Dental Hygiene
Units: 2 Advanced dental hygiene techniques: treatment, referral and maintenance of the advanced periodontitis patient emphasizing treatment planning and patient management. Instruction Mode: Lecture Grading Option: Letter

DHYG 415a Directed Clinical Teaching
Units: 2 Experience in clinical teaching with supervision and evaluation of undergraduate dental hygiene and doctoral dental students engaging in patient care. Instruction Mode: Lecture Grading Option: Letter

DHYG 415b Directed Clinical Teaching
Units: 2 Experience in clinical teaching with supervision and evaluation of undergraduate dental hygiene and doctoral dental students engaging in patient care. Instruction Mode: Lecture Grading Option: Letter

DHYG 417 Issues in Dental Health Care Delivery
Units: 1 Study of current trends in public health care delivery, manpower, finance mechanisms, and quality assurance. Instruction Mode: Lecture Grading Option: Letter

DHYG 422 Essentials of Dental Hygiene Practice
Units: 1 A review of the moral, legal, and ethical responsibilities of the dental hygienist. Other topics: securing a position, dental economics, taxes, insurance, and human relationships in the dental office. Instruction Mode: Lecture Grading Option: Letter

DHYG 424 Research Methods
Units: 2 Terms Offered: Sm Research design and methods, scientific database searching, evidence resources and evaluating information based on evidence-based principles. Application of basic research design methodology for analysis of literature. Duplicates Credit in former DHYG 424ab. Instruction Mode: Lecture Grading Option: Letter

DHYG 430 Seminar: Initial Periodontal Therapy
Units: 2 Presentation of selected clinical cases with documentation of clinical findings, diagnosis, treatment planning, and therapy. Instruction Mode: Lecture Grading Option: Letter

DHYG 431 Seminar: Periodontal Treatment Planning
Units: 2 Periodontal treatment planning; case presentations of uncomplicated periodontitis progressing to complex treatment involving multidisciplinary approach. Instruction Mode: Lecture Grading Option: Letter

DHYG 460a Clinic: Advanced Dental Hygiene
Units: 2 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460b Clinic: Advanced Dental Hygiene
Units: 2 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460c Clinic: Advanced Dental Hygiene
Units: 1 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction Mode: Lecture Grading Option: Letter

DHYG 460d Clinic: Advanced Dental Hygiene
Units: 1 Clinical experience in advanced dental hygiene; preventive and therapeutic skills with emphasis on advanced periodontal instrumentation and expanded functions for the registered dental hygienist. Instruction

Mode: Lecture Grading Option: Letter

DHYG 501 Dental Hygiene Theory and Science I
Units: 3 Terms Offered: Fa Issues related to professional development and the advancement of the discipline of dental hygiene. *Concurrent Enrollment:* Concurrent enrollment: DHYG 502. Instruction Mode: Lecture Grading Option: Letter

DHYG 502 Dental Hygiene Seminar I
Units: 1 Terms Offered: Fa Ethical principles guiding research and practice in the health care setting, with an emphasis on the rights and protection of human subjects. *Concurrent Enrollment: Concurrent enrollment:* DHYG 501. Instruction Mode: Lecture Grading Option: Letter

DHYG 504 Dental Hygiene Theory and Science II
Units: 3 Terms Offered: Sp Issues related to oral health promotion and disease prevention, and health services research. Includes epidemiology, health disparities, quality assurance, literacy and cultural competency. *Concurrent Enrollment: Concurrent enrollment:* DHYG 505. Instruction Mode: Lecture Grading Option: Letter

DHYG 505 Dental Hygiene Seminar II
Units: 1 Terms Offered: Sp Design of community health programs and health research. Includes project and study design, and applying methodological and statistical knowledge to project development. *Concurrent Enrollment: Concurrent enrollment:* DHYG 504. Instruction Mode: Lecture Grading Option: Letter

DHYG 506 Research Methodologies and Statistics
Units: 3 Terms Offered: Fa Process and fundamentals of research protocol design and statistical methods. Includes research design and methods, scientific database searching and evidence-based resources. Instruction Mode: Lecture Grading Option: Letter

DHYG 507 Dental Hygiene Theory and Science III
Units: 3 Terms Offered: Sm Analysis of disease diagnoses, medical complications, pharmacologic interventions and therapeutic treatment modalities associated with a variety of system diseases. *Concurrent Enrollment: Concurrent enrollment:* DHYG 508. Instruction Mode: Lecture Grading Option: Letter

DHYG 508 Dental Hygiene Seminar III
Units: 1 Terms Offered: Sm Strategies for project data management and analysis, and dissemination of scholarly information through journal publications and oral and poster scientific presentations. *Concurrent Enrollment: Concurrent enrollment:* DHYG 507. Instruction Mode: Lecture Grading Option: Letter

DHYG 510 Capstone Project
Units: 4 Terms Offered: Fa Students will complete independent field work to implement planned scholarly activities in their professional area of interest, culminating in a written paper and an oral defense. Instruction Mode: Lecture Grading Option: Letter

DHYG 511 Classroom and Clinical Instruction Design
Units: 2 Terms Offered: Sp Apply teaching and learning theories to the development of educational interventions to teach clinical dental hygiene skills in both clinical and laboratory classroom settings. Instruction Mode: Lecture Grading Option: Letter

DHYG 512 Student Teaching
Units: 2 Terms Offered: Sm Applied study of dental hygiene education, with practical experience teaching in the classroom and laboratory settings, and teaching in the dental hygiene clinic. *Prerequisite:* DHYG 511. Instruction Mode: Lecture Grading Option: Letter

DHYG 513 Educational Theory and Instructional Design
Units: 2 Terms Offered: Fa (Enroll in EDUC 622)

DHYG 514 Technology in Higher Education
Units: 2 Terms Offered: Sm (Enroll in EDUC 632)

DHYG 600 Dental Hygiene Professional Issues
Units: 2 Terms Offered: Fa Explore issues related to professional development and advancement of the discipline of dental hygiene and addressing the growth of the knowledge base of the profession Registration Restriction: Open only to master student in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 601 Development of Systematic Investigations
Units: 1 Terms Offered: Fa Focus of research study development that impacts the dental hygiene profession by exploring the ethical and legal principles that guide research and practice in healthcare. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 602 Research Methods and Biostatistics
Units: 2 Terms Offered: Fa Understand research process with fundamentals of research protocol design and statistical methods commonly used in healthcare. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 603 Learning Theories and Technology
Units: 2 Terms Offered: Fa Theories of learning with emphasis will be placed on teaching strategies to a variety of audiences and use of technology in the learning process. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 604 Health Advocacy Program Planning and Evaluation
Units: 2 Terms Offered: Sp Explore issues related to oral health promotion and disease prevention and health services research by investigating oral health reports and surveys influencing the DH profession. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 605 Professional Leadership in Program Development
Units: 2 Terms Offered: Sp Introduce concepts of business planning for the healthcare professional. Grant writing; application of leadership theory; professional leadership development in education, healthcare, research and business settings. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 606 Multidisciplinary Population Health Management Strategies
Units: 2 Terms Offered: Sm Explore population health management of multidisciplinary team care for complex patient populations and strategies for group dynamics for collaborative practice Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 607 Knowledge Assessment
Units: 1 Terms Offered: Sm An intensive course developing and evaluating dental hygiene skills and scholarly activities for application in advanced professional careers. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture, Lab, Quiz Grading Option: Letter

DHYG 608 Current Trends in Oral Healthcare
Units: 1 Terms Offered: Fa Current trends in oral healthcare is explored by evaluating the evolving discoveries of wellness, pathology and risk factors affecting oral health. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 609 Capstone Project Fieldwork
Units: 1 Terms Offered: Fa Guided learning of the research process by the design and fieldwork implementation of an approved Capstone project with proper data management. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 610 Capstone Project
Units: 2 Terms Offered: Sp Independent study through guided learning to complete a capstone project including preparation of a publishable manuscript that will be defended in an oral presentation. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 611 Research Writing
Units: 2 Terms Offered: Fa Enhancement of critical research thinking by fulfilling anticipated conceptual components of the journal article; perfection of writing skills by correcting inter- and intra-sentence distractions. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 612 Dental Hygiene Curriculum and Program Design

Units: 2 Terms Offered: Sp Prepare dental hygienists with basic guidelines and skills for development of dental hygiene program and curriculum. Focus on designing academic courses, course materials and overall evaluation methods. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture, Discussion Grading Option: Letter

DHYG 613 Laboratory and Clinical Course Development
Units: 2 Terms Offered: Sm Curriculum design for teaching psycho-motor skills in a simulation laboratory and providing feedback and strategies for achieving competence in student-patient clinical setting. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 614 Dental Hygiene Student Teaching Practicum
Units: 3 Terms Offered: Fa Application of theory and skills developed through student teaching in the classroom, laboratory and clinical settings. *Prerequisite:* DHYG 612 and DHYG 613 Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

DHYG 615 Geriatric Healthcare Program Planning
Units: 1 Terms Offered: Fa Independent learning environment of interactive experiences to understand the complexities of oral health care management of older people and geriatric care facilities. Registration Restriction: Open only to master students in Dental Hygiene Instruction Mode: Lecture Grading Option: Letter

Oral Diagnosis and Radiology

DIAG 415 Radiographic Techniques
Units: 1 Clinical application of radiographic chairside and dark room techniques and quality control. Instruction Mode: Lecture Grading Option: Letter

DIAG 521 Principles of Oral Radiology
Units: 2 Introduction to ionizing radiation and its use in the health professions; radiation biology, physics and hygiene; descriptive terms used in radiography, with illustrations; documentation. Instruction Mode: Lecture Grading Option: Letter

DIAG 522 Radiographic Techniques
Units: 1 Clinical applications of radiographic chairside and darkroom techniques; quality control and evaluation of the radiograph. Instruction Mode: Lecture Grading Option: Letter

DIAG 523 Oral Maxillofacial Imaging
Units: 2 Terms Offered: Sm Clinical application of intraoral and extraoral radiographic techniques; emphasis upon radiation physics, biology, safety, film and digital imaging and image interpretation. Instruction Mode: Lecture Grading Option: Letter

DIAG 615 Digital and Oral Maxillofacial Imaging
Units: 2, 3, 4 Terms Offered: FaSp Introduction to computer based imaging in dentistry. Student will learn to use video cameras, scanners, intraoral sensors and advanced imaging technology. *Prerequisite:* DIAG 521, DIAG 522. Instruction Mode: Lecture Grading Option: Letter

DIAG 621 CAD/CAM in Dentistry
Units: 1 Modern principles of dental Computer Assisted Design/Computer Assisted Manufacturing and will fabricate such restorations in the laboratory. Instruction Mode: Lecture Grading Option: Letter

Dental Materials

DMAT 316L Dental Materials and Clinical Procedures
Units: 2 Biomechanical principles, properties, and manipulation of dental materials; armamentarium for various dental procedures. Instruction Mode: Lecture, Lab Required Grading Option: Letter

DMAT 505 Dental Materials Update
Units: 1 Biocompatibility of dental materials, restorative materials and techniques update, critical analysis of published literature. Includes specific laboratory testing research methodology and design of clinical trials. Instruction Mode: Lecture Grading Option: Letter

DMAT 521a Dental Materials
Units: 2 Properties, biomechanical function, manipulation, and clinical application of dental materials. Correlates restorative, biological, and materials sciences. Instruction Mode: Lecture Grading Option: Letter

DMAT 521b Dental Materials
Units: 2 Properties, biomechanical function, manipulation, and clinical application of dental materials. Correlates restorative, biological, and materials sciences. Instruction Mode: Lecture Grading Option: Letter

DMAT 701 Advanced Biomaterials
Units: 2 Fundamental principles of materials science and clinical dentistry relative to proper selection and manipulation of dental materials. Instruction Mode: Lecture Grading Option: Letter

Dental Problem Based Learning

DPBL 501a Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 501b Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 501c Dental Problem Based Learning — Human Structure I
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502a Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502b Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 502c Dental Problem Based Learning — Human Function I
Units: 8 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503a Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503b Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of

patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 503c Dental Problem Based Learning — Human Behavior I
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504a Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504b Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 504c Dental Problem Based Learning — Human Clinical Dentistry I
Units: 4 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. Acceptance to DDS program required. Instruction Mode: Lecture Grading Option: Letter

DPBL 511a Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 511b Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 511c Dental Problem Based Learning — Human Structure II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512a Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512b Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 512c Dental Problem Based Learning — Human Function II
Units: 5 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513a Dental Problem Based Learning — Human Behavior II
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513b Dental Problem Based Learning — Human Behavior II
Units: 3 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 513c Dental Problem Based Learning — Human Behavior II
Units: 2 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514a Dental Problem Based Learning — Human Clinical Dentistry II
Units: 7 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514b Dental Problem Based Learning — Human Clinical Dentistry II
Units: 7 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 514c Dental Problem Based Learning — Human Clinical Dentistry II
Units: 8 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 504c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521a Dental Problem Based Learning — Human Structure III

Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521b Dental Problem Based Learning — Human Structure III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 521c Dental Problem Based Learning — Human Structure III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 511c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522a Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522b Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 522c Dental Problem Based Learning — Human Function III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523a Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523b Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 523c Dental Problem Based Learning — Human Behavior III
Units: 1 Terms Offered: FaSpSm Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524a Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524b Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 524c Dental Problem Based Learning — Human Clinical Dentistry III
Units: 14 Terms Offered: FaSpSm Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 531a Dental Problem Based Learning — Human Structure IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 531b Dental Problem Based Learning — Human Structure IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal structures including anatomy, cell biology, embryology, histology, pathology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 532a Dental Problem Based Learning — Human Function IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 532b Dental Problem Based Learning — Human Function IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal function including biochemistry, endocrinology, genetics, immunology, microbiology, nutrition, pharmacology, physiology from cells, tissues and organs of the human body. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 512c. Instruction Mode: Lecture Grading Option: Letter

DPBL 533a Dental Problem Based Learning — Human Behavior IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal behavior including communication, ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 523c. Instruction Mode: Lecture Grading Option: Letter

DPBL 533b Dental Problem Based Learning — Human Behavior IV
Units: 1 Terms Offered: FaSp Problem based learning presentation of normal and abnormal behavior including communication,

ethics, multiculturalism, patient management, phobias associated with treatment of patients with and without special needs. All material discussed with direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 523c. Instruction Mode: Lecture Grading Option: Letter

DPBL 534a Dental Problem Based Learning — Human Clinical Dentistry IV
Units: 13 Terms Offered: FaSp Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

DPBL 534b Dental Problem Based Learning — Human Clinical Dentistry IV
Units: 13 Terms Offered: FaSp Problem based learning approach to the delivery of dental health care. Didactic, preclinical and clinical principles of endodontics, geriatrics, oral diagnosis, oral pathology, oral radiology, oral surgery, orthodontics, pediatric dentistry, periodontics, prosthodontics and restorative dentistry will be presented with a direct relationship to a well-characterized human clinical case. *Prerequisite:* DPBL 502c. Instruction Mode: Lecture Grading Option: Letter

Pharmacology

DPHR 410 Principles of Pharmacology
Units: 2 Basic principles of drug action; application of drugs in the prevention and treatment of disease; harmful effects of drugs on biological systems. Instruction Mode: Lecture Grading Option: Letter

DPHR 501 Pharmacology
Units: 3 General principles of drug action: prescription writing; toxicology; pharmacology of drugs affecting cardiovascular, autonomic, endocrine, and central nervous systems; drug control of pain, anxiety, infection.

DPHR 601 Clinical Drug Therapy in Dentistry
Units: 2 Clinical pharmacology of drug therapy important to dental practice using case history disease signs and symptoms and attendant drug therapy. Instruction Mode: Lecture Grading Option: Letter

DPHR 701 Advanced Pharmacology
Units: 1 Pharmacologic principles and practice of drug use to control anxiety, pain, and infection. Treatment of drug and medical emergencies as they relate to dental specialty practice. Instruction Mode: Lecture Grading Option: Letter

Digital Social Media

DSM 510 Introduction to Digital Social Media
Units: 4 Terms Offered: Sp Explores the sector of digital social media and online communities, with a focus on user experience, social impact, strategic content creation, and models for success. Registration Restriction: Open only to Digital Social Media majors. Duplicates Credit in former CMGT 534. Instruction Mode: Lecture Grading Option: Letter

DSM 520 Managing Technologies for Digital Media
Units: 4 Terms Offered: Sp Students learn strategy and decision-making for the technical development and management of online sites and mobile apps, including management of platforms, languages, products, and tools. Duplicates Credit in former CMGT 538. Instruction Mode: Lecture Grading Option: Letter

DSM 550 Analytics and Research Methodology
Units: 4 Terms Offered: Sm Teaches the use and interpretation of digital analytics as well as the use of research design, methodology, and basic statistics for digital sites and apps. *Prerequisite:* DSM 510 and DSM 520. Registration Restriction: Open only to digital social media majors. Instruction Mode: Lecture Grading Option: Letter

DSM 560 Digital Media Policy, Law, Practices, and Regulation
Units: 4 Terms Offered: Fa Explores laws, policies, and regulations affecting digital social media, including intellectual property, finances, digital content, and gaming. *Prerequisite:* DSM 550. Registration Restriction: Open only to digital social media majors. Instruction Mode: Lecture Grading Option: Letter

DSM 596 Final Project Capstone
Units: 4 Terms Offered: Fa Teams of students develop working sites or apps. Development includes pitching, conceptualizing, developing, and launching of funded, final projects. Open only to digital social media majors. *Prerequisite:* DSM 510, DSM 520, DSM 550. Registration Restriction: Open only to Digital Social Media majors. Instruction Mode: Lecture Grading Option: Letter

Data Sciences and Operations

DSO 401 Business Information Systems – Spreadsheet Applications
Units: 2 Terms Offered: FaSp Applied understanding of how spreadsheets are used to analyze business information. Create real world software applications for use in accounting, finance, marketing and operations. Duplicates Credit in former IOM 401. Instruction Mode: Lecture Grading Option: Letter

DSO 402 Business Information Systems – Database Applications
Units: 2 Terms Offered: Fa Applied understanding of how work group databases are used to analyze business information. Create real world software applications used in accounting, finance, marketing and operations. Duplicates Credit in former IOM 402. Instruction Mode: Lecture Grading Option: Letter

DSO 424 Business Forecasting
Units: 4 Terms Offered: Sp A variety of forecasting techniques used by a variety of businesses. Emphasis on learning to apply these techniques to real data. *Prerequisite:* BUAD 310. Duplicates Credit in former DSO 424. Instruction Mode: Lecture Grading Option: Letter

DSO 427 Designing Spreadsheet-Based Business Models
Units: 4 Terms Offered: Fa Application of decision analysis, simulation, and optimization techniques to managerial problems. Learn how to create and present useful spreadsheet models to analyze practical business problems. *Recommended Preparation:* BUAD 310. Duplicates Credit in former IOM 427. Instruction Mode: Lecture Grading Option: Letter

DSO 428 Essentials and Digital Frontiers of Big Data
Units: 4 Terms Offered: Fa An overview of key concepts of big data and related digital technologies and their applications to different business problems. Hands-on experience at introductory level. Duplicates Credit in former IOM 428 Instruction Mode: Lecture Grading Option: Letter

DSO 431 Foundations of Digital Business Innovation
Units: 4 Terms Offered: FaSp Foundational frameworks for understanding the planning and execution of digitally-enabled strategic initiatives. Duplicates Credit in former IOM 431. Instruction Mode: Lecture Grading Option: Letter

DSO 433 Business Process Design
Units: 4 Terms Offered: Sp Analyzing and improving business processes with digital technologies; use cases; business case design. Duplicates Credit in former IOM 433. Instruction Mode: Lecture Grading Option: Letter

DSO 435 Enterprise Data Architecture
Units: 4 Terms Offered: Fa Management of enterprise data architecture including data structures, conceptual data modeling, logical data modeling, structured query language (SQL), and physical optimization of high performance data architecture. Duplicates Credit in former IOM 435. Instruction Mode: Lecture Grading Option: Letter

DSO 443 The Business of Digital Entertainment
Units: 4 Terms Offered: Irregular Understanding the entertainment and media industries, the effects of the internet, mobile and new information-communication technologies on the business models and management of these industries. Duplicates Credit in former IOM 443. Instruction Mode: Lecture Grading Option: Letter

DSO 455 Project Management
Units: 4 Terms Offered: FaSp Topics related to project management in a variety of industries such as real estate projects, new product launch, plant location, etc. Duplicates Credit in former IOM 455. Instruction Mode: Lecture Grading Option: Letter

DSO 462 Managing a Small Business on the Internet
Units: 2 Terms Offered: FaSp Foundational knowledge for managing a small business on the internet including strategies, tools,

and resources integrated with hands-on skills for developing a small business website. Duplicates Credit in former IOM 462. Instruction Mode: Lecture Grading Option: Letter

DSO 482 Supply Chain Management
Units: 4 Terms Offered: Fa Issues in supply chain management. Supply chain performance and dynamics. Tools for planning, control and coordination. Supply chain design and strategy. *Prerequisite:* BUAD 311. Duplicates Credit in former IOM 482. Instruction Mode: Lecture Grading Option: Letter

DSO 483 Operations Consulting
Units: 4 Terms Offered: Sp Study of concepts and techniques for improving operations, formulation and implementation of operations strategy, and development of frameworks for process design, selection and performance evaluation. *Prerequisite:* BUAD 311. Duplicates Credit in IOM 483. Instruction Mode: Lecture Grading Option: Letter

DSO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics reflecting current trends and recent developments in data sciences, information systems, operations management, and statistics. May be repeated only if topic is different. Instruction Mode: Lecture Grading Option: Letter

DSO 505 Sustainable Supply Chains
Units: 1.5 Terms Offered: Fa Sustainability concepts and frameworks, design for environment, closed-loop supply chains, sustainability in sourcing, green facilities, renewable energy, facility location and transportation decisions, strategic sustainability implementation. Web registration open only to graduate business and accounting students. Registration Restriction: Open only to graduate business and accounting students. Duplicates Credit in the former IOM 505. Instruction Mode: Lecture Grading Option: Letter

DSO 506 Sourcing and Supplier Management
Units: 1.5 Terms Offered: Fa Factors to consider when making sourcing decisions (costs, prices, ethics, globalization); impact of sourcing on other activities such as product design or inventory management. Open only to graduate business students. Registration Restriction: Open only to graduate business students. Duplicates Credit in former IOM 506. Instruction Mode: Lecture Grading Option: Letter

DSO 510 Business Analytics
Units: 1.5, 3 Terms Offered: FaSpSm Foundational knowledge for business analytics, including strategies, methods, and tools integrated with hands-on skills for defining business analytics for data-driven decision making and innovation. Registration Restriction: Online registration open to only graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 516 Probability and Data Modeling
Units: 1.5 Terms Offered: FaSp Principles of probability methodology. Application for providing structure to uncertainty. Develop, implement, and use probability models. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

DSO 520 Logistics Management
Units: 3 Terms Offered: Sm Gives students a managerial knowledge of basic logistics concepts and principles. Some topics include management of logistics cost integration, transportation, distribution, and customer service. Open only to graduate business students. Registration Restriction: Open only to graduate business students. Duplicates Credit in the former IOM 520. Instruction Mode: Lecture Grading Option: Letter

DSO 522 Applied Time Series Analysis for Forecasting
Units: 1.5, 3 Terms Offered: Sp Survey of forecasting and time series methods. Models for stationary and nonstationary time series; ARIMA model identification, estimation, and forecast development. Seasonal and dynamic models. Web registration open only to graduate business and accounting students. *Recommended Preparation:* GSBA 506a, GSBA 506b or GSBA 524 or (GSBA 516 and GSBA 545). Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in former IOM 522. Instruction Mode: Lecture Grading Option: Letter

DSO 528 Data Warehousing, Business Intelligence, and Data Mining
Units: 1.5, 3 Terms Offered: FaSm Introduction to data-warehousing, multidimensional database, on-line analytical processing, and survey of business intelligence applications that extract useful information from data warehouses. Business applications emphasized. Web registration open only to graduate business students. Registration Restriction: Open only to graduate business students. Duplicates Credit in former IOM 528. Instruction Mode: Lecture Grading Option: Letter

DSO 529 Advanced Regression Analysis
Units: 3 Terms Offered: Sp Computer-assisted analysis of business data; advanced multiple regression analysis, survey analysis, ANOVA testing for Marketing-type applications and Times Series Analysis methods will be covered. Web registration open only to graduate business and accounting students. *Prerequisite:* GSBA 506b or GSBA 524 or GSBA 516 and GSBA 545. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in former IOM 529. Instruction Mode: Lecture Grading Option: Letter

DSO 530 Applied Modern Statistical Learning Methods
Units: 3 Terms Offered: FaSp Overview of highly computational modern statistical learning methods; applications of logistic regression, neural networks, LASSO, trees, boosting and GAM, etc., to finance and marketing data. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in former IOM 530 Instruction Mode: Lecture Grading Option: Letter

DSO 534 Discrete-Event Simulation for Process Management
Units: 1.5 Terms Offered: FaSp Application of discrete-event simulation models to events that occur randomly over time. Representation using process flow diagrams. Use of simulation methodology to improve process performance. *Corequisite:* DSO 516 Registration Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in former DSO 532 Instruction Mode: Lecture Grading Option: Letter

DSO 536 Monte Carlo Simulation and Decision Models
Units: 1.5 Terms Offered: FaSp Application of Monte Carlo simulation to determine a range of outcomes for all possible courses of action. Application of Excel simulation. *Corequisite:* DSO 516 Registration Restriction: Online registration limited to graduate business and accounting students. Credit Restriction: Online registration limited to graduate business and accounting students Duplicates Credit in former DSO 532 Instruction Mode: Lecture Grading Option: Letter

DSO 543 Global Business Issues in the Networked Digital Industry
Units: 3 Terms Offered: Fa Assessing business impact of emerging technologies on companies, business models and strategies in the "converging" digital communications, media and entertainment industries: incorporates company field projects. Open only to graduate business students. Registration Restriction: Online registration open to only graduate business and accounting students. Duplicates Credit in IOM 543 Instruction Mode: Lecture Grading Option: Letter

DSO 545 Statistical Computing and Data Visualization
Units: 3.0 Terms Offered: Sp Data cleaning and reshaping; good vs. bad graphics; univariate, bivariate, trivariate, hypervariate, and time series graphics; interactive graphics; web-related computing. Extensive computer applications using R. Registration Restriction: Online registration open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

DSO 547 Designing Spreadsheet-Based Business Models
Units: 3 Terms Offered: FaSp Application of decision analysis, simulation and optimization techniques to managerial problems. Learn how to create and present useful spreadsheet models to analyze practical business models. Online registration open only to graduate business and accounting majors. *Recommended Preparation:* completion of first-year MBA courses. Registration Restriction: Online registration open only to graduate business and accounting majors. Duplicates Credit in the former IOM 547. Instruction Mode: Lecture Grading Option: Letter

DSO 549 Application of Lean Six Sigma
Units: 3 Terms Offered: SpSm Application of Six Sigma practices and techniques to improve operations in organizations. Open only to graduate business students. Registration Restriction: Open only to graduate business students. Duplicates Credit in ISE 507 and former IOM 549. Instruction Mode: Lecture Grading Option: Letter

DSO 551 Digital Transformation in the Global Enterprise
Units: 3 Terms Offered: Sp Leveraging large enterprise system applications for strategic value; managing organizational transformation of global enterprises through digital business platforms; coping with disruptive technologies. Open only to business majors. Registration Restriction: Open only to business majors. Duplicates Credit in former IOM 551. Instruction Mode: Lecture Grading Option: Letter

DSO 556 Business Models for Digital Platforms
Units: 3 Terms Offered: FaSp Managing Business models in digital platform ecosystems; designing new products and services for digital platforms; establishing digital platform leadership; assessing emerging niches in digital spaces. Registration Restriction: Online registration open only to specified graduate business and accounting majors. Duplicates Credit in former GSBA 556 Instruction Mode: Lecture Grading Option: Letter

DSO 557a Global Supply Chain Management in International Settings
Units: 1.5 Terms Offered: Fa Study of global logistics infrastructures – water, rail, road, and air – through readings, team research and presentation, international site visits, and final written report. Open only to Global Supply Chain Management majors. Registration Restriction: Open only to Global Supply Chain Management majors. Duplicates Credit in former IOM 557ab. Instruction Mode: Lecture Grading Option: Letter

DSO 557b Global Supply Chain Management in International Settings
Units: 1.5 Terms Offered: Fa The influence of value-added services and regulatory issues on suppliers and supply chains. Readings, team research and presentation, site visits (LA), and final written report. Open only to Global Supply Chain Management majors. Registration Restriction: Open only to Global Supply Chain Management majors. Duplicates Credit in former IOM 557ab. Instruction Mode: Lecture Grading Option: Letter

DSO 562 Fraud Analytics
Units: 3 Terms Offered: Sp Fraud detection model systems; identify normal vs. outlying behavior; malicious adversaries; complex datasets; supervised and unsupervised fraud statistical models; measures of model efficacy. *Recommended Preparation:* Basic statistics and probablilty, database management, basic programming skills. Registration Restriction: Online registration open only to graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

DSO 570 The Analytics Edge: Data, Models, and Effective Decisions
Units: 3.0 Terms Offered: Sp Decision making under uncertainty using real data applying the most advanced optimization, statistical and probability methods. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

DSO 573 Data Analytics Driven Dynamic Strategy and Execution
Units: 3.0 Terms Offered: FaSp Advanced applications of data analytics in dynamic strategy formulation and execution; analytics and business methods for data connected enterprises to continuously enhance their competitive advantage. Instruction Mode: Lecture Grading Option: Letter

DSO 580 Project Management
Units: 3 Terms Offered: FaSp Applications of systems theory and concepts, matrix organizational structures, PERT/CPM project modeling, and management information systems to the management of complex and critical projects. Open only to business majors. *Recommended Preparation:* GSBA 504b or GSBA 534. Registration Restriction: Open only to business majors. Duplicates Credit in former IOM 580. Instruction Mode: Lecture Grading Option: Letter

DSO 581 Supply Chain Management
Units: 3 Terms Offered: FaSp Issues in supply chain management. Supply chain performance and dynamics. Tools for planning, control and coordination. Supply chain design and strategy. Open only to business majors. *Recommended Preparation:* GSBA 504b or GSBA 534. Registration Restriction: Open only to business majors. Duplicates Credit in former IOM 581. Instruction Mode: Lecture Grading Option: Letter

DSO 582 Service Management: Economics and Operations
Units: 3 Terms Offered: Sp Examination of the service industry from a managerial and entrepreneurial perspective; emphasis on the tactical decisions needed to design and deliver successful and profitable services. *Recommended Preparation:* GSBA 504b or GSBA 534 Registration Restriction: Online registration open only to graduate accounting and business students. Duplicates Credit in former IOM 582. Instruction Mode: Lecture Grading Option: Letter

DSO 583 Operations Consulting
Units: 3 Terms Offered: Sp Development of conceptual and analytic skills for improving operations. Analysis of business strategy, formulating and implementing operations strategy, process analysis and design, and project management. *Recommended Preparation:* GSBA 504a or GSBA 534 Registration Restriction: Online registration open to only graduate business and accounting students. Duplicates Credit in former IOM 583 Instruction Mode: Lecture Grading Option: Letter

DSO 586 Global Healthcare Operations Management
Units: 3 Terms Offered: Sp Application of operations management tools and techniques to improve the performance of healthcare delivery systems. May include international travel. Registration Restriction: Online registration open only to graduate business and accounting students. Duplicates Credit in former IOM 586. Instruction Mode: Lecture Grading Option: Letter

DSO 590 Directed Research
Units: 1, 2, 3, 4, 5 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Open only to master's students. Registration Restriction: Open only to master's students. Duplicates Credit in former IOM 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 592 Field Research in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Open only to graduate students. *Recommended Preparation:* completion of required MBA, MAcc, or MBT courses. Registration Restriction: Open only to graduate students. Duplicates Credit in former IOM 592. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 593 Independent Research in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Open only to graduate students. *Recommended Preparation:* completion of required MBA, MAcc, or MBT courses. Registration Restriction: Open only to graduate students. Duplicates Credit in former IOM 593. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 595 Internship in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2 Max Units: max 9 Terms Offered: FaSpSm Supervised on-the- job business experience in the student's area of interest (Curricular Practical Training). *Recommended Preparation:* completion of required MBA, MSGSCM, or MS-BUAN courses Registration Restriction: Open only to master's business students. Duplicates Credit in former IOM 595 Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 596 Research Practicum in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Data Sciences and Operations Department on an ongoing research project. Open only to graduate students. *Recommended Preparation:* completion of all required courses in the student's program. Registration Restriction: Open only to graduate students. Duplicates Credit in the

former IOM 596. Instruction Mode: Lecture Grading Option: Letter

DSO 597 Consulting Project in Data Sciences or Operations
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Open only to graduate business students. Registration Restriction: open only to graduate business students. Duplicates Credit in former IOM 597. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 598 Special Topics
Units: 1, 1.5, 2 or 3 Max Units: 9.0 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in data sciences, operations management, supply chain management and/or decision support systems. Online registration open only to graduate business students. Registration Restriction: Open only to graduate business students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 9.0 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in data sciences, operations management, supply chain management and/or decision support systems. Open only to graduate business students. Registration Restriction: Open only to graduate business students. Duplicates Credit in former IOM 599. Instruction Mode: Lecture Grading Option: Letter

DSO 606 Bayesian Data Analysis
Units: 3 Terms Offered: Fa Principles of Bayesian inference, subjective probability, posterior inference via Markov chain Monte Carlo, applications to latent variable models. Hierarchical models and shrinkage estimation. Model averaging. Duplicates Credit in former IOM 606. Instruction Mode: Lecture Grading Option: Letter

DSO 607 High Dimensional Statistics and Big Data Problems
Units: 3 Terms Offered: Fa Overview of cutting-edge developments of methodologies, theory, and algorithms in high-dimensional statistical learning and big data problems; their applications to business and many other disciplines. *Recommended Preparation:* Courses in calculus, linear algebra and linear regression Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

DSO 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Data Sciences and Operations. Presentations by faculty, visiting researchers, and advanced students. Open only to Marshall PhD students. Open only to Marshall PhD students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSO 670 Current Research in Operations Management
Units: 3 Terms Offered: Sp Critique of the current research-based literature in operations management to include scheduling, forecasting, MRP, technology planning, inventory management, and facilities location and layout. Duplicates Credit in former IOM 670. Instruction Mode: Lecture Grading Option: Letter

DSO 671 Inventory Models and Supply Chain Management
Units: 3 Terms Offered: Fa Single product, single location inventory models; multi-echelon inventory models; assembly systems; inventory and pricing; value of information; incentives and coordination in supply chains. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 671. Instruction Mode: Lecture Grading Option: Letter

DSO 672 Optimization Models in Operations Management
Units: 3 Convex optimization, stochastic dynamic programming and non-linear programming. Focused training in optimization methods and proof techniques for research in operations management. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 672. Instruction Mode: Lecture Grading Option: Letter

DSO 673 Mathematical Programming
Units: 3 Terms Offered: Fa Integer programming; duality theory; shortest path and max flow problems; network flow; matching problems; convex sets and functions; lagrange duality; unconstrained minimization methods; optimization problems. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 673. Instruction Mode: Lecture Grading Option: Letter

DSO 674 Queueing and Stochastic Networks
Units: 3 Terms Offered: Sp Jackson Networks; Kelly networks; the M/G/1 model and the Pollaczek–Khintchine formula; the G/G/1 queue; the GI/GI/1+GI queue and its diffusion approximation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 674. Instruction Mode: Lecture Grading Option: Letter

DSO 677 Dynamic Programming and Markov Decision Processes
Units: 3 Terms Offered: Sp Introduction to Decision Analysis; MDP model formulation and examples; Finite horizon models; Infinite-horizon models: Discounted MDPs; Average reward criteria; Continuous-time models. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IOM 677. Instruction Mode: Lecture Grading Option: Letter

DSO 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary data sciences, operations management, supply chain management, and/or decision support systems. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Development, Stem Cells and Regenerative Medicine

DSR 542 Principles of Developmental and Stem Cell Biology
Units: 4 Terms Offered: Sm Introduction to developmental and stem cell biology. Lectures and lab component prepare students for a career in developmental and stem cell biology and regenerative medicine. Instruction Mode: Lecture, Lab Grading Option: Letter

DSR 574 Stem Cell and Developmental Biology Seminar Series
Units: 1 Max Units: 10 Terms Offered: FaSp Selected topics in Development, Stem Cell, and Regeneration. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as SCRM 574

DSR 580 Clinical Perspective of Regenerative Medicine
Units: 1 Max Units: 4.0 Terms Offered: Sp Offers interaction with clinicians in patient-care setting to understand the need and role of regenerative medicine in bedside management. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSR 610 Current Topics in Regenerative Medicine
Units: 1 Max Units: 12 Terms Offered: Sp Selected topics on sub-fields within developmental and stem cell biology including review of contemporary literature and research. Registration Restriction: Open only to DSR and SCRM graduate students Instruction Mode: Lecture Grading Option: Letter Crosslisted as SCRM 610

DSR 620 Current Topics in Stem Cell Biology and Organogenesis
Units: 1 Max Units: 12 Terms Offered: Fa Selected topics on sub-fields within stem cell biology and organogenesis. Includes review of contemporary literature and research. Open only to master and doctoral students. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SCRM 620

DSR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

DSR 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794b Doctoral Dissertation

Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

DSR 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

East Asian Languages and Cultures

EALC 101x Conversational Chinese and Intercultural Communication
Units: 2 Terms Offered: FaSp Basic Mandarin conversational skills for effective communication in familiar, everyday Chinese contexts and better understanding of intercultural communication through content-based language acquisition. Not available for credit to East Asian Area Studies and East Asian Languages and Cultures majors and minors. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 102 Language, Art and Culture: Calligraphy
Units: 2 Terms Offered: FaSp This course introduces students to the origin of the basic Chinese scripts and the basic principles and styles of calligraphy. Instruction Mode: Lecture Grading Option: Letter

EALC 103a Fundamental Chinese I
Units: 2 Terms Offered: FaSpSm Basic listening, speaking, reading and writing abilities in Mandarin Chinese. Duplicates Credit in EALC 104 Instruction Mode: Lecture Grading Option: Letter

EALC 103b Fundamental Chinese I
Units: 2 Terms Offered: FaSpSm Basic listening, speaking, reading and writing abilities in Mandarin Chinese. *Prerequisite:* EALC 103a Duplicates Credit in EALC 104 Instruction Mode: Lecture Grading Option: Letter

EALC 104 Chinese I
Units: 4 Terms Offered: FaSpSm The sound system of modern Chinese; aural comprehension, oral expression, basic patterns, and writing system. Instruction Mode: Lecture Grading Option: Letter

EALC 106 Chinese II
Units: 4 Terms Offered: FaSpSm Dialogue practice and conversation; reading of simple stories and essays; comparison of Chinese and English grammar; writing of paragraphs. *Prerequisite:* EALC 104. Instruction Mode: Lecture Grading Option: Letter

EALC 108 Reading and Writing Chinese
Units: 4 Terms Offered: FaSp The basics of reading and writing modern Chinese; intensive reading and writing of paragraphs, essays, and stories; extensive reading of beginner-level authentic materials. Instruction Mode: Lecture Grading Option: Letter

EALC 110gp East Asian Humanities: The Great Tradition
Units: 4 Terms Offered: FaSp Introduction to the major humanities traditions of China, Japan, and Korea through an examination of representative works drawn from literature, aesthetics, philosophy, religion, and historical writing. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 115 Korean I
Units: 4 Terms Offered: FaSpSm Aural comprehension and oral practice; the writing system; grammar drill, sentence patterns. Instruction Mode: Lecture Grading Option: Letter

EALC 117 Korean II
Units: 4 Terms Offered: FaSpSm Continuation of EALC 115. Progressive drill in dialogue, reading, and writing. *Prerequisite:* EALC 115. Instruction Mode: Lecture Grading Option: Letter

EALC 118 Essential Communications in Korean I
Units: 2 Max Units: 4 Terms Offered: FaSp A basic foundation of Korean, focusing on conversation skills. Students communicate on a variety of familiar topics and handle basic transactions. Registration Restriction: Open to all majors, no class standing restrictions, no school restrictions. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 119 Essential Communications in Korean II
Units: 2 Max Units: max 4 Terms Offered: FaSp Continuation of EALC 118. Aims to develop basic communication skills required for survival in Korea. Students will practice simple conversations and understand some cultural practices through Korean drama clips. *Prerequisite:* EALC 118 Registration Restriction: No major, class standing or school restrictions. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 120 Japanese I
Units: 4 Terms Offered: FaSpSm Basic Japanese conversation practice, basic grammar and building proficiency of reading and writing Hiragana and Katakana (Japanese alphabetical systems). Instruction Mode: Lecture Grading Option: Letter

EALC 121 Extensive Reading in Japanese I
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of reading skill in Japanese for elementary level students through short stories written for learners of Japanese and authentic materials written for native Japanese speakers. *Prerequisite:* EALC 120. Instruction Mode: Lecture Grading Option: Letter

EALC 122 Japanese II
Units: 4 Terms Offered: FaSpSm Continuation of EALC 120. Basic Japanese conversation practice, basic grammar and building proficiency of reading and writing Hiragana and Katakana and basic kanji. *Prerequisite:* EALC 120. Instruction Mode: Lecture Grading Option: Letter

EALC 125g Introduction to Contemporary East Asian Cinema and Culture
Units: 4 An introduction to and overview of the contemporary cinemas of East Asia: China (Hong Kong, the People's Republic, and Taiwan), Japan, and Korea. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 130gp Introduction to East Asian Ethical Thought
Units: 4 Terms Offered: FaSp Introduction to the history of Chinese, Japanese, and Korean ethical thought; perspectives on human nature, historical writing, religious options, and aesthetic implications. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 145g Introduction to Chinese Culture, Art and Literature
Units: 4 Terms Offered: FaSp Introduction to the civilization, art and literature of pre-modern China through the lens of the cultural products of identity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 150gw Global Chinese Cinema and Cultural Studies
Units: 4 Terms Offered: FaSp Examination of the transnational production and circulation of Chinese-language cinema. Analysis of the larger sociocultural significance of films by engaging their historical context. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 202 Language, Art, and Culture: Calligraphy II
Units: 2 Max Units: 4 Terms Offered: FaSpSm Furthers students' knowledge in the Chinese writing system and develops students' skills in a more advanced calligraphy style. *Prerequisite:* EALC 102

Instruction Mode: Lecture Grading Option: Letter

EALC 204 Chinese III
Units: 4 Terms Offered: Fa Conversational practice: reading of stories and essays; writing of short essays. *Prerequisite:* EALC 106. Instruction Mode: Lecture Grading Option: Letter

EALC 206 Chinese IV
Units: 4 Terms Offered: Sp Continuation of EALC 204 , with emphasis on reading and writing, frequent interaction with native speakers. *Prerequisite:* EALC 204. Instruction Mode: Lecture Grading Option: Letter

EALC 207a Intermediate Chinese: Reading and Oral Communication
Units: 4 Terms Offered: Sm Improving Chinese reading techniques and oral presentation skills in an immersive environment. Offered only in Taiwan. *Prerequisite:* EALC 106. Instruction Mode: Lecture Grading Option: Letter

EALC 207b Intermediate Chinese: Reading and Oral Communication
Units: 4 Terms Offered: Sm Improving Chinese reading techniques and oral presentation skills in an immersive environment. Offered only in Taiwan. *Prerequisite:* EALC 204. Instruction Mode: Lecture Grading Option: Letter

EALC 215 Korean III
Units: 4 Terms Offered: Fa Drill to increase proficiency in dialogue, reading, and writing; intermediate level readings. *Prerequisite:* EALC 117. Instruction Mode: Lecture Grading Option: Letter

EALC 217 Korean IV
Units: 4 Terms Offered: Sp Advanced level reading of modern Korean and exercises in written composition. *Prerequisite:* EALC 215. Instruction Mode: Lecture Grading Option: Letter

EALC 220 Japanese III
Units: 4 Terms Offered: FaSpSm Continuation of EALC 122. Conversation practice, basic to intermediate grammar, and building proficiency of reading and writing Hiragana and Katakana with additional kanji. *Prerequisite:* EALC 122. Instruction Mode: Lecture Grading Option: Letter

EALC 221 Extensive Reading in Japanese II
Units: 2 Max Units: 0.0 Terms Offered: FaSp Development of reading skills in Japanese for intermediate level students through short stories written for learners of Japanese and authentic materials written for native Japanese speakers. *Prerequisite:* EALC 220. Instruction Mode: Lecture Grading Option: Letter

EALC 222 Japanese IV
Units: 4 Terms Offered: FaSpSm Continuation of EALC 220. More sophisticated grammar and vocabulary for natural conversation. Enhancing fundamental reading and writing skills, expanding the knowledge of kanji. *Prerequisite:* EALC 220. Instruction Mode: Lecture Grading Option: Letter

EALC 264g Asian Aesthetic and Literary Tradition
Units: 4 (Enroll in COLT 264gp)

EALC 304 Advanced Modern Chinese I
Units: 4 Terms Offered: Fa Reading selections from different styles of modern Chinese writings, analysis of stylistic techniques and syntactic structure, composition, and translation. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 306 Advanced Modern Chinese II
Units: 4 Terms Offered: Sp Continuation of EALC 304; composition exercises in different styles of writing. *Prerequisite:* EALC 304. Instruction Mode: Lecture Grading Option: Letter

EALC 315 Advanced Korean I
Units: 4 Terms Offered: Fa Advanced reading in modern Korean materials; improvement of skills in conversation, composition, and translation. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 317 Advanced Korean II
Units: 4 Terms Offered: Sp Continuation of EALC 315, with emphasis on the use of Chinese characters, translation, and composition exercises. *Prerequisite:* EALC 315. Instruction Mode: Lecture Grading Option: Letter

EALC 318 Readings in Contemporary Korean
Units: 4 Terms Offered: FaSpSm Selected readings in a variety of Korean styles. Materials are from essays, short stories and newspapers. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 320 Advanced Japanese I
Units: 4 Strengthen intermediate Japanese language proficiency. Oral/aural communication skills as well as reading and writing skills. Promote an understanding of the present-day Japanese culture. *Prerequisite:* EALC 222. Instruction Mode: Lecture Grading Option: Letter

EALC 322 Advanced Japanese II
Units: 4 Terms Offered: FaSp Continuation of EALC 320. Improve and strengthen abilities to speak, listen, read and write, coping with more involved materials and situation. *Prerequisite:* EALC 320. Instruction Mode: Lecture Grading Option: Letter

EALC 332 Modern Korean Literature in Translation
Units: 4 Terms Offered: Fa Introduction to Korean literature, with discussion of critical approaches to literary discourse, historical contexts of literary production, and aspects of contemporary popular culture. Instruction Mode: Lecture Grading Option: Letter

EALC 333g Introduction to Korean Film
Units: 4 Terms Offered: Fa Survey of Korean film, the film industry, and critical issues from the colonial period to the present. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 334 Chinese Language Through Films and Television
Units: 4 Terms Offered: FaSp Enhancement of functional, advanced-level Mandarin proficiency for vocabulary, grammar, listening, speaking, reading, writing, and cultural awareness through selected Chinese-language films and television programs. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 335m Korean American Literature
Units: 4 Survey of Korean American literature from the mid-20th century until the most recent years. Focus on issues and topics central to Korean American experience. Instruction Mode: Lecture Grading Option: Letter

EALC 336 Chinese Language through Films and Television II
Units: 4 Terms Offered: FaSp Further enhancement of functional, advanced-level Mandarin proficiency for vocabulary, grammar, listening, speaking, reading, writing, and cultural awareness through selected Chinese-language films and television programs. *Prerequisite:* EALC 304 and EALC 334. Instruction Mode: Lecture Grading Option: Letter

EALC 340gp Japanese Civilization
Units: 4 Terms Offered: FaSp Survey of the main characteristics and development of art, literature, philosophy, religion, political and social institutions through different periods. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 342gp Japanese Literature and Culture
Units: 4 Terms Offered: FaSp Japanese literature from the earliest times to the present; development of prose, poetry and the novel; evolution of theatre; Japanese literature under Western influence. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 344gp Korean Culture from Ancient to Modern Times
Units: 4 Terms Offered: Sp The history of Korean literature and culture from the ancient to the modern era. *Recommended Preparation:* HIST 105. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 345 Korean Civilization
Units: 4 Survey of the main characteristics and development of Korean art, literature,

philosophy, religion, political and social institutions through different periods. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 346g Hallyu, the Korean Wave
Units: 4 Terms Offered: Fa Critical overview of the Korean Wave (Hallyu), the phenomenon defined as the growing, global circulation and consumption of Korean popular culture. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

EALC 350gp Chinese Civilization
Units: 4 Terms Offered: FaSp Characteristics and aspects of Chinese civilization; interpretation of philosophy, literature, religion, art, music. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 352g Chinese Literature and Culture
Units: 4 Terms Offered: FaSp Readings of Chinese poetry, prose, novels and drama; influence of the West on Chinese literature and culture in modern times. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 354g Modern Chinese Literature in Translation
Units: 4 Readings in modern Chinese poetry, fiction, and drama since 1919. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 355 Studies in Chinese Thought
Units: 4 Chinese thought, particularly as formulated in the three great traditions: Confucianism, Taoism, Buddhism. Instruction Mode: Lecture Grading Option: Letter

EALC 358g Transnational Chinese Literature and Culture
Units: 4 Terms Offered: Sp An introduction to Sinophone literatures and cultures (in English translation) from the Asia-Pacific region, including Taiwan, Hong Kong, Tibet, Southeast Asia, and North America. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 360g Performing Japan: Bodies, Media, and Textuality
Units: 4 Terms Offered: FaSp The classical foundations of Japanese performance, including noh, puppet theater, and kabuki; exploration of how these genres are implicated in modern and contemporary Japanese performance. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter

EALC 365 Studies in Japanese Thought
Units: 4 Influence of native traditions and imported Chinese traditions on Japanese civilization; religious, ethical, aesthetic, and political aspects. Instruction Mode: Lecture Grading Option: Letter

EALC 366 Chinese Professional Internship: Communication and Culture
Units: 2 Max Units: 6 Terms Offered: FaSpSm Combined classroom discussion and supervised internship at companies. Practical experience in applying communication and cultural knowledge in a professional, "real world" employment context. *Prerequisite:* EALC 206 Grading Option: Letter

EALC 374 Language and Society in East Asia
Units: 4 The interaction of language with society in countries of East Asia: language and identity, the politicization of language, language change, language and gender. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-374

EALC 375 Women and Gender in China: Past and Present
Units: 4 An examination of changes in sex roles and in constructs of the female as influenced by traditional Chinese thought and later social developments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-375

EALC 377 Law and Society in Premodern China and Japan
Units: 4 (Enroll in HIST 377)

EALC 380 Cultural Topics in East Asian Literature
Units: 4 Selected themes, genres, and periods in East Asian literature, e.g., Taoism and Buddhism, women, folktales. Instruction Mode: Lecture Grading Option: Letter

EALC 381g Visual Cultures of Asia
Units: 4 Max Units: max 8 Terms Offered: FaSp (Enroll in AHIS 381)

EALC 382 Art and Cultural Heritage in East Asia
Units: 4 Terms Offered: FaSpSm Introduction to heritage studies with a focus on the developments and representative examples in China, Korea, and Japan. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS 382

EALC 383 Later Chinese Art
Units: 4 (Enroll in AHIS 385)

EALC 384 Early Chinese Art
Units: 4 (Enroll in AHIS 384)

EALC 386 Readings in Modern Korean Literature
Units: 4 Selected readings from modern Korean short stories, novels, plays and essays. Readings will be in English and Korean. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 387 Early Japanese Art
Units: 4 (Enroll in AHIS 386)

EALC 388 Later Japanese Art
Units: 4 (Enroll in AHIS 387)

EALC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

EALC 400 Classical Chinese I
Units: 4 Introduction to the classical styles, selections from classical style writings, contrastive analysis of modern and classical Chinese, translation and writing practice. *Prerequisite:* EALC 206. Instruction Mode: Lecture Grading Option: Letter

EALC 402 Classical Chinese II
Units: 4 Continuation of EALC 400. Instruction Mode: Lecture Grading Option: Letter

EALC 404 Advanced Modern Chinese III
Units: 4 Terms Offered: Fa Readings in modern Chinese literary, documentary, and epistolary styles; stylistic and syntactic analysis; composition; translation. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 406 Advanced Modern Chinese IV
Units: 4 Terms Offered: Sp Continuation of EALC 404. Instruction Mode: Lecture Grading Option: Letter

EALC 407 News and Web Chinese
Units: 4 Terms Offered: FaSp Reading selections from newspaper articles and online reports to further develop proficiency in advanced Chinese and understanding of the society and culture. *Prerequisite:* EALC 404 Instruction Mode: Lecture Grading Option: Letter

EALC 410 Chinese-English Translation
Units: 4 Structure, vocabulary, and techniques of written translation and oral interpretation; classroom and laboratory practice; English-Chinese and Chinese-English. Instruction Mode: Lecture Grading Option: Letter

EALC 412a Business Chinese
Units: 4 Practice in the basic vocabulary and idioms of foreign trade and other commercial transactions in Mandarin. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 412b Business Chinese
Units: 4 Continuation of EALC 412a. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 413 Business Japanese
Units: 4 Terms Offered: FaSpSm Practical advanced level Japanese business terms and their usage in a variety of business situations; cultural insights on Japanese customs that underline business transactions in Japan. *Prerequisite:* EALC 322 Instruction Mode: Lecture Grading Option: Letter

EALC 415 Advanced Korean III
Units: 4 Terms Offered: Fa Selected readings in Korean texts, pre- modern and modern, in various literary and non-fiction genres; focus on developing reading and translation skills. *Prerequisite:* EALC 317. Instruction Mode: Lecture Grading Option: Letter

EALC 416 Advanced Chinese Oral Communication

Units: 2 Terms Offered: FaSp Enhancement of advanced conversational skills through descriptions, summaries of texts, active participation in discussions, debates and oral presentations in class. *Prerequisite:* EALC 406. Instruction Mode: Lecture Grading Option: Letter

EALC 417 Advanced Korean IV
Units: 4 Terms Offered: Sp Continuation of EALC 415. Instruction Mode: Lecture Grading Option: Letter

EALC 418 Korean Writing in Mixed Script
Units: 4 Terms Offered: FaSp Selected readings in Korean texts written in mixed script; a systematic study of Chinese characters and translation of text. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 419 Newspaper and Documentary Korean
Units: 4 Terms Offered: FaSp Selected readings from newspapers, magazines, and other journalistic publications; analysis of styles and practice in writing articles. *Prerequisite:* EALC 217. Instruction Mode: Lecture Grading Option: Letter

EALC 422 Advanced Japanese III
Units: 4 Terms Offered: Fa Students develop advanced levels of Japanese linguistic knowledge and communication skills through speaking, listening, reading and writing activities using authentic Japanese texts and discourse. *Prerequisite:* EALC 322. Instruction Mode: Lecture Grading Option: Letter

EALC 424 Advanced Japanese IV
Units: 4 Terms Offered: Sp Continuation of EALC 422. Students continue to improve their Japanese language competence in the course of acquiring Japanese pragmatic skills and cultural knowledge. *Prerequisite:* EALC 422. Instruction Mode: Lecture Grading Option: Letter

EALC 426 Classical Japanese
Units: 4 Introduction to the fundamentals of classical grammar; readings from various classical works, both poetry and prose; translation practice. *Prerequisite:* EALC 322. Instruction Mode: Lecture Grading Option: Letter

EALC 427 Women's Lives in Premodern Japanese Literature
Units: 4 Terms Offered: Fa The social lives of women in ancient and medieval Japan as viewed through poetry, memoir, tale literature, legal documents, and personal correspondence. *Recommended Preparation:* Any course in Japanese literature or civilization. Instruction Mode: Lecture Grading Option: Letter

EALC 428 Nature and the Ecological Imagination in Japanese Literature
Units: 4 Terms Offered: FaSpSm Examination of cultural perceptions about nature and how they affect attitudes toward the environment: includes comparisons to Euro-American as well as other East Asian traditions. Instruction Mode: Lecture Grading Option: Letter

EALC 429 Gender in Korean Film and Literature
Units: 4 Terms Offered: Sp Changing representations of gender in Korean films and literary works over the course of the 20th century. *Recommended Preparation:* HIST 105 and EALC 332. Instruction Mode: Lecture Grading Option: Letter

EALC 430 Gender and Sexuality in Korean Literature and Culture
Units: 4 Examination of the changing representations of gender and sexuality in Korean cultural texts over the course of the 20th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-430

EALC 431 The Taoist Tradition
Units: 4 Close reading of primary text(s) of early Chinese Taoist thinkers (in translation), along with analysis of relevant secondary scholarship. *Recommended Preparation:* EALC 355. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-431

EALC 440 Current Topics in Japanese
Units: 4 Max Units: 16 Terms Offered: FaSp Mastery of near native proficiency of the Japanese Language by handling variety topics of contemporary Japan such as literature, history, social and cultural issues. *Recommended Preparation:* EALC 424 or equivalent Registration Restriction: No registration restrictions Credit Restriction: No credit restrictions Instruction Mode: Lecture Grading Option: Letter

EALC 450 Contemporary Japanese Literature and Global Modernity
Units: 4 Terms Offered: FaSp Examination of historical currents in contemporary Japanese literature and popular culture and the role translation plays in their global circulation and redefinition. Instruction Mode: Lecture Grading Option: Letter

EALC 452 Chinese Fiction
Units: 4 Development of Chinese fiction and readings from English translations of major Chinese novels such as the Dream of the Red Chamber, All Men are Brothers, and others. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 454 Bildungsroman in Modern East Asia
Units: 4 Terms Offered: Sp Comparative study of core narratives of youth and its destiny in modern literature from China, Japan, Korea, and Taiwan. Readings include scholarship on European literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-453

EALC 455 Japanese Fiction
Units: 4 Japanese fiction from early to modern times; literary, philosophical, and social aspects of tales and novels. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

EALC 460 Love, Self and Gender in Japanese Literature
Units: 4 Terms Offered: Sp Examines conceptions of love, self, gender, and sexuality in Japanese literature and culture of the modern and pre-modern periods with comparisons to European and Chinese literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT-460

EALC 465 Topics in Korean Visual and Cultural Studies
Units: 4 Terms Offered: FaSp Examination of dominant and emergent critical issues in the study of modern and contemporary Korean visual culture. Instruction Mode: Lecture Grading Option: Letter

EALC 470 Introduction to East Asian Linguistics
Units: 4 Survey of the sound systems, writing systems, grammatical systems, historical development, and social environments of the Chinese, Japanese, and Korean languages. *Prerequisite:* EALC 406 or EALC 417 or EALC 424. Instruction Mode: Lecture Grading Option: Letter

EALC 480 Marxism and Culture in East Asia
Units: 4 Terms Offered: FaSp Intensive reading on current transnational issues in the study of East Asian or Asian cultures. Instruction Mode: Lecture Grading Option: Letter

EALC 481 Studies in Japanese Art
Units: 4 Max Units: max 16 (Enroll in AHIS 481)

EALC 484 Studies in Chinese Art
Units: 4 Max Units: max 16 (Enroll in AHIS 484)

EALC 489 The Mongol Era in China: Genghis Khan, Khubilai, Marco Polo
Units: 4 Terms Offered: FaSp An exploration of the Mongol era in China through an examination of three great historical figures, including how depictions of them have changed over time. Instruction Mode: Lecture Grading Option: Letter

EALC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

EALC 494a Honors Thesis
Units: 4 Terms Offered: Sp Research and writing of original thesis under guidance of faculty member. Instruction Mode: Lecture Grading Option: In-progress & Letter Grade

EALC 494b Honors Thesis
Units: 4 Terms Offered: Fa Research and writing of original thesis under guidance of faculty member. Open only to EALC majors. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

EALC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

EALC 500 Advanced Classical Chinese I
Units: 4 Reading in classical Chinese and practice in classical vocabulary and syntax, with emphasis on translation into English and modern Chinese. *Prerequisite:* EALC 402. Instruction Mode: Lecture Grading Option: Letter

EALC 501 History of Chinese Literature
Units: 4 An in-depth survey of literary development concerning periods, thought, genres, and socio-cultural backgrounds in

China. In English. Instruction Mode: Lecture Grading Option: Letter

EALC 502 Advanced Classical Chinese II
Units: 4 Continuation of EALC 500. *Prerequisite:* EALC 500. Instruction Mode: Lecture Grading Option: Letter

EALC 503 Chinese Poetry
Units: 4 Literary studies of the theory and practice of Chinese poetry from major poets. *Prerequisite:* 4th year Chinese. Instruction Mode: Lecture Grading Option: Letter

EALC 504 Selections from Modern Chinese Literature
Units: 4 Literary currents and representative writings of the 20th century. *Prerequisite:* EALC 306. Instruction Mode: Lecture Grading Option: Letter

EALC 505 Introduction to East Asian Languages and Cultures
Units: 4 Terms Offered: FaSp An in-depth introduction to East Asian studies. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 506 Selections from Classical Chinese Literature
Units: 4 Writings of the important periods and genres of Chinese literary history. *Prerequisite:* EALC 406. Instruction Mode: Lecture Grading Option: Letter

EALC 507 East Asia in Cross-Cultural Theories
Units: 4 Terms Offered: FaSp Introduction to major theoretical paradigms particularly relevant to the study of East Asian cultures. Seminal Western theoretical texts with studies on East Asia. Instruction Mode: Lecture Grading Option: Letter

EALC 509 Transnational Korean Cinema
Units: 4 Terms Offered: Fa Korean cinema since the early 20th century, focusing on transnational production, circulation, and consumption. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 510 Contemporary Japanese Cinema
Units: 4 Terms Offered: Fa Japanese cinema since the 1980s focusing on the works by filmmakers. Instruction Mode: Lecture Grading Option: Letter

EALC 512 Japanese Literature and Film
Units: 4 Terms Offered: FaSp Relationship between Japanese literature and film, focusing on the transition from literary text to film text. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 515 Classical Japanese Poetics
Units: 4 An analysis of major texts of the Japanese literary tradition from the 8th to the 16th century. Instruction Mode: Lecture Grading Option: Letter

EALC 520 Modern Japanese Writers
Units: 4 Selections illustrative of major literary trends and literary works since the Meiji Restoration. *Prerequisite:* EALC 422. Instruction Mode: Lecture Grading Option: Letter

EALC 522 Classical Japanese Writers
Units: 4 Writings representative of important periods and genres of Japanese literary history up to the Meiji Restoration. *Prerequisite:* EALC 426. Instruction Mode: Lecture Grading Option: Letter

EALC 530 Race, Ethnicity, and Multiculturalism in East Asia
Units: 4 Terms Offered: Sp Examination of scholarship and cultural production on issues and theories of race, ethnicity, and multiculturalism in East Asia (China, Japan, Korea, and Southeast Asia). Instruction Mode: Lecture Grading Option: Letter

EALC 531 Proseminar in Chinese Cultural History
Units: 4 Intensive readings in English concerning interpretive issues in the study of Chinese cultural history. Instruction Mode: Lecture Grading Option: Letter

EALC 532 Proseminar in Korean Cultural History
Units: 4 Introduction to Korean cultural and social history through intensive reading of the English-language literature on Korean history and culture. Instruction Mode: Lecture Grading Option: Letter

EALC 533 Proseminar in Japanese Cultural History
Units: 4 Intensive readings, chronologically arranged, in interpretive issues in the study of Japanese cultural history. Readings in English. Instruction Mode: Lecture Grading Option: Letter

EALC 534 Modernity and Cultural Representation in Korea
Units: 4 Terms Offered: FaSp In-depth introduction to the cultural history, including emerging trends and new methodologies within modern Korean literary and cultural studies. Instruction Mode: Lecture Grading Option: Letter

EALC 535 Proseminar in Chinese Visual Culture
Units: 4 Terms Offered: FaSp Chinese visual culture through the complex interface of art and thought. Examines architectural layout, pictorial representation, decorative motif as part of cultural production that intertwines with intellectual trends. Instruction Mode: Lecture Grading Option: Letter

EALC 536 Studies in Modern Japanese History
Units: 4 (Enroll in HIST 534)

EALC 537 Structure of the Korean Language
Units: 4 Description and theoretical analysis of phonology, morphology and syntax of modern Korean; comprehensive view of the properties of the Korean structure. *Prerequisite:* EALC 470. Instruction Mode: Lecture Grading Option: Letter

EALC 541 Seminar: Japan
Units: 4 Social, economic, political, and cultural problems in modern Japan. Bibliographic and reference materials. *Prerequisite:* HIST 436. Instruction Mode: Lecture Grading Option: Letter

EALC 543 Seminar: Japanese Literature
Units: 4 Readings in original texts in the works of selected major writers; lectures dealing with intellectual and cultural backgrounds of the periods and the authors. *Prerequisite:* EALC 520, EALC 522. Instruction Mode: Lecture Grading Option: Letter

EALC 545 Japanese Literary Criticism and Theory
Units: 4 Representative theories of literature; history of classical and modern literary criticism. *Prerequisite:* EALC 520, EALC 522. Instruction Mode: Lecture Grading Option: Letter

EALC 547 Structure of the Japanese Language
Units: 4 Descriptive analysis of phonetic, phonological, and grammatical structure of Japanese. Conducted in English. *Prerequisite:* EALC 470. Instruction Mode: Lecture Grading Option: Letter

EALC 551 Seminar: China
Units: 4 Individual research and seminar reports on selected phases of Chinese traditional civilization. Instruction Mode: Lecture Grading Option: Letter

EALC 553 Seminar: Chinese Literature
Units: 4 Research in different genres of Chinese literature, traditional and modern. Instruction Mode: Lecture Grading Option: Letter

EALC 555 Chinese Literary Criticism and Theory
Units: 4 Classical and modern literary theories and criticism; comparisons with literary theory and criticism in the West. Instruction Mode: Lecture Grading Option: Letter

EALC 556 Seminar on Women and the Family in China
Units: 4 An introduction to the current state of research on women and the family in China, and training in feminist analytic approaches for further work in the China field of other areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-556

EALC 557 Structure of the Chinese Language
Units: 4 Descriptive analysis of phonology, morphology, and syntax of modern Chinese. Conducted in English. *Prerequisite:* EALC 404. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-557

EALC 558 History of the Chinese Language
Units: 4 Evolution of the Chinese language from the earliest time to the present: lectures and the reading of texts. Conducted in English. *Prerequisite:* EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 560 Comparative Syntax of East Asian Languages
Units: 4 Max Units: 12.0 Terms Offered: FaSp Descriptive-comparative study of the Chinese, Japanese and Korean languages with an emphasis on their structures, range of properties, similarities and dissimilarities. *Prerequisite:* EALC 537 or EALC 547 or EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 561 Topics and Issues in East Asian

Linguistics
Units: 4 Max Units: 12.0 Descriptive and theoretical analysis of the grammars of Chinese, Japanese, and Korean; emphasis on comparative studies of these languages and English. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-561

EALC 562 Teaching of the East Asian Languages
Units: 4 Materials and methods in teaching East Asian languages; application of methods and techniques of foreign/second language teaching to East Asian language teaching. *Prerequisite:* EALC 537 or EALC 547 or EALC 557. Instruction Mode: Lecture Grading Option: Letter

EALC 565 Bibliography and Research Methods in Chinese Studies
Units: 4 An introduction to reference works and research methods in all fields on sinology; works in Chinese, Japanese and Western languages. Instruction Mode: Lecture Grading Option: Letter

EALC 570 Narratives of Desire in Modern Chinese Literature
Units: 4 Terms Offered: FaSp The study of prominent fiction women writers from the first half of the 20th century in English and original translations. Open to graduate students only. *Prerequisite:* EALC 553. Instruction Mode: Lecture Grading Option: Letter

EALC 575 Literary and Artistic Movements in Modern China
Units: 4 Terms Offered: FaSp Introduction to literary and artistic movements in 20th century China. Open to graduate students only. Instruction Mode: Lecture Grading Option: Letter

EALC 580 Readings in East Asian Linguistics
Units: 4 Max Units: 12.0 Terms Offered: FaSp Survey of some representative works in generative grammar since the mid '60s, including those that deal with similar phenomena in the contexts of more recent theoretical frameworks as well as non-generative grammatical works on Chinese, Japanese, and Korean. Instruction Mode: Lecture Grading Option: Letter

EALC 588a Directed Readings
Units: 2 Assigned readings according to individual needs. Instruction Mode: Lecture Grading Option: Letter

EALC 588b Directed Readings
Units: 2 Assigned readings according to individual needs. Instruction Mode: Lecture Grading Option: Letter

EALC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

EALC 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in East Asian Languages and Cultures. Instruction Mode: Lecture Grading Option: Letter

EALC 610 Seminar: Buddhism and the Literary Arts in Japan
Units: 4 Seminar on the impact of Buddhism on the literary tradition of medieval Japan. Selected topics. Instruction Mode: Lecture Grading Option: Letter

EALC 620 Seminar in East Asian Linguistics
Units: 4 Max Units: 12.0 Terms Offered: FaSp Detailed theoretical discussions and empirical studies of the issues and development in East Asian linguistics. Instruction Mode: Lecture Grading Option: Letter

EALC 650 Research Seminar in Chinese Documents
Units: 4 An introduction to the different genres of documents for the study of Chinese civilization, and training in their use. Instruction Mode: Lecture Grading Option: Letter

EALC 700 Professionalization Seminar for Advanced Graduate Students
Units: 2 Max Units: 04 Terms Offered: FaSp Familiarizes advanced graduate students with topics relevant to academic work in East Asian humanities, including research planning, dissertation writing, publishing, and conference presentation. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

EALC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EALC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

East Asian Studies

EASC 150gp East Asian Societies
Units: 4 Terms Offered: FaSp Main patterns of change in modern China, Japan, and Korea; historical framework and the insights of geography, economics, political science, and other disciplines. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EASC 160gmp China and the World
Units: 4 Terms Offered: FaSp Advanced-level introduction to China and its relations with the wider world in historic and contemporary perspective. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

EASC 360 Global East Asia
Units: 4 Max Units: 12.0 Terms Offered: Sm Summer study abroad program to China, Japan or Korea with a focus on globalization. *Recommended Preparation:* two language and/or area studies courses related to country of study; recommended course list provided by EASC. Instruction Mode: Lecture Grading Option: Letter

EASC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EASC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Interdisciplinary examination of various areas of East Asian studies. Instruction Mode: Lecture Grading Option: Letter

EASC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EASC 591 Interdisciplinary Seminar
Units: 4 Max Units: 8.0 Terms Offered: Irregular An examination of a broad topic in the study of China, Korea, or Japan. Guest speakers, student reports, papers. Readings in English and the appropriate Asian language(s). Instruction Mode: Lecture Grading Option: Letter

EASC 592 Proseminar on Issues and Trends in Contemporary East Asia
Units: 4, 2 years Terms Offered: Fa Introduction to graduate level study of policy issues and major trends in contemporary China, Japan, and Korea; contributions of various academic disciplines. Instruction Mode: Lecture Grading Option: Letter

EASC 593x Understanding East Asia: An Introduction for Professional School Students
Units: 3 Terms Offered: Sp Historical, social, political and cultural survey of China, Japan and Korea with focus on topics of particular relevance for business practitioners and other professionals. Instruction Mode: Lecture Grading Option: Letter

EASC 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EASC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in East Asian Area Studies. Instruction Mode: Lecture Grading Option: Letter

Economics

ECON 203g Principles of Microeconomics
Units: 4 Terms Offered: FaSp Behavior of firms and consumers, functions of the price system, competition and monopoly, labor markets, poverty, government regulation, international trade, and the environment. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 205g Principles of Macroeconomics
Units: 4 Terms Offered: FaSp Unemployment, inflation and output determination and links. Effects of government taxation and spending on growth, investment, saving, consumption, and trade. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 238xg Political Economy and Social Issues
Units: 4 Terms Offered: Fa Contending politico-economic perspectives in modern Western thought: conservatism, liberalism, radicalism, and their relevance for contemporary policy issues including government and markets, class, race, gender, poverty and inequality. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 303 Intermediate Microeconomic Theory
Units: 4 Terms Offered: FaSp Decision-making by business firms, consumer preferences and behavior, uncertainty, competition, monopoly, labor and resource markets, efficient resource allocation, externalities, and government policy. *Prerequisite:* ECON 203; MATH 118gx or MATH 125; *Corequisite:* ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 305 Intermediate Macroeconomic Theory
Units: 4 Terms Offered: FaSp The determinants of aggregate income, employment, and inflation; economic fluctuations; fiscal and monetary policy; financial markets; the national debt. *Prerequisite:* ECON 203 and ECON 205; MATH 118gx or MATH 125. Instruction Mode: Lecture Grading Option: Letter

ECON 317 Introduction to Statistics for Economists
Units: 4 Terms Offered: FaSp Introduction to statistical methods appropriate for analyzing economic data: probability theory, random variables and probability distributions, sampling, estimation, statistical inference. *Prerequisite:* MATH 118gx or MATH 125. Instruction Mode: Lecture Grading Option: Letter

ECON 318 Introduction to Econometrics
Units: 4 Terms Offered: FaSp Application of statistical methods to economic data: estimating economic relationships using regression analysis, testing hypotheses involving economic behavior, forecasting economic variables. *Prerequisite:* ECON 317. Duplicates Credit in former ECON 414. Instruction Mode: Lecture Grading Option: Letter

ECON 322 Economic History and Modernization of the Middle East
Units: 4 Terms Offered: Irregular Economic history of the Middle East from the rise of Islam to the modern era. Roles of law, religion. Processes of institutional transformation, stagnation, modernization. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 330 The Political Economy of Institutions
Units: 4 Social functions served by the rules, laws, regulations, and customs that constrain human activity. Processes whereby such institutions adapt, or fail to adapt, to changing circumstances. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 332 Contracts, Organizations and Institutions
Units: 4 Contract law and economic organization, determinants of firm boundaries, transaction cost economics, agency theory, incomplete contracting, business strategy, bureaucracy, institutional environment, politics and property rights. *Prerequisite:* ECON 203. Instruction Mode: Lecture Grading Option: Letter

ECON 338 Political Economy and Social Issues
Units: 4 Terms Offered: Sp Contending politico-economic perspectives in modern Western thought and culture; absolutist, liberal, democratic, Marxist, anarchist, and other traditions, topics and issues. *Prerequisite:* ECON 205. Duplicates Credit in former ECON 121x.

ECON 340 Economics of Less Developed Countries
Units: 4 Causes of economic underdevelopment: historical, institutional, structural, ideological, technological, cultural. Patterns and theories of development. Role of government, international trade, and education in economic growth. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 342 Economic Development of the Middle East
Units: 4 Terms Offered: FaSp Contemporary economic problems of the Middle East: comparative and historical perspectives on issues of institutions, investment, oil, trade, migration, finance, inequality, labor and capital markets. *Prerequisite:* ECON 203; *Recommended Preparation:* ECON 205 and ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 343 Economic Development of East Asia
Units: 4 Contemporary economic problems of East Asian countries: management, labor, technology, trade, investment. Determinants of their high growth rates in the late 20th century. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 344 Economic Development of Sub-Saharan Africa
Units: 4 Terms Offered: FaSpSm Contemporary economic problems of sub-Saharan African economies: policies and endowments. Focus on issues of poverty, agriculture, health, macroeconomy and political economy. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 346 Economics of Transition and Development: China
Units: 4 Terms Offered: FaSpSm A focus on the Chinese economy, its reform and transition to a market economy, its relation with East Asian countries and integration into the world economy. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 348g Current Problems of the American Economy
Units: 4 Terms Offered: Fa A comprehensive investigation of problems stemming from changing composition of the work force, urban decline, new technologies, inequalities, ethnic relations, government deficits. Prospects for continued growth. *Prerequisite:* ECON 203 or ECON 205. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

ECON 350 The World Economy
Units: 4 Terms Offered: SpSm International cooperation and conflict in the world economy. Global economic problems of growth and development, trade and finance, migration, economic stability, and the environment. *Prerequisite:* ECON 203 or ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 351x Microeconomics for Business

Units: 4 Terms Offered: FaSpSm Development and business applications of: theory of the firm; theory of the consumer; intertemporal decisions; decisions under risk; market failures; industrial and enterprise structure. Not for major credit for: economics, economics/mathematics, social sciences (economics) majors. *Prerequisite:* MATH 118 or MATH 125 or MATH 126 or MATH 226; *Corequisite:* ECON 352x. Duplicates Credit in former ECON 251. Instruction Mode: Lecture Grading Option: Letter

ECON 352x Macroeconomics for Business
Units: 4 Terms Offered: FaSpSm Theoretical development and significance to business and markets of economic growth; inflation; unemployment; monetary and fiscal policy; business cycles; savings and investment; exchange rates. *Recommended Preparation:* introductory economics course, high school math, and algebra. *Corequisite:* ECON 351x; Duplicates Credit in former ECON 252x. Instruction Mode: Lecture Grading Option: Letter

ECON 357 Money, Credit, and Banking
Units: 4 The money, bond, stock, and other financial markets; portfolio choice; determinants of asset prices and interest rates; inflation; interactions between financial markets and government policies. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 360 Public Finance
Units: 4 Role of the government; income and corporate taxation; direct versus indirect taxation; optimal tax structure; public goods; public sector pricing; public debt and macroeconomic stability. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 361 Understanding Financial Crises
Units: 4 Terms Offered: FaSp Key facts and basic mechanisms concerning financial crises and related topics (bank runs, sovereign default decision, currency collapse). *Prerequisite:* ECON 203g and ECON 205g Instruction Mode: Lecture Grading Option: Letter

ECON 366 Urban Economics
Units: 4 Urban trends and problems, including changing urban form and function, urban public finance, housing, renewal, poverty, race, transportation, and the environment. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ECON 395 Economic Policy Issues
Units: 4 Selected policy dilemmas, including welfare reform, urban renewal, government budget deficits, regulation and deregulation, environmental problems, immigration, and global development. Lectures by leading authorities and weekly discussion sessions. *Prerequisite:* ECON 203 and ECON 205. Instruction Mode: Lecture Grading Option: Letter

ECON 401 Mathematical Methods in Economics
Units: 4 Terms Offered: Fa Introduction to quantitative methods for analyzing economic equilibria; comparative statics and dynamics. Utility theory, consumer behavior, and profit maximization. Model formulation in micro and macroeconomics. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 404 Games and Economics
Units: 4 Analysis of strategic economic interactions. Topics include bargaining, insurance, patents, voting, environmental depletion, strategic trade, learning, reputation, strikes, corporate takeovers, and the provision of public goods. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 405 Neuroeconomics
Units: 4 Introduction to the methodology used in experimental neuroeconomics and discussion of neural correlates of decision-making. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 415 Behavioral Economics
Units: 4 Examination of the traditional and behavioral theories of decision-making and the state of the art in the field. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 419 Advanced Econometrics
Units: 4 Terms Offered: FaSpSm Analysis of binary dependent variable models, panel data analysis, program evaluations, IV analysis, basics of time series and forecasting. *Prerequisite:* (ECON 303 and ECON 305 and ECON 317 and ECON 318) and (MATH 125g or MATH 126 or MATH 225 or MATH 226) Instruction Mode: Lecture Grading Option: Letter

ECON 420 Experimental Economics
Units: 4 Examination of economic theories and patterns of behavior useful in building new theories. *Prerequisite:* ECON 303; *Recommended Preparation:* ECON 317. Instruction Mode: Lecture Grading Option: Letter

ECON 432 Economics of Happiness
Units: 4 What is happiness? How does it vary by socio-economic status and over the life cycle? This course will develop insight into the nature and determinants of subjective well-being. *Prerequisite:* ECON 303; *Recommended Preparation:* ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 433 Empirical Economics Research
Units: 4 Terms Offered: FaSp Analysis of economic variables; investigation of empirical economics to estimate or test for relationships using various forms of data. *Prerequisite:* ECON 303, ECON 305, ECON 317 and ECON 318. Instruction Mode: Lecture Grading Option: Letter

ECON 434 Economic Analysis of Law
Units: 4 Common law and property; rationing of justice, resource allocation between prevention and enforcement; division of decision making between public and private sectors. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 450 International Trade
Units: 4 Determinants and economic consequences of international trade patterns; effects of trade restrictions and trading blocs; trade negotiations and arrangements. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 451 The Politics of International Trade
Units: 4 (Enroll in IR 430)

ECON 452 International Finance
Units: 4 Consequences of trade deficits; theories of capital and currency markets, exchange rate regimes, and international monetary coordination. *Prerequisite:* ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 457 Financial Markets
Units: 4 General equilibrium analysis of economies with financial markets; decision making under uncertainty; methods of risk reduction; portfolio theory and valuation of securities; efficiency of security markets. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 471 Economics of Labor Markets and Human Capital
Units: 4 A human capital interpretation of labor demand and supply; wage determination, differentials, and discrimination; job turnover and occupational mobility; unions and collective bargaining. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 472 Economics of Medical Care
Units: 4 Health as an investment in human capital; analysis of the demand for and supply of health services and manpower; health insurance; cost-effectiveness analysis; market structures and the pricing of medical services. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 474 Economic Consulting and Applied Managerial Economics
Units: 4 Terms Offered: FaSp Economic consulting and managerial economic methods applied in real world problems. Economic methods to analyze issues of intellectual property, environmental damage, trademark infringement, brand value, and consumer demand. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 480 Economics of Industrial Organization
Units: 4 Pricing and resource allocation in imperfectly competitive markets; monopoly regulation, collusion, cartels, mergers and antitrust; patents and development incentives; industry case studies. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 487 Resource and Environmental Economics

Units: 4 Management and extraction of renewable and non-renewable natural resources; environmental externalities and regulation of air, water, and land pollution; market incentives versus direct regulation. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-487

ECON 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Supervised individual research. Instruction Mode: Lecture Grading Option: Letter

ECON 495 Honors Thesis
Units: 4 Individual research supervised by a faculty adviser. Successful completion required for departmental honors degree. Instruction Mode: Lecture Grading Option: Letter

ECON 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in economic theory, history, or policy. Instruction Mode: Lecture Grading Option: Letter

ECON 500 Microeconomic Analysis and Policy
Units: 4 Terms Offered: Fa Theories of the household and the firm; product and factor markets; perfect and imperfect competition; welfare criteria. *Prerequisite:* ECON 303 and ECON 305; *Corequisite:* ECON 401. Instruction Mode: Lecture Grading Option: Letter

ECON 501 Macroeconomic Analysis and Policy
Units: 4 Terms Offered: Sp Theories of aggregate economic activity; design and use of macroeconometric models; stabilization and control of inflation, unemployment, and growth. *Prerequisite:* ECON 303, ECON 305, and ECON 401. Instruction Mode: Lecture Grading Option: Letter

ECON 502 Mathematical Methods in Dynamic Economics
Units: 4 Terms Offered: SpSm Movement of economic systems over time; differential and difference equations; introduction to the optimal control of economic processes; dynamic programming and optimal strategies; selected applications. *Prerequisite:* ECON 401. Instruction Mode: Lecture Grading Option: Letter

ECON 504 Game Theory with Economic and Financial Applications
Units: 4 Terms Offered: FaSp Students will cover large ground in applying game theory to economic and financial markets and interactions in a diverse set of examples like reputation, herding, bubbles and crashes, auctions, strategic information revelation and information accumulation in markets. We will witness the wide range of applications that is amenable to game theoretical analysis. *Prerequisite:* ECON 303 and ECON 404 and MATH 544L and MATH 547 Instruction Mode: Lecture Grading Option: Letter

ECON 513 Practice of Econometrics
Units: 4 Terms Offered: FaSpSm Application of econometric tools using standard econometric software packages for microcomputers; empirical applications to selected economic problems of estimation and inference. *Prerequisite:* ECON 318. Instruction Mode: Lecture Grading Option: Letter

ECON 521 Open Economy Macroeconomics
Units: 4 Terms Offered: FaSp The balance of payments, macroeconomic policy in an open economy, exchange rate determination, exchange rate systems, currency crises, international financial arrangements and monetary history. *Prerequisite:* ECON 501 Instruction Mode: Lecture Grading Option: Letter

ECON 523 Economic History and Development
Units: 4 Historical trends in developed and developing societies in various aspects of modernization such as human resources, capital, technology, resource allocation, income distribution, international relations. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 527 Theory of Value: Classical Origins and Neoclassical Critique
Units: 4 Terms Offered: Fa Classical economic theory; its precursors, main contributors, extensions, and critics; focus upon the writings and ideas of Smith, Say, Malthus, Ricardo, Mill, and Marx. *Prerequisite:* ECON 303 and ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 537 Contracts, Organizations, and Institutions
Units: 4 Information, property rights, bargaining, transaction costs, incentives, free-riding and contracting in organizations; the nature of cooperation; bureaucracies. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter

ECON 538 Values and Social Analysis
Units: 4 Factors that make values an essential feature of human society; how values develop, change, and are abandoned; role of values in economic development. *Prerequisite:* ECON 303. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PEPP-538

ECON 541 Economic Development
Units: 4 Development, underdevelopment and the problems thereof; agriculture, industry, trade, population, human capital, capital formation; structural, technological, environmental and institutional changes; political economy of the state. *Prerequisite:* ECON 303 and ECON 305. Instruction Mode: Lecture Grading Option: Letter

ECON 580 Antitrust Economics and Competition Policy
Units: 4 Terms Offered: FaSp Efficiency, market failure, government regulation, some basics for antitrust economics, competition policy analysis and collusion and agreements among competitors. *Prerequisite:* ECON 500 or ECON 513. Instruction Mode: Lecture Grading Option: Letter

ECON 584 Economic Consulting and Applied Econometrics
Units: 4 Terms Offered: Fa, Sp Economic consulting and applied econometric methods applied to real world problems including issues of intellectual property, environmental damage, trademark infringement, brand value, and consumer demand. *Prerequisite:* ECON 303 and ECON 318 Instruction Mode: Lecture Grading Option: Letter

ECON 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 593x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to doctoral students in Economics. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in economics as developed by the instructor. Instruction Mode: Lecture Grading Option: Letter

ECON 600 Economics of Choice
Units: 4 Reviews the normative and positive theories of choice drawing upon recent theoretical and empirical work in cognitive and evolutionary psychology, artificial intelligence, linguistics and economics. *Prerequisite:* ECON 500. Instruction Mode: Lecture Grading Option: Letter

ECON 601 Microeconomic Theory I
Units: 4 Optimization of the consumer and the firm; duality and imputed value; perfect and imperfect competition in product and factor markets. *Prerequisite:* ECON 401; *Recommended Preparation:* ECON 500. Duplicates Credit in former ECON 503. Instruction Mode: Lecture Grading Option: Letter

ECON 602 Macroeconomic Theory I
Units: 4 Aggregate demand, supply and government policy; theories of economic growth and business cycles; static and dynamic implications of government policies. *Prerequisite:* ECON 401. Duplicates Credit in former ECON 505. Instruction Mode: Lecture Grading Option: Letter

ECON 603 Microeconomic Theory II
Units: 4 Terms Offered: Sp General equilibrium theory; existence, uniqueness, and stability; welfare economics; social choice; dynamic models and uncertainty; special topics. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 604 Game Theory
Units: 4 Strategies and equilibrium concepts; dynamic and repeated games; incomplete information and learning in games. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 605 Macroeconomic Theory II
Units: 4 Terms Offered: Sp Macroeconomic theory based on the concepts of optimal growth and intertemporal equilibrium; overlapping generations models; recent developments in macroeconomic theory. *Prerequisite:* ECON 601 and ECON 602. Instruction Mode: Lecture Grading Option: Letter

ECON 606 Behavioral Theories of Decision-Making
Units: 4 Examination of behavioral theories used to describe and predict choices made in both an individual decision-making setting and strategic environments. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 607 Topics in Dynamic Optimization
Units: 4 Theory and numerical methods for dynamic optimization and control; selected applications in economic analysis and econometrics. *Prerequisite:* ECON 502 and knowledge of FORTRAN. Instruction Mode: Lecture Grading Option: Letter

ECON 608 Advanced Neuroeconomics
Units: 4 Advanced methodology of neuroeconomics including neural activity, memory, value and reward systems, emotions, and risk. *Prerequisite:* ECON 503. Instruction Mode: Lecture Grading Option: Letter

ECON 609 Econometric Methods
Units: 4 Terms Offered: FaSp Review of statistical methods of estimation and inference, linear regression with multicollinearity and serial correlation; multivariate regression and simultaneous equations. *Prerequisite:* ECON 611. Duplicates Credit in former ECON 511. Instruction Mode: Lecture Grading Option: Letter

ECON 610 Quantitative Analysis in Macroeconomics
Units: 4 Terms Offered: Sp Dynamic economics, applied general equilibrium models, computational and calibration tools, discrete-state dynamic programming, log-linearization of Euler equations. *Prerequisite:* ECON 602, ECON 605. Instruction Mode: Lecture Grading Option: Letter

ECON 611 Probability and Statistics for Economists
Units: 4 Terms Offered: FaSp Introduction to probability theory and statistical inference to prepare students for graduate courses in econometrics and economic theory; probability, random variables, distributions, estimation, testing, asymptotics. *Prerequisite:* MATH 226. Duplicates Credit in former ECON 514. Instruction Mode: Lecture Grading Option: Letter

ECON 612 Econometric Theory
Units: 4 Inference and prediction, generalized and restricted least squares, specification analysis, multivariate and seemingly unrelated regressions, simultaneous equations techniques, dynamic models, instrumental variable estimation. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 613 Economic and Financial Time Series I
Units: 4 Terms Offered: Fa Simultaneous equation models, dynamic structural econometric models, vector autoregressions, causality, forecasting, univariate and multivariate nonstationary time series, tests for unit roots, cointegration, autoregressive conditional heteroscedasticity models, time series models with changes in regime. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 614 Economic and Financial Time Series II
Units: 4 Terms Offered: Sp Stock returns, predictability and volatility, random walk and variance-bounds tests, estimation of capital asset, multifactor, and derivative pricing models, term structure of interest rates. *Prerequisite:* ECON 604. Instruction Mode: Lecture Grading Option: Letter

ECON 615 Applied Econometrics
Units: 4 Terms Offered: Fa Use of quantitative models to describe and forecast economic activity; estimation and application of such models to selected policy problems. *Prerequisite:* ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 616 Experimental Economics
Units: 4 Laboratory methods for testing economic theory; experimental comparison of alternative market and non-market institutions; identification of behavioral responses to alternative regulations. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 620aL Experimental Methods
Units: 2 Experimental methods of and design of computer-based experiments. Use of standard software for data collection in individual decision-making experiments and games. *Prerequisite:* ECON 601; *Recommended Preparation:* ECON 616. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ECON 620bL Experimental Methods
Units: 2 Experimental methods relying on non-choice data. Design methods of experiments that record information in decision-making and physiological data of emotions. *Prerequisite:* ECON 601; *Recommended Preparation:* ECON 616. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

ECON 625 Economic Analysis of Social Networks
Units: 4 Terms Offered: FaSp Mathematical tools for the study of social and economic networks. *Prerequisite:* ECON 609 *Recommended Preparation:* ECON 615 Instruction Mode: Lecture Grading Option: Letter

ECON 633 Law and Economics
Units: 4 Terms Offered: Sp (Enroll in LAW 633)

ECON 634 Political Economy of Institutions
Units: 4 The functions of laws, rules, customs, conventions, and other restrictions on economic and social activity. Theories of institutional evolution. *Prerequisite:* ECON 500 or ECON 601. Duplicates Credit in former ECON 534. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PEPP-634

ECON 636 Health Economics I
Units: 4 Terms Offered: Fa Techniques of microeconometric analysis to inform health policy. Topics include: demand for health, medical care, and insurance, risk selection, medical innovation. *Recommended Preparation:* ECON 601, ECON 611. Duplicates Credit in former PMEP 534. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PMEP-636

ECON 639 Contemporary Economic Policy: Theory and Practice
Units: 4 History and analysis of the fundamental continuing policy issues: recession, inflation, public debt, regulation, international competition, energy resources and environmental issues, welfare and income distribution. *Prerequisite:* ECON 500 and ECON 501. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PEPP-639

ECON 641 Empirical Analysis of Economic Development
Units: 4 Terms Offered: FaSp Theory and empirics of the sources of and barriers to economic development and the micro underpinnings of macroeconomic dynamics of growth, inequality, and productivity. *Prerequisite:* ECON 601, ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 642 Poverty, Human Resources and Economic Development
Units: 4 Terms Offered: FaSpSm Household production models and intra-household models of behavior and their empirical implementation, focus on poverty, human resource investments and their interaction with public policies. *Prerequisite:* ECON 501, ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 644 Economic Development Programming and Policy Planning
Units: 4 Model construction and application to policy and planning: open economy macroeconomics, trade and investment, institutions, technology, income inequality, environment, policy reforms, political economy. *Prerequisite:* ECON 501 or ECON 602; ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 645 Economic Growth

Units: 4 Terms Offered: Fa Surveys theoretical and empirical developments in growth macroeconomics. To equip students to undertake frontier research and policy work to reduce global income inequality. *Prerequisite:* ECON 602. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

ECON 650 International Trade Theory
Units: 4 General equilibrium theory applied to theory and practice of commercial policy, economic growth, and trade. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 651 International Monetary Theory
Units: 4 Balance of payments concepts and measures; price theory and the foreign exchange market; international monetary systems; adjustment mechanisms; speculation and official intervention. *Prerequisite:* (choose two): ECON 500 or ECON 501 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 652 Economics of Financial Markets II
Units: 4 Terms Offered: Sp Financial market equilibrium and partial equilibrium asset pricing in discrete and continuous time; properties of equilibria with and without complete markets; theory of option prices; Black-Scholes pricing formula; term structure of interest rates; hedging strategies and managing market risk using options, futures and swaps; hedging exchange-rates risks. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 653 Empirical International Economics
Units: 4 Empirical treatment of advanced topics in international finance including the determination of real and nominal exchange rates; stabilization policies in developing currencies and currency crisis models. Econometric methods in analyzing foreign exchange data and in forecasting. *Prerequisite:* ECON 501, ECON 513; *Recommended Preparation:* ECON 625, ECON 651. Instruction Mode: Lecture Grading Option: Letter

ECON 659 Economics of Financial Markets I
Units: 4 Terms Offered: Fa Equilibrium model of finance economy; absence of arbitrage; complete and incomplete markets; asset pricing theory; representative agent pricing. Capital Asset Pricing Model, martingale property of security prices. *Prerequisite:* ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 671 Economics of Labor and Human Capital
Units: 4 A human capital interpretation of labor demand and supply; wage determination, differentials, and discrimination; job turnover and occupational mobility; unions and collective bargaining. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 673 Program Evaluation
Units: 4 This course first proposes various means of evaluating an economic program. It then applies the tools to specific problems. *Prerequisite:* ECON 500 or ECON 601; ECON 609. Instruction Mode: Lecture Grading Option: Letter

ECON 680 Industrial Organization
Units: 4 Decision making, economic behavior and organization in firms; types of competition and market structure; property rights, nonprofit decision making. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 681 Economics of Regulated Industries
Units: 4 Theories and methods of government regulation; effects of regulation on various industries; behavior of regulatory agencies. *Prerequisite:* ECON 500 or ECON 601. Instruction Mode: Lecture Grading Option: Letter

ECON 687 Urban Economics
Units: 4 Terms Offered: Fa, Sp Economic models will be used to understand the main facts observed in cities in the developed and developing world. Special attention will be paid to empirical hypothesis testing and developing an urban economics research agenda. Students will be exposed to new data sets being collected using Smart Phones and other novel technologies that have greatly expanded our ability to test relevant hypotheses. *Prerequisite:* ECON 500 and ECON 501 Instruction Mode: Lecture Grading Option: Letter

ECON 688 Empirical Industrial Organization
Units: 4 Econometric analysis of industrial organization issues including industry regulation and deregulation, collusions and pricing in differentiated oligopolistic markets, entry and exit, auction mechanisms, contractual relationships. *Prerequisite:* ECON 601, ECON 603; *Recommended Preparation:* ECON 600, ECON 603, ECON 612, ECON 615, ECON 680. Instruction Mode: Lecture Grading Option: Letter

ECON 690 Seminar in Economic Theory
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in economic theory presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 691 Seminar in Econometrics
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in econometrics presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 692 Seminar in Economic Development
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in international, regional, and urban development economics presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 693 Seminar in Applied Economics and Public Policy
Units: 2 Max Units: 8.0 Terms Offered: FaSp Current research in applied microeconomics, macroeconomics and public policy presented by faculty, students and outside scholars. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 694 Seminar in Dynamic Economics
Units: 2 Max Units: 8.0 Terms Offered: FaSp Topics in dynamic economics involving business fluctuations, economic growth and development, micro-economic adjustments and market mechanisms; related quantitative and qualitative methods; empirical research involving economic change. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 695 Internship in Mathematical Finance
Units: 4 Terms Offered: Sm Internship for students in the Mathematical Finance master's program. Practical training in real market environments. Real-world first-hand experience in implementing trading strategies. Application of mathematical finance to real financial markets. Instruction Mode: Lecture Grading Option: Letter

ECON 696 Empirical Microeconomics Seminar
Units: 2 Max Units: 8.0 Terms Offered: FaSp Presentations on current research in empirical microeconomics by outstanding scholars from leading economics departments and faculty at USC. Registration Restriction: Open only to Economics Ph.D. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 715 Advanced Topics in Econometrics
Units: 4 Time-series methods; aggregation; structural models and methods such as factor analysis and multiple indicator models; various special topics. *Prerequisite:* ECON 612 and ECON 613. Instruction Mode: Lecture Grading Option: Letter

ECON 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ECON 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ECON 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to

Credit/No Credit

ECON 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Education Counseling

EDCO 030x The Process of Paraprofessional Counseling for Young Adults
Units: 2 Terms Offered: Sp Explores the theoretical processes involved in paraprofessional counseling with specific application to issues faced by young adults. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDCO 324m Asian American Psychology
Units: 4 Terms Offered: Sp Psychological issues of Asian Americans such as cultural identity, intergenerational conflict, stereotypes, interracial dating and marriage, educational achievement, and mental health. Instruction Mode: Lecture Grading Option: Letter

EDCO 503 Ethical and Legal Issues in Counseling
Units: 3 Terms Offered: Sp Examination of current legal, ethical, and other professional issues in the practice of counseling and psychotherapy. *Prerequisite:* EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDCO 504 Behavior Management in the Classroom
Units: 3 Terms Offered: Sp Analysis of student behavior in school settings. Emphasis is on a problem-solving functional approach to behavioral changes. Instruction Mode: Lecture Grading Option: Letter

EDCO 505 Counseling and Collaborative Consultation in the School Setting
Units: 3 Terms Offered: Sp Theory and practice of collaborative consultations provided by school counselors and school psychologists to improve student achievement and the learning environment. Instruction Mode: Lecture Grading Option: Letter

EDCO 506 Development, Administration and Evaluation of Pupil Personnel Services
Units: 3 Terms Offered: Fa Develop skills in the evaluation and management of pupil personnel services programs in the public schools for comprehensive support of student learning and achievement. Instruction Mode: Lecture Grading Option: Letter

EDCO 541 Theories in Counseling
Units: 3 Terms Offered: FaSp Theory, research, and practice of psychological counseling. *Corequisite:* EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDCO 574 School Counseling Practicum
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Supervised practice in school counseling. *Prerequisite:* EDCO 503, EDCO 541. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDCO 575 School Counseling Field Experience
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Supervised field experience in applying knowledge and skills within a K–12 school setting. *Prerequisite:* EDCO 574. Instruction Mode: Lecture Grading Option: Credit/No Credit

Higher and Postsecondary Education

EDHP 500 Foundations of Higher, Adult, and Professional Education
Units: 3 Terms Offered: Fa Contemporary issues in higher, adult, and professional education in the United States; analytic perspectives from various disciplines (history, philosophy, sociology); implications for policy and practice. Instruction Mode: Lecture Grading Option: Letter

EDHP 502 Administration of Higher, Adult, and Professional Education
Units: 3 Terms Offered: Sp Policies and theories for governance and management. Relations between historical and contemporary organizational processes in postsecondary education. Critique and applications of current research. Instruction Mode: Lecture Grading Option: Letter

EDHP 503 Curriculum, Teaching, and Learning in Higher, Adult, and Professional Education
Units: 3 Terms Offered: Sp Curriculum, teaching, and learning strategies for general, vocational, and professional education; planning for lifelong learning; theories, policies, and practices for higher, adult, and professional education. Instruction Mode: Lecture Grading Option: Letter

EDHP 551 Applied Educational Ethnography
Units: 3 Terms Offered: Fa Research for improving leadership in higher, adult, and professional education. Ethnographically motivated field designs, observations, focused and unstructured interviews and unobtrusive techniques. Instruction Mode: Lecture Grading Option: Letter

EDHP 552 The Politics of Difference
Units: 3 Explores strategies for restructuring institutions of higher education to improve student support and achievement among historically marginalized groups. Instruction Mode: Lecture Grading Option: Letter

EDHP 560 Feminist Theory
Units: 4 Terms Offered: FaSpSm (Enroll in SWMS 560)

EDHP 563 Student Affairs Work in College
Units: 3 Terms Offered: Fa Principles, services, and organizational patterns of student affairs programs and services for two-year, four-year and professional higher education institutions. Instruction Mode: Lecture Grading Option: Letter

EDHP 565 Intervention Strategies in College Student Development
Units: 3 Terms Offered: Sp Exploration of current campus issues such as violence, diversity and academic remediation, and their related intervention strategies (policy-based, programmatic, and counseling-based). Instruction Mode: Lecture Grading Option: Letter

EDHP 580 The Community College
Units: 3 Terms Offered: SpSm The community college movement; history; aims; curriculum; types of administrative organization; teaching procedures; relation to lower and higher institutions; profiles of faculty and students; evaluation. Instruction Mode: Lecture Grading Option: Letter

EDHP 587 Fieldwork in Higher, Adult, and Professional Education
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Structured participation in supervised teaching or administrative activities. Assignments matched with student's goals, training, experience. *Recommended Preparation:* EDHP 563, EDHP 565. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 593a Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature in the student's area of focus. Required for all master's candidates who do not enroll in the Master's Thesis (EDHP 594a, EDHP 594b, EDHP 594z). Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 593b Master's Seminar
Units: 2 Terms Offered: FaSpSm An examination and analysis of research and literature in the student's area of focus. Required for all master's candidates who do not enroll in the Master's Thesis (EDHP 594a, EDHP 594b, EDHP 594z). Instruction Mode: Lecture Grading Option: Credit/No Credit

EDHP 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Required for all master's candidates who do not enroll in the Master's Seminar (EDHP 593a, EDHP 593b). Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDHP 657 Management of Student Services in Higher Education
Units: 3 Terms Offered: Sp Delivery of student services and programs in higher education, organizational behavior, management systems, administrative procedures, and alternative leadership styles. Instruction Mode: Lecture Grading Option: Letter

EDHP 679 Legal Issues in the Administration of Higher Education
Units: 3 Terms Offered: Sm Analysis of legal issues related to the administration of higher education; emphasis on relations with students, faculty, staff, alumni, and campus communities. *Prerequisite:* EDHP 500 or

appropriate experience. Instruction Mode: Lecture Grading Option: Letter

EDHP 687 Student Development in Higher Education
Units: 3 Terms Offered: Sp Theories of college student development and application of developmental models to program design, interventions, outreach, and research programs. Instruction Mode: Lecture Grading Option: Letter

Educational Policy, Planning and Administration

EDPA 308 Politics and American Education
Units: 4 Terms Offered: FaSp Historical study of political, legislative, judicial decisions that have shaped American education; interaction of educators, courts, legislative bodies; emphasis on in-depth analysis of current issues. Instruction Mode: Lecture Grading Option: Letter

EDPA 612 Qualitative Methods in Educational Research
Units: 3 Terms Offered: SpSm Overview of the assumptions, methods and techniques of qualitative educational research; discussion and application of analytical tools derived from anthropology, sociology, history, and related social sciences. Instruction Mode: Lecture Grading Option: Letter

Educational Psychology and Technology

EDPT 310 Parental Influences on Children's Educational Development
Units: 4 Terms Offered: FaSp Basic principles and theories of child development and learning with emphasis on parent-child, parent-school, and child-school relationships. Instruction Mode: Lecture Grading Option: Letter

EDPT 502 Learning and Individual Differences
Units: 3 Terms Offered: FaSpSm Theory and research in learning, development, and individual differences, and social psychology related to education or training contexts. Instruction Mode: Lecture Grading Option: Letter

EDPT 540 Introduction to Educational Measurement and Evaluation
Units: 3 Terms Offered: FaSp Survey of theories, concepts, and procedures for assessing intellective and non-intellective characteristics and for evaluating individual and program performances. Instruction Mode: Lecture Grading Option: Letter

EDPT 550 Statistical Inference
Units: 3 Terms Offered: FaSpSm Application of statistical techniques in education; emphasis on underlying principles and concepts coupled with selected inferential techniques using desk-top computer software. Instruction Mode: Lecture Grading Option: Letter

EDPT 570 Language and Cultural Diversity in Learning
Units: 3 Terms Offered: Fa Analysis of current research and theory regarding the influences of language and culture on learning and cognition, with a special focus on academic achievement and instructional transactions. Instruction Mode: Lecture Grading Option: Letter

EDPT 576 Technology in Contemporary Education and Training
Units: 3 Terms Offered: FaSp Development and scope of instructional technology and its role in modern educational and training systems; overview of instructional development; innovation and trends in the field. Instruction Mode: Lecture Grading Option: Letter

EDPT 642 Measurement Theory
Units: 3 Terms Offered: Fa Mathematical concepts and psychometric theory underlying test construction and interpretation; emphasis on current research in the area. *Prerequisite:* EDPT 652. Instruction Mode: Lecture Grading Option: Letter

EDPT 652 Multiple Regression
Units: 3 Terms Offered: Sp Applied multiple regression analysis using Stata. *Recommended Preparation:* Introductory Statistics Instruction Mode: Lecture Grading Option: Letter

EDPT 654 Multivariate Statistical Techniques
Units: 3 Terms Offered: FaSpSm Multivariate statistical procedures in the analysis of behavioral inquiries; particular emphasis on multivariate analysis of variance. *Prerequisite:* EDPT 652. Instruction Mode: Lecture Grading Option: Letter

EDPT 655 Advanced Research Methods in Education
Units: 3 Terms Offered: Sp Focuses on principles of research design in education including literature synthesis, formulation of research problem and questions, selection of methodology and integration of research proposal. *Prerequisite:* EDPT 550. Instruction Mode: Lecture Grading Option: Letter

Education

EDUC 140m Mind, Belief and Behavior: Learning in a Diverse World
Units: 4 Terms Offered: FaSpSm Examination of current research about learning and motivation in the context of human diversity. Instruction Mode: Lecture Grading Option: Letter

EDUC 200 Introduction to the Teaching Profession
Units: 2 Identification and discussion of current issues and trends in schools and the teaching profession. Introduction to the development of a professional portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 204L Sociological Foundations of Education
Units: 3 Terms Offered: FaSp Introduction to the sociological foundations of education through focused study of schools, teacher-student relations, and classroom processes as they relate to social stratification. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EDUC 205L Child Development and Learning in Schools
Units: 3 Terms Offered: FaSp Introduction to processes of development and learning in school aged children, with an emphasis on school contexts. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EDUC 210 Breaking the Code of College Success
Units: 2 Terms Offered: FaSpSm Examination and application of research-based self-regulation and learning strategies to increase performance outcomes in any academic subject. Duplicates Credit in EDPT 110 Instruction Mode: Lecture Grading Option: Letter

EDUC 392 Undergraduate Research Methods
Units: 2 Terms Offered: Sp (Enroll in AMST 392)

EDUC 409 Foundations of Language Education
Units: 3 Terms Offered: FaSp Overview of research and current theories in bilingual, second language, and foreign language instruction. Instruction Mode: Lecture Grading Option: Letter

EDUC 410 The Teaching of Reading and Writing
Units: 4 Terms Offered: FaSp Analysis of reading/writing processes; methods/materials for teaching literacy in elementary schools; issues in biliteracy and instruction; classroom observation/participation in small-group instruction. Admission to the major. Instruction Mode: Lecture Grading Option: Letter

EDUC 411 Foundation of TESOL
Units: 4 Terms Offered: FaSp Introduction to the ways in which sociocultural context, language systems and acquisition influence English language learning and teaching. Instruction Mode: Lecture Grading Option: Letter

EDUC 412 Instructional Methods in TESOL
Units: 4 Terms Offered: FaSp Introduction to approaches in Teaching English to Speakers of Other Languages and methods for teaching reading, writing, listening, speaking, along with a practical fieldwork component. Instruction Mode: Lecture Grading Option: Letter

EDUC 413 Methods and Models of Instruction for Language Minority Students
Units: 2 Terms Offered: FaSp Curriculum materials and teaching strategies for use in successfully teaching language minority students in both elementary and secondary schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 415 Content to Pedagogy: Mathematics in the Elementary School
Units: 2 Terms Offered: FaSp Bridging college level mathematics content and elementary school curricula to design developmentally appropriate mathematics instruction. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 416 Content to Pedagogy: Art in the Elementary School
Units: 2 Terms Offered: Sp Transformation of content in art to curriculum in the elementary classroom. *Corequisite:* EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 417 Content to Pedagogy: From Science Content to Science Curriculum
Units: 2 Terms Offered: FaSp An overview of the goals and content of science instruction at the elementary level coupled with appropriate science curricular and pedagogical models. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 418 Content to Pedagogy: From Social Sciences to Social Studies
Units: 2 Terms Offered: FaSp Content, concepts, methods, and values for integrating the social sciences in the social studies. *Concurrent Enrollment: Concurrent enrollment:* EDUC 424a or EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 419 Content to Pedagogy: P.E. for Elementary Students
Units: 2 Terms Offered: Sp Transformation of content in Physical Education to curriculum in the elementary classroom. *Corequisite:* EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 421 Global Issues: Impact on Educational Outcomes
Units: 4 Terms Offered: FaSpSm Situates U.S. education within the global context and examines the impact of global issues on national and international schooling in the 21st Century. Instruction Mode: Lecture Grading Option: Letter

EDUC 422 Social Change, Difference and Access to Schooling
Units: 4 Terms Offered: FaSp Examines access to schooling and quality education in international contexts across student difference indexed by race, class and gender. Instruction Mode: Lecture Grading Option: Letter

EDUC 423 Unrealized Promise and Hope for Education in 21st Century
Units: 4 Terms Offered: FaSpSm Investigation of how educational promise has been historically realized and derailed is reviewed, with focus on technologies of new media in designing equitable social futures. *Recommended Preparation:* Freshman Seminar on a topic in education. Instruction Mode: Lecture Grading Option: Letter

EDUC 424a Curriculum and Methods in Elementary Education
Units: 2 Terms Offered: FaSp Curriculum materials and teaching procedures in the elementary school. *Concurrent Enrollment:* concurrent enrollment: EDUC 425a. Instruction Mode: Lecture Grading Option: Letter

EDUC 424b Curriculum and Methods in Elementary Education
Units: 2 Terms Offered: FaSp Curriculum materials and teaching procedures in the elementary school. *Concurrent Enrollment:* concurrent enrollment: EDUC 425b. Instruction Mode: Lecture Grading Option: Letter

EDUC 425a Observation and Directed Teaching in Elementary Schools
Units: 3 Terms Offered: FaSp Observation and experience in teaching under supervision in elementary schools (one semester at the kindergarten-primary level and one semester in the intermediate or upper grades). *Concurrent Enrollment:* Concurrent enrollment: EDUC 424a. Instruction Mode: Lecture Grading Option: Letter

EDUC 425b Observation and Directed Teaching in Elementary Schools
Units: 3 Terms Offered: FaSp Observation and experience in teaching under supervision in elementary schools (one semester at the kindergarten-primary level and one semester in the intermediate or upper grades). *Concurrent Enrollment:* Concurrent enrollment: EDUC 424b. Instruction Mode: Lecture Grading Option: Letter

EDUC 426 Educational Inquiry
Units: 4 Terms Offered: FaSp Introduction to the skills and knowledge required to be competent consumers and producers of education research. Students will be asked to design an educational study. Instruction Mode: Lecture Grading Option: Letter

EDUC 427 Vectors that Influence Early Childhood Development
Units: 4 Terms Offered: FaSp Investigating early childhood issues from professional perspectives: historian, journalist, premedical, and law. Instruction Mode: Lecture Grading Option: Letter

EDUC 428 The Effects of Curriculum and Institution on Early Childhood
Units: 4 Terms Offered: FaSp The study of research, philosophy, and pedagogy that informs political, parents, community members, schools and their curriculum. Instruction Mode: Lecture, Lab Grading Option: Letter

EDUC 429 Early Childhood and Contemporary Society
Units: 4 Terms Offered: FaSp Consequences of "corporate world" on developing expectations of young children as consumers and scholars, an emphasis on films, television, and toys that effect intellectual growth. Instruction Mode: Lecture Grading Option: Letter

EDUC 430 Early Childhood: Action Research Focus
Units: 4 Terms Offered: FaSp Selecting an instructional or developmental problem of young children to investigate through an action research design. Instruction Mode: Lecture Grading Option: Letter

EDUC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EDUC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Seminar in selected topics in education. Specific topics to be determined at the time seminar is offered. Instruction Mode: Lecture Grading Option: Letter

EDUC 500 The Counseling Process
Units: 3 Theoretical foundations, models, values, and assumptions underlying psychological counseling; cross-cultural perspectives, ethical and legal considerations. *Concurrent Enrollment:* Concurrent enrollment: EDUC 507. Duplicates Credit in former EDCO 500. Instruction Mode: Lecture Grading Option: Letter

EDUC 501 Instruction for Teaching English as a New Language
Units: 3 Terms Offered: FaSpSm Teaching linguistically and culturally responsively to linguistic minority students. Topics include learning theories, sociocultural contexts of language development, and assessment of language and non-language competencies. Open only to MAT and MAT (online) students. Registration Restriction: Open only to MAT and TESOL students. Duplicates Credit in EDUC 543ab. Instruction Mode: Lecture Grading Option: Letter

EDUC 502a Teaching Science in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching science to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 502b Teaching Science in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching science to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (online). Duplicates Credit in EDUC 539. Instruction Mode: Lecture Grading Option: Letter

EDUC 503 Learning and Motivation
Units: 3 Terms Offered: FaSpSm Design and advancement of learning and motivation outcomes in various environments through a systematic examination and application of current research. Instruction Mode: Lecture Grading Option: Letter

EDUC 504 Foundations of Literacy Development and Instruction
Units: 2 Terms Offered: FaSpSm Application of a balanced, integrated, interactive perspective to teaching reading in an elementary classroom. Foundational skills needed in the developmental phase of learning to read. Open only to MAT Multiple Subject and Multiple Subject (online) students. Registration Restriction: Open only to MAT Multiple Subject students. Instruction Mode: Lecture Grading Option: Letter

EDUC 505 Integrating Literacy in Secondary Content Instruction
Units: 2 Terms Offered: FaSpSm Facilitation, mediation and intervention in

the development of literacy and language integrated within the content areas. Connection between language and literacy to developing content knowledge. Open only to MAT Single Subject, Single Subject (online), TESOL and TESOL (online) students. Instruction Mode: Lecture Grading Option: Letter

EDUC 506 New Media Literacies in High Needs Schools
Units: 2 Terms Offered: FaSpSm Instructional procedures and resources for encouraging secondary students' interests in communications, cultural studies, media production, and literacy education. Open only to MAT Single Subject, Single Subject (online), TESOL and TESOL (online) students. Instruction Mode: Lecture Grading Option: Letter

EDUC 507 Professional Identity, Law and Ethics for Counselors
Units: 3 History of the field of counseling and professional identity development for counselors are addressed. Examination of current legal, ethical, and other professional issues in counseling. *Concurrent Enrollment:* Concurrent enrollment: EDUC 500. Instruction Mode: Lecture Grading Option: Letter

EDUC 508 Creating Communities of Interest
Units: 2 Terms Offered: FaSpSm Framing the graduate experience for master's students. Establishing a professional foundation and philosophy as educators. Instruction Mode: Lecture Grading Option: Letter

EDUC 509a Teaching Mathematics in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching mathematics to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (On Line). Instruction Mode: Lecture Grading Option: Letter

EDUC 509b Teaching Mathematics in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching mathematics to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (On Line). Duplicates Credit in EDUC 545. Instruction Mode: Lecture Grading Option: Letter

EDUC 510 Theories of Language Learning and Teaching
Units: 3 Terms Offered: FaSpSm Application of learning theories to the design of second language instruction and student assessment to promote motivation, investment, self-regulation and engagement among language learners. Registration Restriction: Open only to majors in Teaching English to Speakers of Other Languages Instruction Mode: Lecture Grading Option: Letter

EDUC 511 Introduction to Counseling
Units: 3 Terms Offered: Fa The role of the school counselor. An overview of key elements in increasing access to and equity for primary and secondary education for all students. Instruction Mode: Lecture Grading Option: Letter

EDUC 512 Reading and Writing Methods for Secondary Teaching
Units: 2 Terms Offered: Fa Analysis of reading/writing processes; methods for teaching literacy in grades 9–12; issues in biliteracy and instruction. Instruction Mode: Lecture Grading Option: Letter

EDUC 513a Teaching English Language Arts in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching English to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 513b Teaching English Language Arts in Secondary Classrooms
Units: 3, 4 Terms Offered: FaSpSm Strategies, methods, and materials for teaching English to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (online). Duplicates Credit in EDUC 535. Instruction Mode: Lecture Grading Option: Letter

EDUC 514 School Counseling Seminar
Units: 3 Terms Offered: Sp Current issues and problems in school counseling; emphasis is on K–12 learning and achievement. Instruction Mode: Lecture Grading Option: Letter

EDUC 515 Theories of Marriage and Family Therapy
Units: 3 Major psychotherapeutic orientations relating to family systems, marital relationships, and communications theory applied to the family unit. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Instruction Mode: Lecture Grading Option: Letter

EDUC 516 Framing the Social Context of High Needs Schools
Units: 3 Terms Offered: FaSpSm Introduction to the Master of Arts in Teaching Program. Relationship between the actions of the teacher and student learning in the classroom and school context. Open only to MAT and MAT (online) students. Duplicates Credit in EDUC 517ab. Instruction Mode: Lecture Grading Option: Letter

EDUC 518 Application of Theories of Learning to Classroom Practice
Units: 3 Terms Offered: FaSpSm Learning theories and instructional practices for teaching. Procedures involved in curriculum development, planning, evaluation, and practical application. Open only to MAT and MAT (online) students. Registration Restriction: Open only to Multiple Subject Teaching, Multiple Subject Teaching (online), Single Subject (Music Education). Single Subject Teaching, and Single Subject Teaching (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 519 Human Differences
Units: 3 Equity and diversity in learning environments. Issues in teaching special populations. Beliefs about how people learn. Inclusive environment for special populations in the general classroom. Open only to MAT and MAT (online) students. Registration Restriction: Open only to Single Subject (Music Education), Multiple Subject Teaching, Multiple Subject Teaching (online), Single Subject Teaching, and Single Subject Teaching (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 520 Counseling for College and Career Readiness I
Units: 2 Terms Offered: Fa Theoretical foundations of individual and systemic characteristics that impact college and career choices. Consideration of economic, political, social, and policy issues. Instruction Mode: Lecture Grading Option: Letter

EDUC 521 Assessment and Instruction for Diverse Language Learners
Units: 3 Terms Offered: FaSpSm Assessment practices and strategies in English language instruction with special attention to learner differences (social, cultural, physical, intellectual) that influence academic performance. Open only to MAT TESOL and TESOL (online) students. Registration Restriction: Open only to Teaching English to Speakers of Other Languages and Teaching English to Speakers of Other Languages (online). Instruction Mode: Lecture Grading Option: Letter

EDUC 522 Challenges in Urban Education: Accountability
Units: 3 Terms Offered: Sp Issues related to accountability theory and practice in urban education settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 523 Challenges in Urban Education: Diversity
Units: 3 Terms Offered: Fa Diversity issues in urban educational settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 524 Challenges in Urban Education: Leadership
Units: 3 Terms Offered: Sp Theories, principles, and concepts of leadership in urban K–12 schools and institutions of higher education. Open only to EdD students. Registration Restriction: Open only to Ed.D. students. Instruction Mode: Lecture Grading Option: Letter

EDUC 525 Challenges in Urban Education: Learning
Units: 3 Terms Offered: Fa Theory and research in learning, motivation, and instruction for diverse educational settings. Open only to EdD students. Registration Restriction: Open only to Ed.D. students.

Instruction Mode: Lecture Grading Option: Letter

EDUC 527 Assessment in the Language Classroom
Units: 2 Terms Offered: Sm Introduces students to relevant research in language assessment, reviews concepts of reliability and validity and examines assessment practices in the classroom. Instruction Mode: Lecture Grading Option: Letter

EDUC 528 Course Proposal Project
Units: 2 Terms Offered: Sm Using a framework of course development, students present a course proposal, linking the theoretical, methodological and practical principles gained from all course work in the program. Instruction Mode: Lecture Grading Option: Letter

EDUC 529 Political and Academic Issues Affecting Gifted Students
Units: 3 Terms Offered: FaSpSm Examination of the political and academic issues affecting gifted and high-ability students. Psychosocial reasons contributing to achievement and underachievement. Institutional and personal factors inhibiting potential. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 530 Differentiated Curriculum and Pedagogy for Gifted Students
Units: 3 Terms Offered: FaSpSm Recognizing the talent and potential of gifted and high ability students. How gifted education can be generalized to affect the education of all students. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 531 Student Disability Issues in Higher Education
Units: 3 Terms Offered: Fa History of the disability movement; current research on the success of students with disabilities in higher education; legal and management issues. Instruction Mode: Lecture Grading Option: Letter

EDUC 532 Inquiry Methods I
Units: 3 Terms Offered: Sp Logic and methods of quantitative data analysis in the examination of educational issues and the framing of solutions for them. Open only to EdD students. Instruction Mode: Lecture Grading Option: Letter

EDUC 533 School Leadership: Theory and Practice
Units: 3 Terms Offered: Fa Theories and principles of leadership and the application of principles to solve authentic problems in elementary and secondary schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 534 TESOL Capstone
Units: 4 Terms Offered: FaSp The culminating experience for candidates in the MAT-TESOL Program, candidates will be working on summative assessment of the program and a professional development project. Registration Restriction: Open only to majors in Teaching English to Speakers of Other Languages. Duplicates Credit in the former EDUC 526a and EDUC 526b

EDUC 535 Teaching Secondary English and Language Arts
Units: 4 Terms Offered: FaSpSm Instructional procedures, techniques, strategies, and resources for teaching English in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 536 Inquiry Methods II
Units: 3 Terms Offered: Sp Logic and methods of qualitative data analysis in the examination of educational issues and the framing of solutions for them. Open only to EdD students. Instruction Mode: Lecture Grading Option: Letter

EDUC 537 Leading with the Community and Culture in Context
Units: 3 Terms Offered: Sp Creating a positive culture of learning to promote student success. Strategies to engage diverse communities. Instruction Mode: Lecture Grading Option: Letter

EDUC 538 Entrepreneurial School Leadership
Units: 2 Terms Offered: Fa Entrepreneurial opportunities in education. Developing the skills and knowledge for entrepreneurial leadership to improve educational outcomes. Instruction Mode: Lecture Grading Option: Letter

EDUC 539 Teaching Secondary Science
Units: 4 Terms Offered: FaSpSm Instructional procedures, techniques, strategies, and resources for teaching science in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 541a Teaching Social Studies in Secondary Classrooms
Units: 3 Strategies, methods, and materials for teaching social studies to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (On Line). Duplicates Credit in former EDUC 534. Instruction Mode: Lecture Grading Option: Letter

EDUC 541b Teaching Social Studies in Secondary Classrooms
Units: 3 Strategies, methods, and materials for teaching social studies to all learners in secondary classrooms. Open only to MAT Single Subject and Single Subject (online) students. Registration Restriction: Open only to Single Subject Teaching and Single Subject Teaching (On Line). Duplicates Credit in former EDUC 542b. Instruction Mode: Lecture Grading Option: Letter

EDUC 544 Measurement Procedures for Counselors
Units: 3 Educational and psychological instruments; psychometric concepts and the rationale for the use of psychological instruments in the counseling relationship. Duplicates Credit in former EDCO 544. Instruction Mode: Lecture Grading Option: Letter

EDUC 545 Teaching Secondary Mathematics
Units: 4 Terms Offered: FaSpSm Instructional procedures, techniques, strategies, and resources for teaching mathematics in secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 546 Psychopathology for Marriage and Family Therapy
Units: 3 Theories of psychological impairment emphasizing diagnosis of child and family dysfunction. Practice in utilizing DSM-IV classification of case studies. Duplicates Credit in former EDCO 546. Instruction Mode: Lecture Grading Option: Letter

EDUC 547 Career Development: Theory and Process
Units: 3 Theories and process of career development; principles of career and leisure planning and counseling applicable throughout life. Duplicates Credit in former EDCO 548. Instruction Mode: Lecture Grading Option: Letter

EDUC 548 Data-Driven Leadership for Schools
Units: 3 Terms Offered: Sm Analyzing, interpreting, and using data to increase effectiveness of instruction and programs, improve student learning, and reduce or eliminate the achievement gap. Instruction Mode: Lecture Grading Option: Letter

EDUC 549 Supervising Instruction for Optimal Learning
Units: 3 Terms Offered: Sm Application of adult learning theory to evaluate instruction. Appropriate professional development to improve student achievement. Instruction Mode: Lecture Grading Option: Letter

EDUC 550 Multimedia Literacy
Units: 3 Terms Offered: FaSpSm Applying new technology in the classroom. Exploration of the use of multimedia tools to increase literacy. Examination of multiple forms of technology to facilitate learning. Open only to MAT and Gifted Education Certificate students. Instruction Mode: Lecture Grading Option: Letter

EDUC 551 Teaching Physical Education
Units: 1 Terms Offered: FaSpSm Instructional approaches for integrating physical education content across the elementary curriculum. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 552 Literacies in the Content Area
Units: 3 Terms Offered: FaSpSm Literacy and language within content areas. Developing reading, writing, speaking and listening skills for real audiences. Academic language. Instruction Mode: Lecture Grading Option: Letter

EDUC 553 Psychopharmacology and the Effects of Substance Abuse
Units: 3 Terms Offered: Sp Focus on the effects of psychotropic medication, alcohol, and other substances on behavior. The professional and ethical issues for marriage and family therapists. Instruction Mode: Lecture Grading Option: Letter

EDUC 554 Visual and Performing Arts in Elementary Subjects
Units: 2 Terms Offered: FaSpSm

Instructional approaches for integrating visual and performance arts content across the elementary curriculum. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 555 STEM Education in Secondary Classrooms
Units: 3 Terms Offered: FaSpSm Developing innovative practices in designing inquiry-based lesson plans to faciliate integrating the STEM disciplines as a foundation for teaching. Instruction Mode: Lecture Grading Option: Letter

EDUC 556 Integrating English Language Arts and Social Studies
Units: 5 Terms Offered: FaSpSm Strategies and methods for integrating English language arts in social studies classrooms. Reinforces the concept of social studies as a conduit to further student learning. Open only to MAT Multiple Subject and Multiple Subject (online) students. Duplicates Credit in EDUC 567. Instruction Mode: Lecture Grading Option: Letter

EDUC 557 Civics Education
Units: 3 Terms Offered: FaSpSm Uses of pedagogical practices for increasing student engagement in the study of history and civics. Becoming critical thinkers, problem solvers, and effective citizens. Instruction Mode: Lecture Grading Option: Letter

EDUC 558 Culture Learning in Schools: Latino
Units: 3 History, values, beliefs, and the demography of Spanish-speaking people; implications for the American classroom. Conducted in English. No previous knowledge of Latino culture is needed. Registration Restriction: Open only to USC Rossier School of Education students Instruction Mode: Lecture Grading Option: Letter

EDUC 559 Discourse Analysis and Technology in STEM Classrooms
Units: 3 Terms Offered: FaSpSm Using multiple assessment strategies and technology to assess mathematical and scientific thinking and performance. Instruction Mode: Lecture Grading Option: Letter

EDUC 560 Primary Language Instruction in a Bilingual Setting
Units: 3 Terms Offered: Fa Bilingual programs, their goals, personnel, teaching methods, and materials. Instruction Mode: Lecture Grading Option: Letter

EDUC 561 TESOL Instruction and Methods of Teaching A
Units: 3 Overview of approaches and methods in TESOL, topics include curriculum and lesson planning, lesson sequencing and delivery and methods for teaching reading, writing, speaking and listening. Registration Restriction: Open only to majors in Teaching English to Speakers of Other Languages. Instruction Mode: Lecture Grading Option: Letter

EDUC 562 Teaching English to Speakers of Other Languages Pedagogy II
Units: 3 Introduction to microcomponents of effective teaching, including curriculum and lesson planning, lesson sequencing and delivery, and creating a classroom environment conducive to English language learning. Instruction Mode: Lecture Grading Option: Letter

EDUC 563 Teaching from a Comparative and International Perspective
Units: 3 Terms Offered: FaSpSm Examines the social context of schooling from a comparative and international perspective, connections between cultural beliefs and societal values; issues of social stratification and marginalization. Instruction Mode: Lecture Grading Option: Letter

EDUC 564 Teacher Leadership
Units: 2 Terms Offered: FaSpSm Strategies of leadership that lead from influencing learning in the classroom to influencing learning across an entire school. Becoming an instructional leader. Instruction Mode: Lecture Grading Option: Letter

EDUC 565a Social Foundations of TESOL
Units: 2 Terms Offered: FaSp Sociocultural contexts of English language learning, and awareness of language variation as a vehicle for developing and articulating one's personal praxis in TESOL. Duplicates Credit in EDUC 506 Instruction Mode: Lecture Grading Option: Letter

EDUC 565b Social Foundations of TESOL
Units: 3 Terms Offered: FaSp Teaching linguistically and culturally responsively to English language learners. Topics include sociolinguistic theories, sociocultural contexts of language development, and multifaceted assessment of learner competencies. *Prerequisite:* EDUC 565a. Duplicates Credit in EDUC 501 Instruction Mode: Lecture Grading Option: Letter

EDUC 566 Teaching Mathematics and Science
Units: 4 Terms Offered: FaSpSm Instructional approaches for integrating mathematics and science with other content areas in elementary and secondary classrooms. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 567 English and Language Arts in Elementary Social Studies
Units: 4 Terms Offered: FaSpSm Integrating English and language arts development with learning in elementary social studies classrooms. Factors affecting the teaching and learning of social studies and language arts. Open only to MAT students. Instruction Mode: Lecture Grading Option: Letter

EDUC 568a Guided Practice
Units: 3 Supervised practicum in observation and teaching. Focus on planning, implementing, and assessing instruction for whole classes and individual students. Open only to MAT students. Duplicates Credit in former EDUC 568. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 568b Guided Practice
Units: 3 Supervised practicum in observation and teaching. Focus on planning, implementing, and assessing instruction for whole classes and individual students. Open only to MAT students. Duplicates Credit in former EDUC 568. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 569a Capstone Portfolio in Learning and Instruction
Units: 2 The culminating experience in the Master of Arts in Teaching Program for students in the non-credential track. Open only to MAT students. Duplicates Credit in former EDUC 569. Instruction Mode: Lecture Grading Option: Letter

EDUC 569b Capstone Portfolio in Learning and Instruction
Units: 2 The culminating experience in the Master of Arts in Teaching Program for students in the non-credential track. Open only to MAT students. Duplicates Credit in former EDUC 569. Instruction Mode: Lecture Grading Option: Letter

EDUC 570 Research Methods and Data Analysis
Units: 3 Terms Offered: FaSpSm Various research designs and their appropriateness for addressing different research questions. Threats to validity and other challenges in research. Basic statistical methods and their use. *Recommended Preparation:* beginning statistics course. Instruction Mode: Lecture Grading Option: Letter

EDUC 572a Teaching in an International and Intercultural Context
Units: 2 Terms Offered: Fa Examines social context of education from an international and intercultural perspective, linkages between societal values, culture, and schooling, and implications for the role of teachers. Instruction Mode: Lecture Grading Option: Letter

EDUC 572b Teaching in an International and Intercultural Context
Units: 2 Terms Offered: Fa Examines social context of education from an international and intercultural perspective, linkages between societal values, culture, and schooling, and implications for the role of teachers. Instruction Mode: Lecture Grading Option: Letter

EDUC 573 Introduction to Special Education
Units: 3 Terms Offered: FaSpSm Effective and appropriate educational settings for students with disabilities. Legal and professional responsibilities. Components for an inclusive classroom. Instruction Mode: Lecture Grading Option: Letter

EDUC 574 Collaboration, Families and Case Management
Units: 3 Terms Offered: FaSpSm Planning and implementing effective educational services for students receiving special education services. Potential interventions for family support. Coordination of services. Instruction Mode: Lecture Grading Option: Letter

EDUC 575 Assessment and Curriculum for Students with Disabilities
Units: 3 Terms Offered: FaSpSm Developing effective educational interventions for students with disabilities. Formal and informal assessment. Curriculum strategies. Instruction Mode: Lecture Grading Option: Letter

EDUC 576 Establishing and Maintaining an Effective Classroom Ecology
Units: 3 Terms Offered: FaSpSm Environmental and personal factors affecting student achievement. Intervention methodologies. Creating an effective learning environment. Instruction Mode: Lecture Grading Option: Letter

EDUC 577 Guided Practice: Mild/ Moderate Disabilities
Units: 3 Terms Offered: FaSpSm Supervised practicum in observation and teaching. Focus on planning, implementing, and assessing instruction for whole classes and individual students with mild/moderate disabilities. Instruction Mode: Lecture Grading Option: Letter

EDUC 578 Integrating the Arts into the Secondary Curriculum
Units: 3 Terms Offered: FaSpSm Methods for integrating the arts into secondary classroom instruction. Critical and creative thinking, aesthetic education. Instruction Mode: Lecture Grading Option: Letter

EDUC 579 Media Selection and Evaluation
Units: 2 Terms Offered: FaSpSm Selection and evaluation of media and technologies in support of instructional design based on a survey of current research and recommendations. Instruction Mode: Lecture Grading Option: Letter

EDUC 580 Transforming STEM Education into Teaching Science
Units: 3 Terms Offered: FaSpSm The convergence of science, technology, engineering, and mathematics (STEM) as a foundation for teaching science. Instruction Mode: Lecture Grading Option: Letter

EDUC 581 STEM Education from a Project-Based Learning Approach
Units: 3 Terms Offered: FaSpSm Model-based reasoning and inquiry as a means of integrating STEM disciplines. Instruction Mode: Lecture Grading Option: Letter

EDUC 582 Assessment and Evaluation
Units: 2 Terms Offered: FaSpSm Overview of the concepts and procedures for assessment and evaluation of individual and overall performance in various learning environments. Instruction Mode: Lecture Grading Option: Letter

EDUC 583 Counseling through the Lifespan
Units: 3 Developmental issues and life events from infancy to old age and their effect upon individuals, couples, and family relationships. Instruction Mode: Lecture Grading Option: Letter

EDUC 584 Facilitating Creativity and Innovation in STEM Classrooms
Units: 3 Terms Offered: FaSpSm The role of creativity in STEM education. Theories and approaches to facilitating creative and innovative thinking. Instruction Mode: Lecture Grading Option: Letter

EDUC 585 Action Research Project
Units: 3 Terms Offered: FaSpSm Design and implementation of a STEM-based project. Instruction Mode: Lecture Grading Option: Letter

EDUC 586 Design of Learning Environments
Units: 3 Terms Offered: FaSpSm Design of learning environments through application of design principles; project-based practice in aligning instructional design, media selection, and the features of learning spaces. Instruction Mode: Lecture Grading Option: Letter

EDUC 587 Master's Studio A
Units: 2 Terms Offered: FaSpSm Students propose and design a capstone project that applies knowledge and skills learned throughout the program and prepare a coursework portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 588 Master's Studio B
Units: 4 Terms Offered: FaSpSm Students implement the capstone project and submit a portfolio that integrates program coursework. Instruction Mode: Lecture Grading Option: Letter

EDUC 589 Human Lifespan Development
Units: 3 Terms Offered: FaSpSm Fundamentals of human physical, motor, mental, social, and emotional development, spanning the prenatal period through late adulthood. Duplicates Credit in the former EDPT 520. Instruction Mode: Lecture Grading Option: Letter

EDUC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 591 Diversity: Power, Equity and Inclusion
Units: 3 Terms Offered: FaSpSm Appraises practices that maintain power; creates strategies to empower individuals and marginalized groups by intervening to achieve equitable outcomes in education, professions and communities. Instruction Mode: Lecture Grading Option: Letter

EDUC 592a Applied Linguistics for TESOL
Units: 3 Terms Offered: FaSp Exploration of English language systems including words,sounds, sentence structure, and discourse and application of this knowledge to teaching English as second or foreign language. Duplicates Credit in the former EDUC 571. Instruction Mode: Lecture Grading Option: Letter

EDUC 592b Applied Linguistics for TESOL
Units: 3 Terms Offered: FaSp Exploration of English language systems including words, sounds, sentence structure, and discourse and application of this knowledge to teaching English as second or foreign language. Duplicates Credit in the former EDUC 571. Instruction Mode: Lecture Grading Option: Letter

EDUC 593a Master's Seminar
Units: 2 An examination and analysis of research and literature in the student's area of focus. Duplicates Credit in former EDCO 593ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 593b Master's Seminar
Units: 2 An examination and analysis of research and literature in the student's area of focus. Duplicates Credit in former EDCO 593ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

EDUC 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

EDUC 595 Instructional Design
Units: 3 Terms Offered: FaSpSm Formulation and design of effective instruction; emphasis on analysis of media characteristics and instrumentation requirements. Duplicates Credit in the former EDPT 520. Instruction Mode: Lecture Grading Option: Letter

EDUC 596 English Language Learning Design, Teaching and Technology
Units: 3 Terms Offered: FaSp Students collaboratively design and deliver synchronous and asynchronous online language learning opportunities. Students become versatile with adapting content, technical aspects of video-conferencing and interactional dynamics Duplicates Credit in the former EDUC 540a and EDUC 540b Instruction Mode: Lecture Grading Option: Letter

EDUC 597 K-12 Teaching and Learning in Context
Units: 2 Terms Offered: Sm Prepares candidates to understand the relationship between the actions of the teacher and the extent to which students learn in classroom and school contexts. Instruction Mode: Lecture Grading Option: Letter

EDUC 598a Coached Practice
Units: 2 Terms Offered: FaSpSm Apply theory in practice, to deepen understanding of the teaching-learning process, and to engage in critical reflection. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 598b Coached Practice
Units: 2 Terms Offered: FaSpSm Apply theory in practice, to deepen understanding of the teaching-learning process, and to engage in critical reflection. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 598c Coached Practice
Units: 3 Terms Offered: FaSpSm Apply theory in practice, to deepen understanding of the teaching-learning process, and to engage in critical reflection. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 599 Special Topics

Units: 1, 2, 3, 4 Max Units: 9.0 Terms Offered: FaSpSm Selected topics in various areas of education. Instruction Mode: Lecture Grading Option: Letter

EDUC 600 Counseling for College and Career Readiness II
Units: 2 Terms Offered: Fa Planning and implementing theoretical foundations of college and career counseling. The application of contextually relevant strategies for assisting in college and career choices. Instruction Mode: Lecture Grading Option: Letter

EDUC 601 Seminar in Social Psychology
Units: 4 Max Units: max 8 Terms Offered: Fa (Enroll in PSYC 512)

EDUC 602 Self-concept and Motivation
Units: 4 (Enroll in PSYC 602)

EDUC 603 Framing Organizational Change and Leadership
Units: 4 Terms Offered: Fa Students identify and research problems of practice particularly pertinent in urban learning. The presentation of problems of practice requires the use of sound evidence-based research. Instruction Mode: Lecture Grading Option: Letter

EDUC 604 National Perspective on School Leadership
Units: 1 Terms Offered: Sm Students will examine the cultural, political, and economic issues pertinent to urban education within the national context to prepare them to be effective school leaders. Instruction Mode: Lecture Grading Option: Letter

EDUC 605 Framing Educational Leadership
Units: 1 Terms Offered: FaSm Critical analysis and creative expression applied to problems of practice. Supported and unsupported assertions. Evidence-based decision-making. The quality of evidence used to support arguments. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 606 International Studies Seminar
Units: 1 Terms Offered: FaSpSm Analyzing educational challenges and opportunities in international and global contexts. Understanding the global context of international education and issues facing international and global urban education. Course includes an overseas trip. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 607 Role of School Counselors in Student Learning and Motivation
Units: 3 Terms Offered: FaSpSm The process of identifying and assessing learning and motivational issues in schools, the application of research-based interventions, and the evaluation of effectiveness of these interventions. Instruction Mode: Lecture Grading Option: Letter

EDUC 608 School Connectedness, Climate, and Classroom Management
Units: 2 Terms Offered: Fa Prevention, education, and training for achievement. Data collection for assessment and evaluation of school climate, crisis and classroom management conducive to learning and success. Instruction Mode: Lecture Grading Option: Letter

EDUC 609 Academic Advising in Postsecondary Education
Units: 3 Terms Offered: Fa Contemporary issues in academic advising in postsecondary education. Examines and analyzes relevant theories, policies, and practices related to academic advising. Instruction Mode: Lecture Grading Option: Letter

EDUC 610 Higher Education Administration in China
Units: 3 Terms Offered: Sm Examination of student affairs and higher education administration practices in the People's Republic of China. Course concludes with a trip to China. Instruction Mode: Lecture Grading Option: Letter

EDUC 611 Athletic Administration
Units: 3 Terms Offered: Sp Analysis and discussion of critical issues in intercollegiate athletics. Student-athlete academic and social accountability; challenges of NCAA policies; commercialization, marketing, and fundraising in college athletics. Instruction Mode: Lecture Grading Option: Letter

EDUC 612 Application of Human Development Theory in School Counseling
Units: 3 Terms Offered: FaSpSm A theoretical perspective of human development across the lifespan. Issues and challenges faced by school counselors. Instruction Mode: Lecture Grading Option: Letter

EDUC 613 Gender Issues in Athletic Administration
Units: 3 Terms Offered: Sp Overview of Title IX and gender issues in institutions of higher education and implications for public schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 614 Research and Assessment in Higher Education
Units: 3 Terms Offered: Sm Theory and practice of outcomes assessment, program evaluation, and research design in postsecondary educational administration. Instruction Mode: Lecture Grading Option: Letter

EDUC 615 Ethics in Athletic Administration
Units: 3 Terms Offered: Fa Ethical concerns in intercollegiate athletics. Review, analysis, and discussion of ethical and moral conduct in sports. Relevance of social justice to ethical behaviors. Instruction Mode: Lecture Grading Option: Letter

EDUC 616 Higher Education Seminar
Units: 3 Terms Offered: FaSp Capstone seminar course focused on the future of student affairs and higher education. Instruction Mode: Lecture Grading Option: Letter

EDUC 617 The Student Athlete in Higher Education
Units: 3 Terms Offered: Fa Examination of student athletes in higher education. Effective strategies for counseling and advising college student athletes; issues and challenges of athletic amateurism. Instruction Mode: Lecture Grading Option: Letter

EDUC 618 School Counseling Professional Portfolio
Units: 2 Terms Offered: Fa Preparation of an electronic resource portfolio that addresses a field based practice. The culminating experience for the M.Ed., School Counseling program. Instruction Mode: Lecture Grading Option: Letter

EDUC 619 Framing Educational Leadership in a Global Context
Units: 4 Terms Offered: Sm Globalization as a distinct phenomenon. Assessment of impact of globalization on educational systems and institutions. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 620 Fundamentals of Creativity, Innovation, and Entrepreneurship
Units: 2 Terms Offered: Sm The genesis and facilitation of creative ideas in educational practice. The transformation of creativity into innovation and entrepreneurship. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 621 Measurement and Evaluation for School Counselors
Units: 3 Terms Offered: Fa The use of formal and informal assessments to improve student achievement and well-being. Use of assessment data for intervention and evaluation. Instruction Mode: Lecture Grading Option: Letter

EDUC 622 Educational Theory and Instructional Design
Units: 2 Terms Offered: Fa Theories and elements of learning. Application in educational settings. Methodology for course development and evaluation. Emphasis on strategies, tools, and use of technology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DHYG-513

EDUC 623 Understanding Research That Informs Leadership
Units: 3 Terms Offered: Fa Understanding, interpreting, and applying education research. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 624 Educational Organizations: Governance and Finance I
Units: 2 Terms Offered: Fa Overview of economic concepts of education. Linkages between economic growth, development, and education. Impact of globalization. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 625a Induction Plan and Assessment of Candidate Competence
Units: 1 Terms Offered: FaSpSm The development of an individualized induction plan and assessment of competence for meeting requirements for the Clear Administrative Services Credential. Duplicates Credit in former EDUC 595 Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 625b Induction Plan and Assessment of Candidate Competence
Units: 1 Terms Offered: FaSpSm The development of an individualized induction

plan and assessment of competence for meeting requirements for the Clear Administrative Services Credential. Duplicates Credit in former EDUC 596. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 626 Fostering Entrepreneurship in Educational Systems
Units: 2 Terms Offered: Fa The role of entrepreneurship in education and conditions that support entrepreneurism within an educational organization. How social entrepreneurship partnerships improve educational outcomes. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 627 Education Performance Problems: Role of Learning
Units: 3 Terms Offered: Sp Contemporary perspectives on learning and motivation. Strategies and tools for identifying, diagnosing, and solving learning and motivational challenges and opportunities. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 628 Educational Organizations: Governance and Finance II
Units: 2 Terms Offered: Sp Diversification and differentiation of educational institutions globally. The finances of higher education. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 629 Consulting Practicum Context Analysis
Units: 3 Terms Offered: Sm Preparation, design, and analysis of an education-related problem. *Prerequisite:* EDUC 723 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 630 Organizations and Policy: Current Issues
Units: 4 Terms Offered: FaSp Study of contemporary issues in educational organizations, policy and change in K–12 and higher education with an explicit focus on the improvement of urban education. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 631 Locating Educational Performance Problems
Units: 3 Terms Offered: Sp Development and implementation of strategies for locating, solving and evaluating solutions to performance problems in educational organizations. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 632 Technology in Higher Education
Units: 2 Terms Offered: Sm The integration of technology in higher education and the relationship to quality of teaching, access to learners, and cost-effectiveness for universities and colleges. Instruction Mode: Lecture Grading Option: Letter Crosslisted as DHYG-514

EDUC 633 Child and Elder Abuse and Domestic Violence
Units: 2 A review of laws governing mandated reporting of child and elder abuse, the procedures involved, as well as etiology, effects, and treatment interventions. Instruction Mode: Lecture Grading Option: Letter

EDUC 634 Couples Counseling
Units: 3 Examines relational development and change, strategies for intervention with couples, and selected issues in couples relationship functioning. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Instruction Mode: Lecture Grading Option: Letter

EDUC 635 Psychotherapy with Children and Adolescents
Units: 3 Training in unique diagnostic considerations in working with children and adolescents. Exposure to empirically supported treatment modalities for children and adolescents. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Duplicates Credit in former EDCO 554. Instruction Mode: Lecture Grading Option: Letter

EDUC 636 Perspectives on Human Sexuality
Units: 3 The physiological-psychological and socio-cultural variables associated with sexual identity and sexual behavior with an emphasis upon sexual dysfunctions. *Prerequisite:* EDUC 507. Duplicates Credit in former EDCO 516. Instruction Mode: Lecture Grading Option: Letter

EDUC 637 Group Counseling: Theory and Process
Units: 3 Theory, research, and practice of group counseling. Includes laboratory experience. *Prerequisite:* EDUC 500, EDUC 507, EDCO 541. Duplicates Credit in former EDCO 542. Instruction Mode: Lecture Grading Option: Letter

EDUC 638 Cross-Cultural Counseling: Research and Practice
Units: 3 An examination of the cultural, socioeconomic, and language factors that may affect culturally differentiated populations; alternative crosscultural counseling approaches. Duplicates Credit in former EDCO 551. Instruction Mode: Lecture Grading Option: Letter

EDUC 639 Approaches and Strategies for Language Teaching
Units: 4 Terms Offered: FaSp Overview of approaches, models and strategies in language teaching, topics include lesson planning, and implementation of the lesson for language and content area instruction. Duplicates Credit in EDUC 561 Instruction Mode: Lecture Grading Option: Letter

EDUC 640 The Research University in the 21st Century
Units: 4 Terms Offered: FaSp An examination of the current transformation of the American research university with a focus on key issues that confront academics who work in research universities. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 641 Human Capital and School Organization
Units: 3 Terms Offered: Fa School leadership, organization, management and development of school personnel. Capitalizing on school resources to meet school goals. Instruction Mode: Lecture Grading Option: Letter

EDUC 642 Controversies in Learning and Instruction
Units: 4 Terms Offered: FaSp An introduction to learning research and theory, issues in learning and educational psychology situated in the context of diverse, urban settings. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 643 Advancing Community Support through Social Media
Units: 2 Terms Offered: Fa Use of social media to communicate school vision. Incorporating objectives, strategies, assessment, and accountability measures in communication plans. Instruction Mode: Lecture Grading Option: Letter

EDUC 644 Practicum in Counseling
Units: 3 Max Units: 6.0 Supervised clinical work with clients, including adults, couples, children, and families. *Prerequisite:* EDUC 500, EDUC 507, EDUC 546, EDCO 541. Duplicates Credit in former EDCO 560. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 645a Fieldwork in Counseling
Units: 3 Supervised field experience in a clinical setting. *Prerequisite:* EDUC 644. Duplicates Credit in former EDCO 561. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 645b Fieldwork in Counseling
Units: 3 Supervised field experience in a clinical setting. *Prerequisite:* EDUC 644. Duplicates Credit in former EDCO 561. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 646a Marriage and Family Therapy Capstone: Leadership Project
Units: 1 Terms Offered: FaSp An evidencebased leadership project, designed to enhance fieldwork site functioning. Includes needs assessment, literature review, project design, implementation, and evaluation. Instruction Mode: Lecture Grading Option: Letter

EDUC 646b Marriage and Family Therapy Capstone: Leadership Project
Units: 1 Terms Offered: FaSp An evidencebased leadership project, designed to enhance fieldwork site functioning. Includes needs assessment, literature review, project design, implementation, and evaluation. Instruction Mode: Lecture Grading Option: Letter

EDUC 647 School Leadership Seminar
Units: 2 Terms Offered: Sp Planning, design, and development of an action research plan for school improvement using multiple measures of project assessment. Instruction Mode: Lecture Grading Option: Letter

EDUC 648a Apprenticeship in School Administration and Leadership
Units: 2 Terms Offered: FaSp Supervised field experience in administrative areas of K–12 schools. Development of

Administrative Services Portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 648b Apprenticeship in School Administration and Leadership
Units: 2 Terms Offered: FaSp Supervised field experience in administrative areas of K–12 schools. Development of Administrative Services Portfolio. Instruction Mode: Lecture Grading Option: Letter

EDUC 649 Teaching Practice to Support Language Learners
Units: 4 Terms Offered: FaSp Introduces components of effective teaching, including lesson and unit planning, creating a classroom environment conducive to learning, and classroom management strategies. Duplicates Credit in EDUC 562 Instruction Mode: Lecture Grading Option: Letter

EDUC 650 Globalization and the Nation-State: Theories of Change
Units: 4 Terms Offered: FaSp The impact of globalization on educational public policies and practices: an examination of technology, information and communications, and their influence on transnational and national politics. Open to students admitted to the PhD only. Instruction Mode: Lecture Grading Option: Letter

EDUC 651 Introduction to Qualitative Research Methods
Units: 3 Terms Offered: FaSpSm Introduces qualitative methodologies, qualitative data collection and analysis techniques, support in drafting research proposals, and paradigms on how to critically think about inquiry. Instruction Mode: Lecture Grading Option: Letter

EDUC 652 Inquiry Methods III
Units: 3 Terms Offered: FaSpSm Logic and methods of qualitative data analysis in the examination of educational issues and the framing of solutions for them. *Prerequisite:* EDUC 532 and EDUC 536 Registration Restriction: Open only to Organizational Change and Leadership students Instruction Mode: Lecture Grading Option: Letter

EDUC 653 Advanced Qualitative Research
Units: 3 Terms Offered: Sp Interactive seminar that explores the theoretical underpinnings and practicalities of interviews, portraiture, focus groups, life histories, and cultural biographies. *Recommended Preparation:* introductory statistics. Instruction Mode: Lecture Grading Option: Letter

EDUC 654 Advanced Qualitative Research Methods II
Units: 3 Terms Offered: FaSpSm Designed to follow Advanced Qualitative Research, focuses on data analysis in the qualitative research tradition, writing and publishing from qualitative data. Instruction Mode: Lecture Grading Option: Letter

EDUC 655 Social Foundations of Language Education
Units: 4 Terms Offered: FaSp Candidates engage in systematic study of the social aspects of language learning and their significance for structuring learning opportunities for diverse students in language classrooms. Duplicates Credit in EDUC 565a and EDUC 565b Instruction Mode: Lecture Grading Option: Letter

EDUC 656 Applied Linguistics for English Language Educators
Units: 3 Terms Offered: FaSp Introduction to systems of English language and language in use. Contrasts systems of English to other languages to identify issues of interest for language teachers. Duplicates Credit in EDUC 592a, EDUC 592b, the former EDUC 571 Instruction Mode: Lecture Grading Option: Letter

EDUC 657 Social Foundations of Research
Units: 3 Terms Offered: Fa Foundations in social science research with exposure to broad cross-section of research methods, design, and analytical techniques. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 658 Hierarchical Linear Models
Units: 3 Terms Offered: Fa Application of two- and three-level multilevel models in educational settings, fixed and random effects, growth models. *Recommended Preparation:* a working understanding and knowledge of regression analysis and related Stata software. Instruction Mode: Lecture Grading Option: Letter

EDUC 659 Introduction to Causal Inference in Educational Settings
Units: 3 Terms Offered: Sm An introduction to quasi- and non-experimental methods researchers use to strengthen causal linkages between educational policies and reforms, and student, teacher, and other outcomes. *Recommended Preparation:* EDUC 658 Instruction Mode: Lecture Grading Option: Letter

EDUC 660a Clinical Practice Seminar in Language Teaching
Units: 2 First of two-course series focused on helping students translate theory to practice. Designed for students completing fieldwork required for the teaching credential. *Recommended Preparation:* Completion of CTC basic skills and subject matter competency test required to begin student teaching Instruction Mode: Lecture Grading Option: Letter

EDUC 660b Clinical Practice Seminar in Language Teaching
Units: 2 Terms Offered: FaSp Second of two-course series focused on helping students translate theory to practice. Part B also facilitates preparation for and submission of the EdTPA. *Prerequisite:* EDUC 660a Instruction Mode: Lecture Grading Option: Letter

EDUC 670 Introduction to Curriculum and Pedagogy in Urban Schools
Units: 4 General introduction to curriculum and instruction (pedagogy) affecting teaching and learning across disciplines, grade levels, and different social contexts of schooling. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 671 Contexts for Educational Equity, Access, and Agency
Units: 3 Terms Offered: FaSpSm Examines how environmental, pedagogical, and curricular choices can be cultivated with greater knowledge of culture, gender, orientation, race, learning differences and language. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 672 Integrated Language Development Across the Curriculum
Units: 3 Understanding of language development and the connection between language and learning in school, across all curricular areas. Registration Restriction: MAT Students Only Duplicates Credit in EDUC 501 Instruction Mode: Lecture Grading Option: Letter

EDUC 673 Applications of Curriculum and Pedagogy, Part A
Units: 4 Candidates apply content-area knowledge utilizing a repertoire of pedagogical practices responsive to the needs and interests of diverse learners. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 674 Identifying and Teaching to Student Differences
Units: 3 Building on EDUC 671, course proceeds with greater focus on learner behavior, ability, and language to access strategies to differentiate, scaffold, and assess learning. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 675 Literacy Development and Instruction in Elementary Education
Units: 3 Literacy development and instruction, with a focus on the importance of literacy for academic success and civic participation. Registration Restriction: MAT Students Only Duplicates Credit in EDUC 504 Instruction Mode: Lecture Grading Option: Letter

EDUC 676 Literacy Development and Instruction in Secondary Education
Units: 3 Prepares prospective secondary teachers to integrate literacy instruction within their content area by creating authentic opportunities for learners to develop literacy skills. Registration Restriction: Open only to MAT students Duplicates Credit in EDUC 505 Instruction Mode: Lecture Grading Option: Letter

EDUC 677 Applications of Curriculum and Pedagogy, Part B
Units: 4 Building on EDUC 673, prepares candidates to apply curricular principles to lesson development and determine how content should be delivered to maximize learning. Registration Restriction: MAT Students Only Instruction Mode: Lecture Grading Option: Letter

EDUC 678 Applying Knowledge and Strategies for Teaching All Students
Units: 2 Building on EDUC 673, prepares candidates to apply curricular principals to lesson development and determine how content should be delivered to maximize learning. Registration Restriction: MAT Students Only Instruction Mode: Lecture

Grading Option: Letter

EDUC 679 Blended Learning Experiences for Students in Urban Schools
Units: 2 Design, implement, and evaluate technology-rich learning environments to customize and individualize learning opportunities and assessments for K-12 students. Registration Restriction: Open only to MAT students Instruction Mode: Lecture Grading Option: Letter

EDUC 689 Fiscal Support and Expenditure in Higher Education
Units: 3 Terms Offered: Sp Analyses of private and public financial support and expenditure patterns; includes recent trends in state and federal legislation related to higher education. Instruction Mode: Lecture Grading Option: Letter

EDUC 700 Research and Practice in the Preparation of Teachers
Units: 3 Research on the preparation of teachers for diverse populations. Measures of teacher quality and student achievement. Existing practices in teacher education from multiple perspectives. Instruction Mode: Lecture Grading Option: Letter

EDUC 701 Pedagogy in Teacher Education
Units: 3 A critical examination of pedagogical practices in teacher education. The design of pedagogical approaches and programs for diverse and underserved students in urban schools. Instruction Mode: Lecture Grading Option: Letter

EDUC 702 Curriculum, Teacher Preparation, and Student Learning
Units: 3 The process and role of curriculum in a variety of urban settings, teacher preparation, and professional growth. The philosophical and psychological foundations of curriculum development. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 703 Examining Literacy Theories and Practice
Units: 3 Literacy theories as practiced in urban, teacher education and professional development settings using an inquiry approach to examine best practice. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 704 Evaluation and Assessment in Teacher Education
Units: 3 Terms Offered: Fa Evaluation and assessment in the context of public schools, teacher preparation and professional growth in urban settings. Policy implications of data-based decision making and program implementation. Instruction Mode: Lecture Grading Option: Letter

EDUC 706 Proseminar in Higher Education
Units: 3 Critical issues in urban higher education from historical and philosophical perspectives. Instruction Mode: Lecture Grading Option: Letter

EDUC 707 Administration in Higher Education
Units: 3 Terms Offered: Fa Administrative issues in higher education. Academic leadership related to undergraduate and graduate education. Quality standards and assessment. How administrators create efficiency, effectiveness, performance, and change. Instruction Mode: Lecture Grading Option: Letter

EDUC 708 Advanced Student Development Theory
Units: 3 Terms Offered: Fa Examination of traditional and emergent student development theories. Instruction Mode: Lecture Grading Option: Letter

EDUC 709 Finance in Higher Education
Units: 3 Local, national, and global economic and policy environments and their effect on institutional policies and practices. Instruction Mode: Lecture Grading Option: Letter

EDUC 710 Assessment, Organizational Learning and Performance
Units: 3 The role of assessment in higher education. An analysis of the purpose and value of particular assessment approaches and instruments, in particular those addressing classroom learning and institutional effectiveness. Instruction Mode: Lecture Grading Option: Letter

EDUC 711 Social Factors Influencing Learning and Motivation
Units: 3 Social psychological principles and research techniques applied to educational problems; school environment, group behavior, teacher effectiveness, teacher-student interaction, behavioral change. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 712 Issues in Human Motivation
Units: 3 Analysis of motivational principles; diagnosis and solutions to motivation gaps in learning environments; and motivation and efficacy theories and principles. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 713 Issues in Lifespan Development
Units: 3 An examination of issues related to the development of diverse students and the development of environments that promote motivated behavior. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 714 Measurement and Evaluation for Decision-Making
Units: 3 Terms Offered: Sm Collecting, analyzing, and using quantitative data to solve problems of practice and in evaluating educational institutions, programs, and policies. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 715 Current Research in Learning
Units: 3 Current research in the application of learning theories, and the applicability of this research across a variety of contexts. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 716 Instructional Leadership
Units: 3 Terms Offered: Sm Examines the role of instructional leaders in improving student performance; current issues in curriculum design and implementation; and effective instructional leadership approaches for school improvement. Open only to doctoral students. Duplicates Credit in former CTSE 688. Instruction Mode: Lecture Grading Option: Letter

EDUC 717 Schooling as an Economic Enterprise
Units: 3 Terms Offered: Fa Applying economic theory to the study of education. Application of market theory to education, partnerships, allocation of resources, and the examination of educational enterprises. Open only to doctoral students. Duplicates Credit in former EDPA 615. Instruction Mode: Lecture Grading Option: Letter

EDUC 718 Maximizing Human Resources in Education
Units: 3 Terms Offered: Sm Strategically understanding the management of human capital to ensure high student performance. How to attract and retain top quality teachers. Open only to doctoral students. Duplicates Credit in former EDPA 610. Instruction Mode: Lecture Grading Option: Letter

EDUC 719 The Policies and Politics of Education Governance
Units: 3 Terms Offered: Fa Major issues facing educators in the 21st century. Emphasis on how educational policy can focus on incentives for schools to improve student learning. Open only to doctoral students. Duplicates Credit in former EDPA 613. Instruction Mode: Lecture Grading Option: Letter

EDUC 720 Leadership for Principals
Units: 3 Terms Offered: Sm The role of the principal as an instructional leader with a focus on improving student achievement. Open only to doctoral students. Duplicates Credit in former EDPA 600. Instruction Mode: Lecture Grading Option: Letter

EDUC 721 Leadership for Superintendents
Units: 3 Terms Offered: Sm The role of the superintendent in establishing a focus on student achievement and holding school sites accountable. How superintendents support student learning through leadership. Open only to doctoral students. Duplicates Credit in former EDPA 618. Instruction Mode: Lecture Grading Option: Letter

EDUC 723 Evaluating and Assessing Educational System Outcomes
Units: 3 Terms Offered: Sm Evaluating impact. Examination of key assessment theories; planning and implementation of learning and program effectiveness. *Prerequisite:* EDUC 631 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 724 Creating Policy Alternatives for Educational Settings
Units: 3 Terms Offered: Sm Effective policy-making and constructing alternatives. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 725 Analyzing Organizational Change and Its Effectiveness
Units: 3 Terms Offered: Fa Designed to help leaders apply research about learning and motivation to the strengthening of organizational performance in organizations around the world. Instruction Mode: Lecture

Grading Option: Letter

EDUC 726 Making Choices: Deciding Among Policy Alternatives
Units: 3 Terms Offered: Fa Models of decision making including cost-benefit analysis, risk-benefit analysis, and decision analysis. Ethical considerations and the political environment. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 727 Implementing Policy in Educational Systems
Units: 3 Terms Offered: Sp Effective policy-making. Human and financial resources to support implementation. Targeting resources to support implementation to attain policy goals. *Prerequisite:* EDUC 726 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 728 Global Trends: Emerging Ideas, Emerging Markets
Units: 3 Terms Offered: Sp Examination of a range of emerging markets in education. Global efforts of institutions of higher education to access new markets through collaborations and offshore endeavors. Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 729 Assessing Policy Impact in Educational Settings
Units: 3 Terms Offered: Sp Theory and practice of educational policy evaluation. Limits of rationality and the political forces that shape policy. Preparation of an evaluation design. *Prerequisite:* EDUC 727 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

EDUC 730 Using Communication to Facilitate Organizational Change
Units: 3 Terms Offered: FaSpSm Addresses communication strategies that leaders use to facilitate positive change in their organization. Reinforces written, non-verbal, and verbal communication skills through leadership situations. Instruction Mode: Lecture Grading Option: Letter

EDUC 731 Economics of Organizational Change and Learning Environments
Units: 3 Terms Offered: FaSpSm Leadership, problem solving, communication, research, reflection, and professional dispositions will concurrently expand. Candidates will acquire the knowledge and skills to identify and implement economic change. Instruction Mode: Lecture Grading Option: Letter

EDUC 732 Building Capacity for Organizational Change
Units: 3 Terms Offered: FaSpSm Focuses on learning issues related to building organizational capacity for change through leadership and development of personnel within an organization. Instruction Mode: Lecture Grading Option: Letter

EDUC 733 Analyzing Data and Identifying Solutions
Units: 3 Terms Offered: Sp Designed to help students interpret study data and construct evidence-based solutions for real-time organizational problems of practice. *Prerequisite:* EDUC 629 Registration Restriction: Open only to USC Rossier School of Education students Duplicates Credit in EDUC 725 Instruction Mode: Lecture Grading Option: Letter

EDUC 764a Consulting Project
Units: 1 Terms Offered: FaSpSm Credit on acceptance of consulting project. Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 764b Consulting Project
Units: 1 Terms Offered: FaSpSm Credit on acceptance of consulting project. Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 764c Consulting Project
Units: 1 Terms Offered: FaSpSm Credit on acceptance of consulting project. Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 764d Consulting Project
Units: 1 Terms Offered: FaSpSm Credit on acceptance of consulting project. Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 764z Consulting Project
Units: 0 Terms Offered: FaSpSm Credit on acceptance of consulting project. Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 791 Proposal for Doctoral Dissertation
Units: 1 Terms Offered: FaSpSm Preparation of initial dissertation proposal. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 792 Critique of Research in Education
Units: 3 Terms Offered: FaSp A survey and critical analysis of selected research and literature. Open to students admitted to the EdD only. Instruction Mode: Lecture Grading Option: Credit/No Credit

EDUC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EDUC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Electrical Engineering

EE 101 Introduction to Digital Logic
Units: 3 Terms Offered: FaSp Boolean algebra; number systems; Boolean function synthesis; binary arithmetic; codes; combinational logic devices; sequential circuits; state machine design and implementation. Duplicates Credit in former EE 154. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-110

EE 105 Introduction to Electrical Engineering
Units: 4 Terms Offered: Fa Electrical engineering overview: communications, computers, circuits, components, signals, electromagnetics, microelectronics; data encoding and compression, USPS and UPC product codes, DVDs, semiconductor devices, and integrated circuits. Instruction Mode: Lecture, Lab Grading Option: Letter

EE 109L Introduction to Embedded Systems
Units: 4 Terms Offered: Fa Information representations, embedded programming, digital and serial I/O, analog-to-digital conversion, and interrupt mechanisms. Elementary analog, logic, and state-machine design. *Corequisite:* EE 155L or CSCI 103L Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 141L Applied Linear Algebra for Engineering
Units: 4 Introduction to linear algebra with engineering applications. Weekly laboratory exercises using MATLAB. Duplicates Credit in former EE 241 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 150L Engineering Computational Methods
Units: 3 Terms Offered: Fa Algorithms and computational methods for efficient solution of engineering problems. Introduction to engineering software tools. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 155L Introduction to Computer Programming for Electrical Engineers
Units: 4 Terms Offered: Fa Introduction to solving engineering problems using computational methods. Survey of various programming languages and their strengths and weaknesses. Program structure, input/output, conditionals, loops, functions, arrays. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 202L Linear Circuits
Units: 4 Terms Offered: FaSpSm Lumped circuit elements; network equations;

zero-input and zerostate responses; sinusoidal steady-state analysis; impedance; resonance; network functions; power concepts; transformers; Laplace transforms. *Prerequisite:* PHYS 152L *Corequisite:* MATH 245. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 209 Foundations of Digital System Design
Units: 4 Logic-function synthesis, state machines, combinational and sequential data-path components. Physical principles used to analyze and design digital integrated circuits. *Prerequisite:* EE 109 Instruction Mode: Lecture Grading Option: Letter

EE 222 Fundamentals of Audio Engineering
Units: 3 Terms Offered: Fa Introduction to basic audio engineering principles and techniques, with emphasis on practical sound-system analysis and design. Sound measurements, microphones, amplifiers, loudspeakers, and system integration. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-222

EE 250L Distributed Systems for the Internet of Things
Units: 4 Introduction to hardware, operating systems, signal processing and control, network protocols, mobile applications, databases, cloud computing, machine learning, and security for the Internet of Things. *Prerequisite:* EE 109L and EE 155L *Recommended Preparation:* Experience with DIY electronics, Linux, and programming in a distributed, networked environment Registration Restriction: Open only to students with at least a sophomore standing Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 277L Introduction to Digital Integrated Circuits
Units: 2 Physical principles and circuit theory used to analyze and design digital integrated circuits. Introduction to digital abstractions that bridge the gap between basic circuit theory and VLSI. *Prerequisite:* EE 109. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 301L Linear Systems
Units: 4 Terms Offered: FaSp Representation and analysis of linear time-invariant systems primarily for the continuous time case. Convolution, Fourier series and transform, Laplace transform, controls and communications applications. *Prerequisite:* EE 202L. Instruction Mode: Lecture, Lab Grading Option: Letter

EE 322 Introduction to Digital Audio
Units: 3 Terms Offered: Fa Fundamentals of sound, acoustics and digital audio signal processing. Instruction Mode: Lecture Grading Option: Letter

EE 326Lx Essentials of Electrical Engineering
Units: 4 Network analysis and theorems; transient analysis; transformers; semiconductor physics and circuits; power amplifiers, modulation and demodulation, and pulse, digital, and switching circuits. Introduction to instrumentation. *Prerequisite:* PHYS 152L, MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 330 Electromagnetics I
Units: 3 Terms Offered: FaSp Basic static and dynamic electromagnetic field theory and applications; electrostatics, magnetostatics, Maxwell's equations, energy flow, plane waves incident on planar boundaries, transmission lines. *Prerequisite:* EE 202L, MATH 445, PHYS 152L. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 337L Engineering Nano-Systems
Units: 3 Terms Offered: Sp Methods to control and exploit the phenomena of nanoscience, and the integration of nano-technology into systems. Development of fundamental concepts through a series of experimental modules. *Prerequisite:* PHYS 152. Duplicates Credit in former EE 238L. Instruction Mode: Lecture, Lab Grading Option: Letter

EE 338 Physical Electronics
Units: 4 Semiconductor device characteristics and applications. Physical models of electronic conduction in solids, p-n junctions, bipolar and field effect transistors and other solid-state devices. *Prerequisite:* EE 202L and PHYS 152L Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 348L Electronic Circuits
Units: 4 Terms Offered: FaSp Basic analog and digital circuit design using Bipolar Junction Transistors, Field Effect Transistors and integrated circuits. *Corequisite:* EE 338. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 351 Programming and Multimedia on the World Wide Web
Units: 3 Terms Offered: FaSpSm (Enroll in CSCI 351)

EE 352L Computer Organization and Architecture
Units: 3 Computer organization and architecture. Concepts include: computer evolution and performance, system busses, cache memory, internal and external memory, input/output, operating system support, computer arithmetic. *Prerequisite:* CSCI 104. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI-352

EE 354L Introduction to Digital Circuits
Units: 4 Digital system design and implementation; synchronous design of datapath and control; schematic/ Verilog-based design, simulation, and implementation in Field Programmable Gate Arrays; timing analysis; semester-end project. *Prerequisite:* EE 101 or EE 209 Duplicates Credit in EE 254 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 355x Software Design for Electrical Engineers
Units: 4 Object-oriented programming techniques, basic data structures, and elementary complexity analysis for the modeling, simulation, and solution of engineering problems. *Prerequisite:* EE 155L Credit Restriction: Not available for credit for CSCI, CSGM, CSBA, or CECS majors Duplicates Credit in former CSCI 355x Instruction Mode: Lecture, Lab Grading Option: Letter

EE 364 Introduction to Probability and Statistics for Electrical Engineering and Computer Science
Units: 3 Terms Offered: FaSp Introduction to concepts of randomness and uncertainty: probability, random variables, statistics. Applications to digital communications, signal processing, automatic control, computer engineering and computer science. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 370 Electromechanics
Units: 3 Ferromagnetism and transformers. Energy conversion in singly and multiply excited systems. Concepts in rotating machinery analysis. Direct energy conversion. *Prerequisite:* EE 330. Instruction Mode: Lecture Grading Option: Letter

EE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

EE 415 Introduction to MEMS
Units: 3 (Enroll in AME 455)

EE 422x Electromagnetic Systems Design
Units: 3 Terms Offered: FaSp Applied electromagnetics for large- and small-scale electromechanical systems. Comprehensive design project. Capstone design experience. *Prerequisite:* EE 330. Instruction Mode: Lecture Grading Option: Letter

EE 423Lx Loudspeaker and Sound-System Design
Units: 3 Terms Offered: Sp Project-based design of loudspeaker transducers, filters, and enclosures. Measurement of transfer functions, acoustical performance, distortion, Thiele-Small parameters, and power handling. Listening evaluations. Capstone design experience. *Prerequisite:* EE 301 or AME 302; PHYS 152; *Recommended Preparation:* EE 330. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as AME-423

EE 434Lx Digital Signal Processing Design Laboratory
Units: 4 Experiments and design project in digital signal processing (e.g., real-time DSP, acoustics, video) including: systems specification, preliminary analysis, trade-off studies, implementation, presentation. Capstone design experience. *Prerequisite:* EE 483. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 436 Introduction to Condensed Matter Physics
Units: 4 Terms Offered: Irregular, Sp (Enroll in PHYS 440)

EE 438L Processing for Microelectronics
Units: 3 Applications and electrical evaluation of selected processes used in electronic microfabrication. *Prerequisite:* EE 338. Duplicates Credit in former MASC

438L. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MASC-438

EE 439 Principles of Semiconductor Processing
Units: 3 (Enroll in MASC 439)

EE 441 Applied Linear Algebra for Engineering
Units: 3 Terms Offered: FaSpSm Introduction to linear algebra and matrix theory and their underlying concepts. Applications to engineering problems. *Prerequisite:* MATH 445 or graduate standing. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 443 Introduction to Power Systems
Units: 3 Components of power systems. Analysis techniques in electrical power generation transmission and utilization. Environmental and economic considerations in system operations and planning. Instruction Mode: Lecture Grading Option: Letter

EE 444 Power Systems Technology
Units: 3 Terms Offered: Fa Comprehensive assessment of the technical, environmental, and regulatory challenges that affect the future delivery and utilization of electric power. Case-study analysis. *Prerequisite:* EE 202. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 445 Introduction to Robotics
Units: 4 (Enroll in CSCI 445)

EE 447Lx Mixed Signal Electronic Circuits
Units: 4 Application of solid-state electronic devices to the design of linear and mixed-signal systems. Laboratory experiments and projects involving the design of electronic hardware. Capstone design experience. *Prerequisite:* EE 348. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 448L Communication Electronics
Units: 4 Terms Offered: FaSp Analysis, design, and experimental evaluation of transistor-level communication circuits and micro-systems. Transmission lines, impedance matching, noise, distortion, tuned amplifiers, mixers, oscillators, phase-locked loops. *Prerequisite:* EE 348. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 450 Introduction to Computer Networks
Units: 3 Terms Offered: FaSpSm Network architectures; layered protocols, network service interface; local networks; long-haul networks; internal protocols; link protocols; addressing; routing; flow control; higher level protocols. Registration Restriction: Open only to junior standing and above Duplicates Credit in CSCI 353 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as CSCI 450

EE 451 Parallel and Distributed Computation
Units: 4 Introduction to parallel programming techniques, models and optimization strategies; Application mapping to multi-core, accelerator, GPU and cloud platforms; High Performance Computing and Data Science applications. *Prerequisite:* EE 355x or CSCI 201L *Recommended Preparation:* High-level programming Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI 452

EE 452L Game Hardware Architectures
Units: 3 Terms Offered: Fa Architectural principles underlying modern game console hardware design; introduction to the programming techniques, optimization strategies, and hardware insights to create powerful games. *Prerequisite:* EE 352. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI-452

EE 454L Introduction to System-on-Chip
Units: 4 Terms Offered: Fa Design flow, tools, and issues related to System/Network-on-Chip (S/Noc) design for real-time embedded systems with applications in mobile, cloud, aerospace, and medical electronics. *Prerequisite:* EE 354. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CSCI 454

EE 455x Introduction to Programming Systems Design
Units: 4 (Enroll in CSCI 455)

EE 457 Computer Systems Organization
Units: 4 Terms Offered: FaSpSm Register Transfer level machine organization; performance; arithmetic; pipelined processors; exceptions, out-of-order and speculative execution, cache, virtual memory, multi-core multi-threaded processors, cache coherence. *Prerequisite:* EE 354 Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter Crosslisted as CSCI 457

EE 459Lx Embedded Systems Design Laboratory
Units: 3 Terms Offered: Sp Specification, design, implementation, testing and documentation of a digital system project using embedded processors, programmable logic, analog I/O interfaces and application specific hardware. Capstone design experience. *Prerequisite:* EE 354L Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 452

EE 460 Introduction to Artificial Intelligence
Units: 3 (Enroll in CSCI 460)

EE 467 Introduction to Communication Systems
Units: 3 Analog and digital communication systems. (De)modulation and (de) multiplexing of AM/FM/PM, noise, digital data formats, error rates, and spectral analysis. Review of wireless, networking, and optical systems. *Prerequisite:* EE 301. Instruction Mode: Lecture Grading Option: Letter

EE 470 Electromagnetics II
Units: 3 Dynamic field theory and elementary solutions to Maxwell's equations. Introduction to propagation and radiation of electromagnetic fields. *Prerequisite:* EE 330. Instruction Mode: Lecture Grading Option: Letter

EE 471 Applied Quantum Mechanics for Engineers
Units: 3 Introductory quantum mechanics and applications. Schrodinger equation, atomic and molecular processes, time-dependent perturbation theory. Applications to lasers, solid-state demos and gaseous devices. *Prerequisite:* EE 330 or graduate standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC-471

EE 472 Introduction to Lasers and Laser Systems
Units: 3 Terms Offered: Fa Electric dipole transitions; traveling wave and resonant amplifiers; laser pumping and rate equations; threshold, frequency, and power output of lasers; holography; laser communication systems. *Corequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHYS-472

EE 473L Lasers and Optics Laboratory
Units: 3 Terms Offered: Sp Introductory design/research laboratory in lasers and optics, which typically includes fiber optics, photonics, electro-optics, optical sensors, optical communication, optical signal processing and computing. *Corequisite:* EE 470. Instruction Mode: Lab Required, Lecture Grading Option: Letter Crosslisted as PHYS-473

EE 474 Introduction to Photonics
Units: 3 Terms Offered: Sp Photonic system requirements; waveguide modes and dispersion; optical fiber modes, loss and dispersion; principles of operation of lasers, optical amplifiers, detectors and modulators; noise. *Prerequisite:* EE 330, EE 338. Instruction Mode: Lecture Grading Option: Letter

EE 475 Wireless Communication Technology
Units: 3 Terms Offered: FaSpSm Fundamentals of wireless communication from a device point of view. Lab experiments and design project. *Recommended Preparation:* EE 467 Instruction Mode: Lecture Grading Option: Letter

EE 476 Chemical Engineering Materials
Units: 3 Terms Offered: Sp (Enroll in CHE 476)

EE 477L MOS VLSI Circuit Design
Units: 4 Terms Offered: FaSpSm Analysis and design of digital MOS VLSI circuits including area, delay and power minimization. Laboratory assignments including design, layout, extraction, simulation and automatic synthesis. *Prerequisite:* EE 338 or EE 354L Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 479 Analog Integrated Circuit Design
Units: 4 Terms Offered: Sp MOSFET and BJT operation and models; elementary amplifier configurations; biasing and references; frequency response; feedback; operational amplifiers. *Prerequisite:* EE 348. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 480 Introduction to Nanoscience and Nanotechnology
Units: 3 Terms Offered: Fa Next-generation nanoscale materials and electronic devices:

nanoscale fabrication and characterization, nanomaterials, nanoelectronics, and nanobiotechnology. *Prerequisite:* EE 338. Instruction Mode: Lecture Grading Option: Letter

EE 481L Control Systems Laboratory
Units: 3 Terms Offered: Sp (Enroll in AME 443)

EE 482 Linear Control Systems
Units: 3 Terms Offered: FaSpSm Analysis of linear control systems; continuous and sampleddata systems, various stability criteria; frequency response and root locus compensation techniques. *Prerequisite:* EE 301 or graduate standing. Duplicates Credit in AME 451. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 483 Introduction to Digital Signal Processing
Units: 3 Terms Offered: FaSp Fundamentals of digital signal processing covering: discrete time linear systems, quantization, sampling, Z-transforms, Fourier transforms, FFTs and filter design. *Prerequisite:* EE 301. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 484x Communication System Design
Units: 3 Terms Offered: Sp Design and analysis of analog and digital communication systems. System models, requirements, development, performance analysis and component selection techniques. Comprehensive system design project. Capstone design experience. *Prerequisite:* EE 364, EE 475; *Recommended Preparation:* EE 467. Instruction Mode: Lecture Grading Option: Letter

EE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

EE 494a Undergraduate Thesis
Units: 2 For the undergraduate degree. Credit on acceptance of thesis. IP (EE 494a) or letter grade (EE 494b). Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: In Progress/ Letter

EE 494b Undergraduate Thesis
Units: 2 For the undergraduate degree. Credit on acceptance of thesis. IP (EE 494a) or letter grade (EE 494b). *Prerequisite:* EE 494a Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

EE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content will be selected each semester from current developments in the field of electrical engineering. Instruction Mode: Lecture Grading Option: Letter

EE 500 Neural Learning and Computational Intelligence
Units: 4 Computational intelligence techniques that include neural systems, deep learning, adaptive pattern classification, fuzzy function approximation, simulated annealing and evolutionary computing, and hybrid systems. *Recommended Preparation:* EE 441, EE 483, EE 503 or equivalent Instruction Mode: Lecture Grading Option: Letter

EE 501 Solid State
Units: 3 (Enroll in MASC 501)

EE 502 Advanced Solid State
Units: 3 (Enroll in MASC 502)

EE 503 Probability for Electrical and Computer Engineers
Units: 4 Terms Offered: FaSp Rigorous coverage of probability, discrete and continuous random variables, functions of multiple random variables, covariance, correlation, random sequences, Markov chains, estimation, and introduction to statistics. Duplicates Credit in EE 464 and EE 465. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 504L Solid-State Processing and Integrated Circuits Laboratory
Units: 3 Laboratory oriented with lectures keyed to practical procedures and processes. Solid-state fabrication and analysis fundamentals; basic device construction techniques. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 505 Analog, Mixed-Signal, and RF Integrated-Circuit Tape-Out
Units: 3 Terms Offered: Sm Complete systematic tape-out flow including schematic design, simulation, layout, and post-layout verification of analog, mixed-signal, or radio-frequency integrated circuits. *Prerequisite:* EE 536a Instruction Mode: Lecture Grading Option: Letter

EE 506 Semiconductor Physics
Units: 3 Terms Offered: FaSp Semiconductor bonds, crystallography, band structure assumptions, group theory, band structure results, k.p. method, quantum wells, wires and dots, superlattices, amorphous, organic semiconductors, defects, statistics, surfaces. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 506

EE 507 Micro- and Nano-Fabrication Technology
Units: 3 Physical basis of technologies for the fabrication of micro- and nano-scale devices. Thin-film deposition, etching, and material modification processes; patterntransfer methods. *Recommended Preparation:* graduate standing in engineering, physics, or chemistry Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 507

EE 508 Nano-Fabrication Lithography
Units: 3 Physical basis of lithography methods for nano-scale devices. Photon-, electron-, and ion-based systems, advanced processes; resolution enhancement techniques; directed self assembly. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC 508

EE 509 Electromagnetics for Semiconductor Photonics
Units: 3 Overview of electromagnetics needed to understand and design photonic devices. Includes discussion of waveguides and resonant cavities and an introduction to photonic crystals. Instruction Mode: Lecture Grading Option: Letter

EE 510 Linear Algebra for Engineering
Units: 4 Terms Offered: FaSp Introduction to linear algebra and matrix theory and their underlying concepts; applications to engineering problems; mathematically rigorous and foundational to other classes in communication, control, and signal processing. *Recommended Preparation:* EE 141L and MATH 445 or equivalent (calculus, undergraduate linear algebra, matrix theory) Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 511 Simulation Methods for Stochastic Systems
Units: 1 Project-oriented investigation of simulation methods used for the analysis and design of complex stochastic systems whose operation and performance are affected by random events. *Recommended Preparation:* MatLab programming experience. *Corequisite:* EE 503; Instruction Mode: Lecture Grading Option: Letter

EE 512 Stochastic Processes
Units: 3 Probability theory and stochastic processes, including renewal theory, Markov chains, Brownian motion, martingales, and stochastic calculus. Applications in communication networks, queuing theory, and financial systems. *Prerequisite:* EE 441 and EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 513 Solid State Energy Devices
Units: 3 Design and operation of solar photovoltaic energy converters, thermovoltoic energy converters, thermoelectric energy converters, and solid state light emitters; their roles in renewal and conservation of energy. *Recommended Preparation:* EE 338. Instruction Mode: Lecture Grading Option: Letter

EE 514 Quantum Error Correction
Units: 3 A comprehensive introduction to quantum error correction and decoherence control, from the basics to the cutting edge, enabling students to delve into current research topics. *Recommended Preparation:* EE 520. Instruction Mode: Lecture Grading Option: Letter

EE 515 High-Voltage Technology
Units: 3 High voltage engineering basic concepts; theoretical, design, and practical aspects of overvoltages, travelling-waves, insulation, and aging; breakdown mechanisms; insulation coordination. Instruction Mode: Lecture Grading Option: Letter

EE 516 High-Voltage DC Transmission Systems
Units: 3 AC/DC conversion processes, converter technologies, and design; harmonics, controls, and protection; AC/DC interactions and system performance; modeling, application, and installation; current-source versus voltage-source converters. *Prerequisite:* EE 443. Instruction Mode: Lecture Grading Option: Letter

EE 517 Statistics and Data Analysis for Engineers
Units: 4 Terms Offered: FaSpSm Statistics and data analysis emphasizing computation and problem solving: confidence intervals, hypothesis tests, bootstrap and Monte

Carlo estimation, regression, Bayesian and statistical learning techniques. *Prerequisite:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 518 Mathematics and Tools for Financial Engineering
Units: 4 Students will build a mathematical background for studying financial engineering. Emphasis is on analysis, proofs and examples. Mathwork's financial toolbox will be introduced. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 519 Speech Recognition and Processing for Multimedia
Units: 3 Terms Offered: Fa Speech production, acoustics, perception, synthesis, compression, recognition, transmission. Coding for speech, music, and CD-quality. Feature extraction. Echo cancellation. Audio, visual synchronization. Multimedia, internet use. *Prerequisite:* EE 483. Instruction Mode: Lecture Grading Option: Letter

EE 520 Introduction to Quantum Information Processing
Units: 3 Terms Offered: FaSpSm Introduces the basics of quantum computation and quantum information theory: quantum bits and registers, unitary gates, algorithms, error correction, and quantum cryptography. *Recommended Preparation:* EE 441 and EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 521 Power Systems Analysis and Design
Units: 3 Power system planning, studies, and design; time-domain modeling and analysis of power-system networks; power flow, stability, fault, and economic dispatch analysis; symmetrical components. *Prerequisite:* EE 443. Instruction Mode: Lecture Grading Option: Letter

EE 522 Immersive Audio Signal Processing
Units: 3 Terms Offered: Sp Fundamentals of digital audio signal processing, room acoustics, and psychoacoustics. Algorithms for real-time implementation of immersive audio systems for integrated media applications. *Prerequisite:* EE 483 Instruction Mode: Lecture Grading Option: Letter

EE 523 Advanced Biomedical Imaging
Units: 3 (Enroll in BME 525)

EE 524 Transients in Power Systems
Units: 3 Overvoltages during faults, voltage recovery, arcing faults, restrikes, theory of switching surges. Systems grounding, traveling waves, lightning and surge protection, insulation coordination. *Prerequisite:* EE 443. Instruction Mode: Lecture Grading Option: Letter

EE 525 Power System Protection
Units: 3 Theory of system and equipment protection, characteristics of relays, relay coordination, and system considerations. *Prerequisite:* EE 443. Instruction Mode: Lecture Grading Option: Letter

EE 526 Renewable Energy in Power Systems
Units: 3 Renewable energy sources and their integration in electrical networks. Power-flow control from highly variable resources. Cost analysis and planning. Instruction Mode: Lecture Grading Option: Letter

EE 527 Net-Centric Power-System Control
Units: 3 Terms Offered: FaSpSm Control and stability of large-scale systems such as the electric power grid. Integration with information networks. *Recommended Preparation:* EE 482. *Corequisite:* EE 521; Instruction Mode: Lecture Grading Option: Letter

EE 528 Power Electronics
Units: 3 Fundamentals of switched-mode power converters operating under steadystate and transient conditions. Feedback control systems. Magnetic circuit design. Instruction Mode: Lecture Grading Option: Letter

EE 529 Optics
Units: 3 Basic graduate level optics including wave optics, foundations of geometric optics, optical elements, aberration theory, Hermite-Gaussian beams, multilayer structures, and matrix techniques. *Recommended Preparation:* EE 470 or graduate standing. Instruction Mode: Lecture Grading Option: Letter

EE 530 Optical Materials, Instruments and Devices
Units: 3 Anisotropic materials and devices; properties of metals; design and theory of selected optical instruments; properties of electrooptic, acoustooptic, and spatial light modulators; optical detectors. *Prerequisite:* EE 529. Instruction Mode: Lecture Grading Option: Letter

EE 531 Nonlinear Optics
Units: 3 Theory of nonlinear optical susceptibility and application to self-focusing, harmonic generation, and parametric interactions. Raman and Brillouin scattering. Coherent spectroscopy. *Prerequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 532 Wireless Internet and Pervasive Computing
Units: 3 Terms Offered: Fa Wireless Internet access technologies, 3G cellular systems, WAP and PKI protocols, mobile computing devices, network security for mobile E-commerce, software and middleware for pervasive, cluster, grid, and Internet computing. *Prerequisite:* EE 450; *Recommended Preparation:* EE 457. Instruction Mode: Lecture Grading Option: Letter

EE 533 Network Processor Design and Programming
Units: 3 Terms Offered: Sp Understanding of network processor architecture, applications, and other relevant issues. Program network processor and test under realistic network environment. Design and deploy custom network processor. *Prerequisite:* EE 457; *Recommended Preparation:* EE 450. Instruction Mode: Lecture Grading Option: Letter

EE 534 Materials Characterization
Units: 3 (Enroll in MASC 534)

EE 535 Mobile Communications
Units: 3 Terms Offered: FaSpSm The mobile communication channel; techniques used to combat the channel; cellular communications; multiple-access techniques; example mobile communication systems. *Prerequisite:* EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 536a Mixed-Signal Integrated Circuit Design
Units: 4 MOSFET operation and models; elementary amplifier configurations; biasing and references; frequency response; noise; feedback; operational amplifiers; frequency compensation; non-linearity and mismatch; passive and active filters. *Prerequisite:* EE 448 or EE 479. Instruction Mode: Lecture Grading Option: Letter

EE 536b Mixed-Signal Integrated Circuit Design
Units: 4 Terms Offered: Sp Non-linear integrated circuits, data-converter architectures and implementations, comprehensive design project. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 537 Modern Solid-State Devices
Units: 3 Terms Offered: Fa Integrated-circuit technologies for mixed-signal communication and data systems. Constituent device models and their limitations. Contemporary research topics. *Prerequisite:* EE 338. Instruction Mode: Lecture Grading Option: Letter

EE 538 Bio-Inspired and Nanoscale Integrated Computing
Units: 2 Terms Offered: FaSp Quantum Dot Cellular Automata, Spin-wave Architectures, Molecular Computing, DNA Computing, Carbon Nanotubes, and Medical Nanorobotics. *Prerequisite:* EE 451 or EE 457 or EE 477L *Recommended Preparation:* Familiarity with cellular biology Instruction Mode: Lecture Grading Option: Letter

EE 539 Engineering Quantum Mechanics
Units: 4 Terms Offered: Fa Quantum mechanics for engineering majors who work with solid-state devices, quantum electronics, and photonics. Schroedinger equation, perturbation theory, electronic and optical processes. *Recommended Preparation:* Experience with linear algebra, Newtonian mechanics, Maxwell's equations, and MATLAB Instruction Mode: Lecture, Quiz Grading Option: Letter Crosslisted as MASC 539

EE 540 Introduction to Quantum Electronics
Units: 3 Fundamentals of light amplification; laser amplifiers and oscillators; atomic pumping; maser and laser systems; definitions of coherence; measurements in quantum electronics. *Prerequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 541 Radio Frequency Filter Design
Units: 3 Terms Offered: Fa Theory and realization of passive and transconductancebased active filters for radio frequency communications. Distributed and quasi-distributed passive filters. Circuit testing via scattering parameters. *Prerequisite:* EE 348. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 542 Internet and Cloud Computing
Units: 3 Terms Offered: Fa Principles and technologies of server clusters, virtualized datacenters, Grids/P2P, Internet clouds, social networks, Internet of Things (IoT), and their innovative applications. *Recommended Preparation:* EE 450 or EE 457. Instruction Mode: Lecture Grading Option: Letter

EE 543aL Digital Control Systems
Units: 3 Terms Offered: Fa Design, analysis, and implementation of digital control systems using microcomputers; Z-transform methods; frequency domain and state space approach; computational aspects; sampling and quantization. *Prerequisite:* EE 482. Duplicates Credit in b: former EE 485abL. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-553A

EE 543bL Digital Control Systems
Units: 1 Modeling of real processes; design and implementation of digital control systems in the controls laboratory. *Prerequisite:* EE 543a. Duplicates Credit in b: former EE 485abL. Instruction Mode: Lab Required Grading Option: Letter Crosslisted as AME-553B

EE 544 Radio Frequency Systems and Hardware
Units: 3 Terms Offered: Sp Elements of radio frequency communication systems: modulation/demodulation strategies, transmission-channel impairments, performance criteria, hardware (low-noise amplifiers, mixers, oscillators), digital back-end, contemporary case studies. *Prerequisite:* EE 301, EE 348, EE 364. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 545 Robotics
Units: 3 Terms Offered: FaSp (Enroll in CSCI 545)

EE 548 Analytical Methods in Robotics
Units: 3 (Enroll in AME 548)

EE 550 Design and Analysis of Computer Communication Networks
Units: 3 Applications of stochastic modeling and optimization techniques to communication network design and analysis. Data link control; performance models; multi-access channels; routing and flow control. *Prerequisite:* EE 450 and EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 551 Principles of Radar
Units: 3 Terms Offered: Irregular Signal propagation, reflections from targets; radar equation; detection of scintillating targets; resolution; ambiguity functions; clutter rejection; tracking radars. *Prerequisite:* EE 364 and EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 552 Asynchronous VLSI Design
Units: 3 Terms Offered: FaSp Asynchronous channels and architectures; implementation design styles; controller synthesis; hazards, and races; Petri-nets; performance analysis, and optimization; globally asynchronous locally synchronous design. *Prerequisite:* EE 477. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-552

EE 553 Computational Solution of Optimization Problems
Units: 3 Terms Offered: Sp Computer algorithms for system optimization. Search techniques, gradient methods, parameter optimization in control systems. Optimization with constraints; linear and nonlinear programming. Random search techniques. *Prerequisite:* EE 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-553

EE 554 Real Time Computer Systems
Units: 3 Terms Offered: Sp Structure of real-time computer systems; analog signals and devices; scheduling, synchronization of multiprocessors; reliability, availability; serial/parallel computations; real-time operating systems and languages; design examples. *Prerequisite:* EE 457. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-554

EE 555 Broadband Network Architectures
Units: 3 Terms Offered: FaSpSm Broadband network architectures and services, technologies for high-speed access and core networks, optical infrastructure for layered network architectures, high performance switch and router architectures. *Prerequisite:* EE 450 and EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 556 Stochastic Systems
Units: 3 Terms Offered: FaSpSm Stochastic system models, Dynamic programming, Linear quadratic control, Kalman filtering and estimation, System identification, approximate dynamic programming methods, adaptive control and online learning. *Prerequisite:* EE 503 *Recommended Preparation:* EE 512 or EE 562 or ISE 538 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ISE-556

EE 557 Computer Systems Architecture
Units: 3 Terms Offered: FaSp Computer architecture from a design perspective: Pipelined processors, speculative execution, VLIW, vector processors, memory systems, interconnection networks, shared-memory and message-passing multiprocessors, chip multiprocessors. *Prerequisite:* EE 457. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-557

EE 558 Optical Fiber Communication Systems
Units: 3 Terms Offered: FaSp State-of-the-art optical fiber communication systems. Emphasis on optoelectronic-device and communication-systems issues necessary to provide high-speed and/or networked optical communications. *Recommended Preparation:* EE 338; basic knowledge of optics, semiconductor, and communications concepts. Instruction Mode: Lecture Grading Option: Letter

EE 559 Mathematical Pattern Recognition
Units: 3 Terms Offered: Sp Distribution free classification, discriminant functions, training algorithms; statistical classification, parametric and nonparametric techniques; artificial neural networks. *Corequisite:* EE 441, EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-559

EE 560L Digital System Design
Units: 4 ASIC design, FPGAs, VHDL, verilog, test benches, simulation, synthesis, timing analysis, post-synthesis simulation, FIFOs, handshaking, memory interface, PCI bus protocol, CAD tools, design lab exercises. *Prerequisite:* EE 457 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 561 Foundations of Artificial Intelligence
Units: 3 Terms Offered: FaSp (Enroll in CSCI 561)

EE 562 Random Processes in Engineering
Units: 3 Random vectors, sequences, and functions. Linear transformations, second moment theory, spectral densities, narrowband processes, Gaussian processes, correlation detection, linear minimum mean square error estimation. *Prerequisite:* EE 441 and EE 503 Duplicates Credit in former EE 562a. Grading Option: Letter

EE 563 Estimation Theory
Units: 3 Terms Offered: Fa Parameter estimation and state estimation technique including: least squares, BLUE, maximum-likelihood, maximum a posteriori, Kalman-prediction, Kalman-filtering and Kalman smoothing and extended Kalman filtering. *Prerequisite:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 564 Digital Communication and Coding Systems
Units: 4 Digital modulations. Optimal reception. Performance analysis. Classical and modern codes. Viterbi, forward-backward, and iterative decoding. Practical designs for channels with memory or nonlinearities. Example systems. *Prerequisite:* EE 441 and EE 503 *Recommended Preparation:* Basic computer skills (simple programs and plotting) Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 565 Information Theory and Compression
Units: 3 Entropy and mutual information. Variable and fixed-length, lossless and lossy compression. Universal compression. Text and multimedia compression. Channel capacity. Error-correcting codes. Erasure and Gaussian channels. *Prerequisite:* EE 503 Instruction Mode: Lecture Grading Option: Letter

EE 566 Optical Information Processing
Units: 3 Terms Offered: Fa Coherent and incoherent optical transforming, imaging and two-dimensional information processing systems; optical image processing, spatial frequency response and filtering; optical and digital holography. *Prerequisite:* EE 401 *Recommended Preparation:* EE 301 or knowledge of Fourier transform analysis. Instruction Mode: Lecture Grading Option: Letter

EE 567 Communication Systems
Units: 3 Terms Offered: FaSpSm Analysis of communication systems operating from very low to optical frequencies. Comparison of

modulation and detection methods. System components description. Optimum design of communication systems. *Recommended Preparation:* EE 441. *Corequisite:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 569 Introduction to Digital Image Processing
Units: 4 Terms Offered: Sp Image sampling, 2-D image transform, image enhancement, geometric image modification, morphologic processing, edge detection, texture analysis, image filtering and restoration. *Recommended Preparation:* EE 503, C/C++ or Matlab programming ability Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 570a Advanced Electromagnetic Theory
Units: 3 Static and dynamic electromagnetic field theory; solution of scalar and vector boundary value problems; Kirchhoff radiation theory; geometrical optics and geometrical diffraction theory. *Prerequisite:* EE 470. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 570b Advanced Electromagnetic Theory
Units: 3 Static and dynamic electromagnetic field theory; solution of scalar and vector boundary value problems; Kirchhoff radiation theory; geometrical optics and geometrical diffraction theory. *Prerequisite:* EE 570a Instruction Mode: Discussion Grading Option: Letter

EE 571a Microwave Networks
Units: 3 Microwave network theory for transmission lines and waveguides, discontinuities, impedance transformers, resonators, multi-junction networks, periodic structures, nonreciprocal and active devices. *Prerequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 571b Microwave Networks
Units: 3 Parameter matrices, approximate design procedures for distributed networks from lumped networks, coupled lines, equivalent coupled-line circuits, Kuroda's identities, and capacitance matrix transformations. *Prerequisite:* EE 571a. Instruction Mode: Lecture Grading Option: Letter

EE 572a Plasma Dynamics
Units: 3 Particle drifts, collision phenomena, Boltzmann and Vlasov equations, hydrodynamic equations, Coulomb interactions; waves in a cold and hot plasma, plasma oscillations, Landau damping, hydromagnetic waves. Instruction Mode: Lecture Grading Option: Letter

EE 572b Plasma Dynamics
Units: 3 Particle drifts, collision phenomena, Boltzmann and Vlasov equations, hydrodynamic equations, Coulomb interactions; waves in a cold and hot plasma, plasma oscillations, Landau damping, hydromagnetic waves. Instruction Mode: Lecture Grading Option: Letter

EE 573a Antenna Analysis
Units: 3 Analysis of idealized antenna models, including the dyadic Green's function, reciprocity, aperture radiation, methods of moments, geometrical and physical optics, reflectors, arrays. *Prerequisite:* EE 470. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 573b Antenna Analysis
Units: 3 Analysis of idealized antenna models, including the dyadic Green's function, reciprocity, aperture radiation, methods of moments, geometrical and physical optics, reflectors, arrays. *Prerequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 574 Computer Vision
Units: 3 Terms Offered: Fa (Enroll in CSCI 574)

EE 575 Computational Differential Geometry for Engineers
Units: 3 Differential geometry of curves and surfaces, vectors, tensors, manifolds, curvature, Lie groups, Riemannian geometry, numerical PDEs, heat and Laplace equation, Applications to computer vision, machine learning, signal and image processing. *Recommended Preparation:* Good background in calculus and familiarity with Matlab or C++ Instruction Mode: Lecture Grading Option: Letter

EE 576 Integrated Memory Devices and Technologies
Units: 3 Physical operation and implementation of modern solid-state memory structures. Emerging advanced memory technologies. *Recommended Preparation:* Understanding of basic semiconductor device physics and fabrication technology is useful, but is not required. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 577a VLSI System Design
Units: 3 Terms Offered: FaSp Integrated circuit fabrication; circuit simulation; basic device physics; simple device layout; structured chip design; timing; project chip; MOS logic; system design silicon compilers. *Prerequisite:* EE 477. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 577b VLSI System Design
Units: 3 Terms Offered: FaSp VLSI design project; chip level design issues: power and clock distribution, packaging, I/O; design techniques; testability; chip fabrication and test. *Prerequisite:* EE 477. Instruction Mode: Lecture Grading Option: Letter

EE 578 Reflector Antennas
Units: 3 Introduction to the analytical and numerical techniques used in the analysis and design of modern reflector antenna systems, including physical optics, asymptotic techniques, shaping and feeds. *Prerequisite:* EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 579 Wireless and Mobile Networks Design and Laboratory
Units: 3 Terms Offered: Sp Mobile ad hoc networks: ad hoc and geographic routing, resource discovery, medium access control, IP-mobility, mobility modeling, wiredwireless networks. Lab: wireless LAN measurement, mobile-IP, ad hoc routing. *Prerequisite:* CSCI 551 or EE 550 or EE 555; *Recommended Preparation:* programming, network simulation. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-575

EE 580 System Verification
Units: 4 Functional/timing/power verification of complex systems. Simulation-based, formal/semi-formal/assertion languages and tools (SystemVerilog, UVM, UPF, etc.) FPGA prototyping, hardware acceleration, statistical modeling and machine learning. Instructor permission required. *Recommended Preparation:* EE 457 and EE 477L; scripting using Python, OOP using C++; algorithms, statistics and probability Instruction Mode: Lecture, Discussion, Quiz Grading Option: Letter

EE 581 Mathematical Foundations for Computer-Aided Design of VLSI Circuits
Units: 3 Terms Offered: Sp Mathematical techniques employed in computer-aided-design systems, including: graph theory, algorithmic and heuristic techniques for combinatorial problems, data structures and modeling. *Corequisite:* EE 457 and EE 477 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 593

EE 582 CMOS:Nano Neuromorphic Circuits
Units: 4 Design and simulation of CMOS and nano electronic circuits modeling brain cells, including neurons and glial cells; low-power design; simulation laboratory. *Prerequisite:* EE 348L *Recommended Preparation:* EE 477L or EE 479 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as BME 582

EE 583 Statistical Signal Processing
Units: 3 Characterization of discrete-time random processes. Parametric and non-parametric spectral estimation, adaptive filtering, signal subspace methods, independent components analysis, non-Gaussian signal processing. *Prerequisite:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 584 Chaotic Systems
Units: 3 Terms Offered: Fa Logistic map, chaotic bifurcation, strange attractors, and fractals. Conservative dynamical systems and measure preserving transformations. Ergodicity. Kolmogorov-Sinai entropy. Chaotic/stochastic realization. Chaos in feedback. *Prerequisite:* EE 562a , EE 562b . Instruction Mode: Lecture Grading Option: Letter

EE 585 Linear System Theory
Units: 3 Terms Offered: FaSpSm Analysis of linear dynamical systems by state-space techniques; controllability, observability, stability, passivity. Application of feedback control and network synthesis. *Prerequisite:* EE 441. Duplicates Credit in AME 541. Instruction Mode: Lecture Grading Option: Letter

EE 586L Advanced DSP Design Laboratory
Units: 4 Terms Offered: Sp Real-time adaptive signal processing design projects using special purpose DSP processors. Suitable project areas include acoustics,

speech, arrays, image compression and biomedical signal processing. Permission of instructor required. *Prerequisite:* EE 483 *Recommended Preparation:* At least one 500-level DSP course Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 587 Nonlinear and Adaptive Control
Units: 3 Terms Offered: Fa Nonlinear systems, Lyapunov Stability, Parameter Identification, direct and indirect adaptive control for linear and nonlinear systems. Design analysis, stability, robustness and applications. Backstepping, feedback linearization. *Prerequisite:* EE 482, EE 585. Instruction Mode: Lecture Grading Option: Letter

EE 588 Optimization for the Information and Data Sciences
Units: 4 Convex sets, functions, and optimization problems. Basic convex analysis and theory of convex programming. Novel, efficient first-order algorithms. Applications in the information and data sciences. *Prerequisite:* EE 441 *Recommended Preparation:* EE 503 Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 591 Magnetic Resonance Imaging and Reconstruction
Units: 3 Terms Offered: FaSp Principles of magnetic resonance imaging. Spin physics, Fourier-based acquisition and reconstruction, generation of tissue contrast, fast imaging, artifact correction, advanced image reconstruction. *Prerequisite:* EE 483; *Recommended Preparation:* EE 441 and EE 503. Familiarity with MATLAB is required. Instruction Mode: Lecture Grading Option: Letter

EE 592 Computational Methods for Inverse Problems
Units: 3 Terms Offered: FaSpSm Vector-space methods for solving inverse problems. Existence and uniqueness of solutions; conditioning and regularization; iterative algorithms; constrained optimization; applications in signal and image processing. *Prerequisite:* EE 483 and EE 441. *Recommended Preparation:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 593 Robust Multivariable Control
Units: 3 Terms Offered: Fa Sensitivity and complementary sensitivity matrices; uncertainty representation; singular values; Bode plots. Parameterization of internally stabilizing controllers. Algebraic Riccati Equations. Modern Wiener-Hopf and H-infinity designs. *Prerequisite:* EE 482 and EE 585 Instruction Mode: Lecture Grading Option: Letter

EE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 596 Wavelets
Units: 3 Terms Offered: Fa The theory and application of wavelet decomposition of signals. Includes subband coding, image compression, multiresolution signal processing, filter banks, and time-frequency tilings. *Prerequisite:* EE 441, EE 483; *Recommended Preparation:* EE 569, MATH 570a. Instruction Mode: Lecture Grading Option: Letter

EE 597 Wireless Networks
Units: 3 Terms Offered: Fa Introduction to wireless networking technologies; fundamental architectural and design principles used at all protocol layers; optimization and performance evaluation using mathematical analysis and simulations. *Prerequisite:* EE 450 and EE 503; *Recommended Preparation:* EE 467, familiarity with Matlab and C programming. Instruction Mode: Lecture Grading Option: Letter

EE 598 Electrical Engineering Research Seminar
Units: 1 Max Units: 2.0 Introduction to research in electrical engineering. Topics vary by semester. May be repeated for up to one unit of credit for MS students, two units of credit for PhD students. Registration Restriction: Open only to Master's and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 The course content will be selected each semester to reflect current trends and developments in the field of electrical engineering. Instruction Mode: Lecture Grading Option: Letter

EE 601 Advanced Semiconductor Device Physics
Units: 4 Terms Offered: Sp Fundamentals and limitations of nanoscale electronic and photonic semiconductor components. Engineering classical, mesoscale, and quantum electron and photon dynamics in advanced devices. *Recommended Preparation:* EE 471 or EE 539 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as MASC 601

EE 606 Nonequilibrium Processes in Semiconductors
Units: 3 Non-equilibrium processes in modern semiconductor devices. Carriers lifetime and trapping; luminescence; hot carrier and high field effects. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MASC-606

EE 607 Microelectromechanical Systems
Units: 3 Terms Offered: FaSp Exploration of the technology methods and physical principles of MEMS, and survey various MEMS of current interest. *Recommended Preparation:* Knowledge of microfabrication, electromagnetic fields and waves, and mechanics Instruction Mode: Lecture Grading Option: Letter

EE 608L Microelectromechanical Systems Laboratory
Units: 3 Terms Offered: Fa Lab fabrication and analysis of several MEMS applications, including diaphragm-based sensors and actuators, microfluidic components, and deformable mirror array. Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 612 Science and Practice of Nanotechnology
Units: 3 Terms Offered: Fa In-depth discussions of important topics in nanotechnology, including both the implementation and the underlying theory. *Prerequisite:* EE 330 or EE 470. Instruction Mode: Lecture Grading Option: Letter

EE 619 Advanced Topics in Automatic Speech Recognition
Units: 3 Terms Offered: FaSpSm Advanced topics in automatic speech recognition, speaker recognition, spoken dialogue, conversational multimedia interfaces. *Recommended Preparation:* EE 519 and CSCI 544 and EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 620 Advanced Topics in Applied Stochastic Models
Units: 3 Terms Offered: FaSp (Enroll in ISE 620)

EE 632 Integrated Communication Systems
Units: 3 Analysis and design of high-speed integrated communication systems at circuit and system levels. Emphasis on broadband wireless applications. Transceiver architectures, amplifiers, oscillators, frequency synthesizers. *Prerequisite:* EE 536a. Instruction Mode: Lecture Grading Option: Letter

EE 635 Advanced Wireless Communications
Units: 3 Fundamentals of advanced wireless systems, including multi-antenna, cognitive, and cooperative systems as well as exploration of current standards in wireless networks in use today. *Prerequisite:* EE 535; *Recommended Preparation:* basic programming course. Instruction Mode: Lecture Grading Option: Letter

EE 637L Current and Future Computing Devices and Technology
Units: 4 State-of-the-art computing devices; current trends in device technologies; future directions. *Prerequisite:* EE 537 Instruction Mode: Lecture, Lab Required Grading Option: Letter

EE 642 Advanced Geometrical Optics
Units: 3 First order design of optical systems; origin of aberrations and their effects on wave propagation and imaging based on geometrical and physical optics.

Prerequisite: EE 529. Instruction Mode: Lecture Grading Option: Letter

EE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 (Enroll in CE 645)

EE 648 Network Economics and Games
Units: 3 Economics of networks; game theory, mechanism design and auctions in networks; spectrum sharing mechanisms in communications; pricing of differentiated services; network security. *Prerequisite:* EE 450 and EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 649 Stochastic Network Optimization
Units: 3 Terms Offered: FaSpSm Optimization of wireless and ad-hoc mobile networks; opportunistic scheduling, flow control; back-pressure routing; queue stability; energy-delay and utility-delay trade-offs. *Prerequisite:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 650 Advanced Topics in Computer Networks
Units: 3 Terms Offered: Irregular Protocol modeling: flow and congestion control, dynamic routing, distributed implementation; broadcast communication media and multiple access protocols; local networks, satellite networks, terrestrial radio networks. *Prerequisite:* EE 450 and EE 503; *Recommended Preparation:* EE 550 or CSCI 551. Instruction Mode: Lecture Grading Option: Letter

EE 652 Low-Power Wireless Networks
Units: 3 Terms Offered: Fa Implementation of low-power wireless protocols for medium access, scheduling, multi-hop routing, congestion control, localization, synchronization. IP stack for the Internet of Things. Wireless sensor network applications. *Prerequisite:* EE 450; *Recommended Preparation:* CSCI 402, strong programming skills, and experience with Linux. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-652

EE 653 Advanced Topics in Microarchitecture
Units: 3 Current research topics related to microprocessor architecture. Dynamically/statically scheduled processors, multithreading, chip multiprocessors, systems on a chip. Power, performance, complexity, dependability issues. Impact of technology. *Prerequisite:* EE 557. Instruction Mode: Lecture Grading Option: Letter

EE 657 Parallel and Distributed Computing
Units: 3 Terms Offered: FaSpSm Scalable multiprocessor systems and clusters, virtual machine, service oriented architecture, network-based computing, peer-to-peer, grid and cloud based storage and computing, case studies. *Prerequisite:* EE 557; *Recommended Preparation:* EE 450. Instruction Mode: Lecture Grading Option: Letter

EE 658 Diagnosis and Design of Reliable Digital Systems
Units: 3 Terms Offered: Fa Fault models; test generation; fault simulation; self-checking and self-testing circuits; design for testability; fault tolerant design techniques; case studies. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-658

EE 659 Interconnection Networks
Units: 3 Terms Offered: Sp Theory, design and analysis of interconnection networks for multiprocessor systems. Study of direct and indirect topologies, deadlock-free routing, flow control, network interfaces, optical interconnects. *Prerequisite:* EE 557. Instruction Mode: Lecture Grading Option: Letter

EE 660 Machine Learning from Signals: Foundations and Methods
Units: 3 Terms Offered: Fa Supervised, semisupervised, and unsupervised machine learning; classification and regression. Model complexity, assessment, and selection; performance (error) on unseen data. *Prerequisite:* EE 441 and EE 503. *Recommended Preparation:* EE 559 or CSCI 567. Instruction Mode: Lecture Grading Option: Letter

EE 664 Advanced Topics in Communication Theory
Units: 3 Modern communication theory for heterogeneous networks. Novel methods for communication network analysis and design. New theoretical tools: e.g. interference alignment, polar codes, and sparse approximation. *Prerequisite:* EE 564 *Recommended Preparation:* EE 535 and EE 565a, EE 565b. Instruction Mode: Lecture Grading Option: Letter

EE 665 Advanced Topics in Information Theory
Units: 3 Terms Offered: Fa Multi-terminal and network information theory. Network coding. Coding for special applications such as data storage. Applications of information theory to computational biology and data analytics. *Prerequisite:* EE 565 Instruction Mode: Lecture Grading Option: Letter

EE 667 Array Signal Processing
Units: 3 Terms Offered: Sp Beamforming principles, monopulse and conical-scan concepts, phased arrays, synthetic multiple beam arrays; signal processing techniques for synthetic aperture formation, adaptivity, and retro-directing. *Prerequisite:* EE 562a , EE 562b . Instruction Mode: Lecture Grading Option: Letter

EE 669 Multimedia Data Compression
Units: 3 Terms Offered: FaSpSm Lossless compression, audio/speech coding, vector quantization, fractal compression, JPEG and JPEG-2000, video compression techniques and MPEG standards, video transmission over wired and wireless networks. *Recommended Preparation:* EE 503. Instruction Mode: Lecture, Discussion Grading Option: Letter

EE 674a Advanced Topics in Computer Vision
Units: 3 Terms Offered: Irregular (Enroll in CSCI 674a, CSCI 674b)

EE 674b Advanced Topics in Computer Vision
Units: 3 Terms Offered: Irregular (Enroll in CSCI 674a, CSCI 674b)

EE 677 VLSI Architectures and Algorithms
Units: 3 VLSI models; measures of area, volume and time; mapping algorithms; systolic arrays; area time tradeoffs; applications to signal and image processing problems. *Prerequisite:* EE 557. Instruction Mode: Lecture Grading Option: Letter

EE 680 Computer-Aided Design of Digital Systems I
Units: 3 Terms Offered: Sp Synthesis; partitioning; placement; routing of digital circuits; integrated circuit design methods; simulation at the switch, gate, register transfer and system levels. *Prerequisite:* EE 581; *Recommended Preparation:* EE 577a. Instruction Mode: Lecture Grading Option: Letter

EE 681 Computer-Aided Design of Digital Systems II
Units: 3 Theory and techniques for design and analysis of digital logic; specification, formal models; hardware-descriptive languages; formal verification, high level synthesis; logic synthesis. Instruction Mode: Lecture Grading Option: Letter

EE 682 Law and Intellectual Property for Engineers
Units: 3 Terms Offered: Sp Detailed introduction to the modern American legal system with a special focus on intellectual-property doctrines. *Recommended Preparation:* EE 503. Instruction Mode: Lecture Grading Option: Letter

EE 690 Directed Research
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Electrical Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

EE 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

EE 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode:

Lecture Grading Option: In-progress to Credit/No Credit

Endodontics

ENDO 501 Clinical Endodontics
Units: 1 Diagnosis and treatment procedures for basic clinical endodontics, including management of endodontic emergencies; relationship of endodontics to the various dental disciplines. Instruction Mode: Lecture Grading Option: Letter

ENDO 502 Advanced Endodontics
Units: 1 Theoretical principles for the treatment of advanced endodontic cases; alternative methods of endodontic therapy; introduction to interspecialty cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 521 Preclinical Endodontics
Units: 3 Theoretical principles of endodontic therapy related to pulpal and periapical disease; training in procedures of localizing, preparing, and filling the root canal of human teeth. Instruction Mode: Lecture Grading Option: Letter

ENDO 562a Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562b Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562c Clinic: Concentrated Early Endodontics
Units: 0 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 562d Clinic: Concentrated Early Endodontics
Units: 1 Early clinical experience including assigned clinic demonstration block. Instruction Mode: Lecture Grading Option: Letter

ENDO 563a Clinic: Endodontic Therapy
Units: 0, 1, 2 Clinical experience emphasizing diagnosis, treatment planning, and endodontic patient management. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ENDO 563b Clinic: Endodontic Therapy
Units: 0, 1, 2 Clinical experience emphasizing diagnosis, treatment planning, and endodontic patient management. Instruction Mode: Lecture Grading Option: Letter

ENDO 610 Clinical Advanced Endodontics
Units: 2 In-depth discussion of endodontic surgery, retreatment, and hemisection cases; includes clinical experience in advanced endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 701a Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701b Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701c Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 701d Seminar: Biological Basis of Endodontic Therapy
Units: 1 Investigation of the theoretical and biological bases of clinical endodontic procedures. Instruction Mode: Lecture Grading Option: Letter

ENDO 702 Seminar: Advanced Clinical Endodontics
Units: 2 Course designed to train students in the management of simple and complex endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 703a Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703b Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703c Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 703d Seminar: Review of Endodontic Literature
Units: 1 Critical review and analysis of classical and current endodontic literature. Instruction Mode: Lecture Grading Option: Letter

ENDO 704a Seminar: Surgical Endodontics
Units: 2 Indications, principles, and techniques of surgical endodontics. Instruction Mode: Lecture Grading Option: Letter

ENDO 704b Seminar: Surgical Endodontics
Units: 2 Indications, principles, and techniques of surgical endodontics. Instruction Mode: Lecture Grading Option: Letter

ENDO 705a Seminar: Endodontic Case Presentation
Units: 4 Student presentation of cases for critique and analysis. Instruction Mode: Lecture Grading Option: Letter

ENDO 705b Seminar: Endodontic Case Presentation
Units: 4 Student presentation of cases for critique and analysis. Instruction Mode: Lecture Grading Option: Letter

ENDO 710 Seminar: Endodontic Practice Management
Units: 2 Organizing, staffing, and evaluation of an endodontic practice. Modes and patterns of management including use of auxiliaries. Emphasis on endodontistgeneral practitioner relationship; legal aspects of dental practice. Instruction Mode: Lecture Grading Option: Letter

ENDO 711 Alternatives in Endodontics
Units: 4 Alternative endodontic techniques presented by guest clinicians. Emphasis on endodontics and its relationship with periodontal, restorative, and surgical disciplines. Instruction Mode: Lecture Grading Option: Letter

ENDO 761a Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761b Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761c Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761d Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761e Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 761f Clinic: Advanced Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 each Advanced clinical experience emphasizing the diagnosis and management of complicated endodontic cases. Instruction Mode: Lecture Grading Option: Letter

ENDO 790 Directed Research: Endodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Principles of planning, organizing, and executing a clinical or educational research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

Environmental Engineering

ENE 200 Environmental Engineering Principles
Units: 3 Terms Offered: FaSpSm Analysis

of water, air, and land pollution, including hazardous waste, and engineering of mitigation measures. Water and wastewater treatment systems. *Prerequisite:* (CHEM 105bL or CHEM 115bL) and (MATH 226 or MATH 229) and PHYS 152L Instruction Mode: Lecture Grading Option: Letter

ENE 201 Introduction to Applied Environmental Science and Engineering
Units: 4 Gateway to BS in Civil Engineering (Environmental Engineering), BS, Environmental Engineering, and Minor in Environmental Engineering. Fundamental concepts of environmental science and engineering. Pollution control and remediation for air, water and soil. Pollution remediation for developing countries. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-201

ENE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENE 410 Environmental Fluid Mechanics
Units: 3 Equation of motion; continuity, momentum, energy principles; dimensional analysis, similitudes; groundwater flows; transports in conduits and channels; mixing, dispersion in environments; manifold diffusers; hydraulic transients. *Prerequisite:* MATH 245. Duplicates Credit in CE 309 and AME 309. Instruction Mode: Lecture Grading Option: Letter

ENE 426 Particulate Air Pollutants: Properties/Behavior/Measurement
Units: 3 Particulate air pollutants, their measurement and instrumentation methods, and their effects on the environment and human health; optical properties and visibility degradation. *Prerequisite:* ENE 200 or ENE 400. Duplicates Credit in former ENE 526. Instruction Mode: Lecture Grading Option: Letter

ENE 428 Air Pollution Fundamentals
Units: 3 Terms Offered: Fa Air pollution effects on man, vegetation, materials; pollutant sampling and analysis; air quality standards and criteria; meteorological factors and dispersion modeling. *Prerequisite:* MATH 245 and PHYS 151 and CHEM 105b or CHEM 115b *Recommended Preparation:* ENE 200 or CHE 350 Instruction Mode: Lecture Grading Option: Letter

ENE 429 Air Pollution Control
Units: 3 Terms Offered: Sp Emission surveys; engineering controls of aerosols and gaseous contaminants at emission sources, disposition of contaminants. Field trips. *Prerequisite:* ENE 428; CE 309 or ENE 410. Instruction Mode: Lecture Grading Option: Letter

ENE 443 Environmental Chemistry
Units: 3 (Enroll in CE 443)

ENE 453 Water Quality Control
Units: 3 (Enroll in CE 453)

ENE 463L Water Chemistry and Analysis
Units: 3 (Enroll in CE 463)

ENE 465 Water Supply and Sewerage System Design
Units: 3 (Enroll in CE 465)

ENE 486 Design of Solid and Hazardous Waste Engineering Systems
Units: 3 Terms Offered: Fa Engineering design of solid and hazardous waste facilities such as waste minimization, secured landfill, and hazardous waste treatment. *Prerequisite:* ENE 200 Instruction Mode: Lecture Grading Option: Letter

ENE 487 Environmental Biotechnology and Bioremediation
Units: 3 Understanding and designing microbiological processes for environmental protection; learning how processes in environmental biotechnology work; emerging applications for bioremediation of hazardous chemicals in the environment. *Prerequisite:* CE 210, BISC 320. Instruction Mode: Lecture Grading Option: Letter

ENE 495 Seminars in Environmental Engineering
Units: 1 Terms Offered: FaSp Hazardous waste management, biodegradation of environmental pollutants, groundwater problems, waste minimization, energy resources, and air pollution control. Instruction Mode: Lecture Grading Option: Letter

ENE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Course content to be selected each semester from recent developments in environmental engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

ENE 502 Environmental and Regulatory Compliance
Units: 3 Federal and state environmental laws; environmental impact assessment techniques; permitting for industrial facility construction and operation. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter

ENE 503 Microbiology for Environmental Engineers
Units: 3 (Enroll in CE 503)

ENE 504 Solid Waste Management
Units: 3 (Enroll in CE 504)

ENE 505 Energy and the Environment
Units: 3 Terms Offered: Fa Environmental effects of energy development using fossil and fissile fuels, geothermics, photosynthesis, and other sources. Relationship of elemental cycles to the life supporting systems. Instruction Mode: Lecture Grading Option: Letter

ENE 506 Ecology for Environmental Engineers
Units: 3 Terms Offered: Fa The role of environmental engineering in maintaining stability of freshwater, marine, and terrestrial ecosystems; macroscopic plant and animal forms as indicators of water quality. Instruction Mode: Lecture Grading Option: Letter

ENE 510 Water Quality Management and Practice
Units: 3 Terms Offered: Fa Surface and ground water quality and resources management; water pollution in aquatic environment; water/wastewater infrastructure systems and management. Instruction Mode: Lecture Grading Option: Letter

ENE 512 Environmental Fluid Mechanics
Units: 3 Terms Offered: FaSp Environmental fluid mechanics (air and surface/ground water); flow kinematics; viscous/inviscid flow; boundary layer theory; steady/unsteady groundwater flows; turbulence; Reynolds equations; contaminant transport *Recommended Preparation:* undergraduate fluid mechanics (e.g., CE-309 or ENE-410 or AME-309) Instruction Mode: Lecture Grading Option: Letter

ENE 514a Advanced Sanitary Engineering Design
Units: 3 (Enroll in CE 514a, CE 514b)

ENE 514b Advanced Sanitary Engineering Design
Units: 3 (Enroll in CE 514a, CE 514b)

ENE 516 Hazardous Waste Management
Units: 3 Standards and regulations for the management of hazardous waste: identification, transportation, monitoring, storage, treatment, and disposal practices. Instruction Mode: Lecture Grading Option: Letter

ENE 517 Industrial and Hazardous Waste Treatment and Disposal
Units: 3 (Enroll in CE 517)

ENE 518 Environmental Systems Engineering and Management
Units: 3 Evaluating, implementing and managing effective environmental systems to prevent pollution, conserve energy and resources, reduce risks and achieve sustainability in business and industries. Instruction Mode: Lecture Grading Option: Letter

ENE 523 Physiochemical Processes in Environmental Engineering
Units: 3 (Enroll in CE 523)

ENE 527 Climate Change and Atmospheric Aerosols
Units: 3 Terms Offered: Fa Climate change; climate science fundamentals; Earth's energy balance and atmosphere; greenhouse gas dynamics; fundamentals of airborne particles; climate-aerosol interactions; particle-radiation and particle-cloud interactions. *Recommended Preparation:* ENE 428 Grading Option: Letter Crosslisted as CE 527

ENE 535 Air Pollution Management: Exposure, Health Effects and Risk
Units: 3 Terms Offered: Sp Pollutant sampling; occupational, community, and personal exposures; receptor modeling; data analysis; health effects of air pollutants. Instruction Mode: Lecture Grading Option: Letter

ENE 553 Biological Processes in Environmental Engineering
Units: 3 (Enroll in CE 553)

ENE 560 Environmental Aspects of Oil and Gas Production
Units: 3 Environmental aspects of drilling for and producing oil and gas, and the necessary

safety practices. Attention is given to the urban areas. Instruction Mode: Lecture Grading Option: Letter

ENE 562 Aquatic Chemistry
Units: 3 Terms Offered: FaSp Quantitative prediction of chemical speciation in aquatic systems, including acid-base chemistry, precipitation/dissolution, complexation, and oxidation/reduction. Applications to water treatment. *Prerequisite:* CE 453 *Recommended Preparation:* CHEM 105aLg or CHEM 115aLg and CHEM 105bL or CHEM 115bL; MATH 245 and PHYS 151Lg Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE 562

ENE 563 Chemistry and Biology of Natural Waters
Units: 3 (Enroll in CE 563)

ENE 580 Applied Environmental Engineering Biotechnology
Units: 3 Fundamentals of bioremediation processes; bioremediation technologies for decontamination of air, water, and soil; global applications of bioremediation techniques. Instruction Mode: Lecture Grading Option: Letter

ENE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 596 Chemical Reactions in the Atmosphere
Units: 3 Terms Offered: Fa Chemical reactions and scavenging processes important in urban air pollution. Effects of solar irradiation on vehicle exhaust gases, oxides of nitrogen and sulfur. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-596

ENE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: FaSp Course content will be selected each semester to reflect current trends and developments in the field of environmental engineering. Instruction Mode: Lecture Grading Option: Letter

ENE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

English

ENGL 105x Creative Writing for Non-Majors
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introductory workshop in writing poetry, short fiction and nonfiction for love of the written and spoken word. Instruction Mode: Lecture Grading Option: Letter

ENGL 170g The Monster and the Detective
Units: 4 Terms Offered: FaSp Cultural images of disorder and chaos, and of the search for order and reason, from the eighteenth century to the present. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in ARLT 101g Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 172g The Art of Poetry
Units: 4 Introduction to the pleasures and power of poetry, exploring elements drawn from high-points of English poetry, and the lives and works of major poets. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in ARLT 101g Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 174g Reading the Heart: Emotional Intelligence and the Humanities
Units: 4 A study of emotional intelligence through literature, history and the arts with a focus on anger, happiness, love and empathy. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 176g Los Angeles: the City, the Novel, the Movie
Units: 4 An exploration of the culture, vibrancy, heritage, mythology, variety, and pathology of a city that was born in hopes and captured the world's imagination. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 230g Shakespeare and His Times
Units: 4 Close study of Shakespeare's plays and poems to introduce his language, stagecraft, literary "genius," social and literary contexts, precursors and rivals, and legacy. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 250gm The African Diaspora
Units: 4 Terms Offered: FaSp (Enroll in AMST 250)

ENGL 261g English Literature to 1800
Units: 4 Terms Offered: FaSpSm Intensive reading of major writers to 1800. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 262g English Literature since 1800
Units: 4 Terms Offered: FaSpSm Intensive reading of major writers, 1800–1950. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 263g American Literature
Units: 4 Terms Offered: FaSpSm Intensive reading of representative writers. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 280g Introduction to Narrative Medicine
Units: 4 Study of literary modes of narrative and their uses in medical understanding, character formation, social identity, and relations between mind and body. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 285m African American Popular Culture
Units: 4 Terms Offered: Sp (Enroll in AMST 285)

ENGL 290 Cultural Studies: Theories and Methods
Units: 4 Terms Offered: FaSpSm Introduction to the theories, methods, and history of cultural studies, with coverage of contemporary debates over censorship and the politics of authorship, seriality and originality. Instruction Mode: Lecture Grading Option: Letter

ENGL 298g Introduction to the Genre of Fiction
Units: 4 Terms Offered: FaSpSm An introduction to the close reading of fiction and the understanding of the genre as an aesthetic and historical phenomenon. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 299g Introduction to the Genre of Poetry
Units: 4 Terms Offered: FaSp Historical survey of the traditions of lyric poetry from Shakespeare to the contemporary, examining the genre's multiple forms of literary, visual, and aural expression. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

ENGL 300 Advanced Expository Writing

Units: 2, 3, 4 Intensive practice intended to develop a high level of competence in writing expository prose. Duplicates Credit in former ENGL 400 Instruction Mode: Lecture Grading Option: Letter

ENGL 301 The Rhetoric of Written Composition
Units: 4 Theories of rhetoric as they apply to written composition, with emphasis upon pedagogical applications. The course is designed for but not limited to prospective teachers of English. Duplicates Credit in former ENGL 401 Instruction Mode: Lecture Grading Option: Letter

ENGL 302 Writing Narrative
Units: 4 Terms Offered: FaSpSm Introduction to the techniques and practice of writing narrative in fiction and literary non-fiction. Instruction Mode: Lecture Grading Option: Letter

ENGL 303 Introduction to Fiction Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of writing prose fiction. Instruction Mode: Lecture Grading Option: Letter

ENGL 304 Introduction to Poetry Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of writing poetry. Instruction Mode: Lecture Grading Option: Letter

ENGL 305 Introduction to Nonfiction Writing
Units: 4 Terms Offered: FaSp Introduction to the techniques and practice of lyric essay, memoir, personal narrative, and scientific, medical, nature, culinary and travel writing. Instruction Mode: Lecture Grading Option: Letter

ENGL 309 The English Language
Units: 4 Instruction in the major grammatical systems of the English language, with particular emphasis on their relevance to language activities in the elementary classroom. Duplicates Credit in former ENGL 409 Instruction Mode: Lecture Grading Option: Letter

ENGL 310 Editing for Writers
Units: 4 Practical course in relations between editing and the creative process in fiction, poetry, and exposition. Instruction Mode: Lecture Grading Option: Letter

ENGL 311 History and Grammar of Modern English
Units: 4 Terms Offered: FaSp History and grammar of modern English as described by current linguistics; comparison with traditional grammar; application of grammar to stylistic analysis. Duplicates Credit in former ENGL 410 Instruction Mode: Lecture Grading Option: Letter

ENGL 312 Analysis of Written Persuasion
Units: 4 Terms Offered: FaSp Persuasive discourse, including structure, intention, and figurative language; analysis of texts in various humanistic, scientific, and socio-scientific disciplines. Duplicates Credit in former ENGL 412 Instruction Mode: Lecture Grading Option: Letter

ENGL 341 Women in English Literature before 1800
Units: 4 English poetry, plays, novels, and discursive prose by and about women from 1375 to 1800. Duplicates Credit in former ENGL 469 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 341

ENGL 342g Women in English and American Literature after 1800
Units: 4 Women as writers and as subjects, with special emphasis on feminist and liberationist traditions and on changing female images after 1800. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 470 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 342

ENGL 343m Images of Women in Contemporary Culture
Units: 4 Terms Offered: FaSp Representations of women and gender relations in contemporary literature and mass culture, using the tools of feminist, literary, and political theory. Duplicates Credit in former ENGL 476 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 343

ENGL 344gm Sexual/Textual Diversity
Units: 4 Terms Offered: FaSp Questions of gay and lesbian identity, expression and experience in a variety of literary and cultural forms; emphasis on sexual politics, equality and difference. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 478 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 344

ENGL 350g Literature of California
Units: 4 Novels, stories, essays, poems, and plays written in and about California from the Gold Rush to the present. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 351 Periods and Genres in American Literature
Units: 4 Max Units: 08 Terms Offered: FaSp A concentrated reading and criticism of the works of one period or one genre of American literature; for example, colonial literature, the American Renaissance, American poetry, American drama. Duplicates Credit in former ENGL 451 Instruction Mode: Lecture Grading Option: Letter

ENGL 352g Bookpacking
Units: 4 Max Units: 08 Terms Offered: SpSm Literary travel using novels to explore regional culture and unify the study of literature, history, geography, politics and social studies. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 355g Anglo-American Law and Literature
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Examination of legal problems and concepts in English and American literature. *Recommended Preparation:* CORE 102 or ARLT 100; WRIT 150. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 360 Modern Poetry
Units: 4 Study of poetry written in English from 1900 to 1945, with special emphasis on American modernists of the first two decades. *Recommended Preparation:* ENGL 262g, ENGL ENGL 263g Duplicates Credit in former ENGL 452 Instruction Mode: Lecture Grading Option: Letter

ENGL 361g Contemporary Prose
Units: 4 Study of prose written in English since 1945, principally fiction of the past two decades. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 455 Instruction Mode: Lecture Grading Option: Letter

ENGL 362g Contemporary Poetry
Units: 4 Study of poetry written in English since 1945, with special emphasis on the last two decades. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 456 Instruction Mode: Lecture Grading Option: Letter

ENGL 363 Contemporary Drama
Units: 4 Selected British, Irish, and American drama from the post World War II period (1945 to the present). Duplicates Credit in former ENGL 463 Instruction Mode: Lecture Grading Option: Letter

ENGL 363g Contemporary Drama
Units: 4 Selected British, Irish, and American drama from the post World War II period (1945 to the present). Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 463 Instruction Mode: Lecture Grading Option: Letter

ENGL 364 The Modern Novel
Units: 4 Terms Offered: FaSp Studies of the narrative experiments and innovations in fiction following the realist novel; emphasis on gender, empire and class and the pluralities of "modernisms." Duplicates Credit in former ENGL 467 Instruction Mode: Lecture Grading Option: Letter

ENGL 371g Literary Genres and Film
Units: 4 Terms Offered: FaSpSm Literary studies in the relationship between fiction and drama and their adaptation as films. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ENGL 471 Instruction Mode: Lecture Grading Option: Letter

ENGL 372 Literature and Related Arts
Units: 4 Terms Offered: FaSp An examination of how literature and related arts intersect in a particular cultural milieu. Selected topics. Duplicates Credit in former ENGL 472 Instruction Mode: Lecture Grading Option: Letter

ENGL 373g Literature and Society
Units: 4 Terms Offered: FaSp Theoretical and applied studies of literature in English as social activity and cultural production; its expression of, and influence upon, social values, concepts, and behavior. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in

former ENGL 473 Instruction Mode: Lecture Grading Option: Letter

ENGL 374m Literature, Nationality and Otherness
Units: 4 Terms Offered: FaSp English literature written about or in the British colonies and their post-colonial nations, including African, Asian, Pacific, and American countries. Emphasis on texts by other than British and United States authors. Completion of general education literature requirement highly recommended. Duplicates Credit in former ENGL 474 Instruction Mode: Lecture Grading Option: Letter

ENGL 375 Science Fiction
Units: 4 Terms Offered: FaSp Investigation of the scope and possibilities of British and American science fiction as a genre, with some attention to its historical development. Instruction Mode: Lecture Grading Option: Letter

ENGL 376g Comics and Graphic Novels
Units: 4 Terms Offered: FaSpSm Introduction to issues in visual and popular culture, focused on critical and historical interpretation of words and images in comic books and graphic novels. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ENGL 379 History of Literary Criticism
Units: 4 Terms Offered: FaSp Philosophies of literary criticism from Plato to the end of the 19th century; the relationship between literary criticism and its contemporary literature. Duplicates Credit in former ENGL 479 Instruction Mode: Lecture Grading Option: Letter

ENGL 380 Modern Literary Criticism: Theory and Practice
Units: 4 Terms Offered: FaSp Analysis of philosophies and methods of modern schools of criticism; writing critical essays. Duplicates Credit in former ENGL 480 Instruction Mode: Lecture Grading Option: Letter

ENGL 381 Narrative Forms in Literature and Film
Units: 4 Terms Offered: FaSp Critical approaches to narrative form in literature and film; readings and films from several genres and periods, emphasis on gender, ethnic, and cultural studies. Duplicates Credit in former ENGL 481 Instruction Mode: Lecture Grading Option: Letter

ENGL 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENGL 392 Visual and Popular Culture
Units: 4 Terms Offered: FaSp Course in the theory and practices of "popular culture," highlighting modern and contemporary culture, film, video and popular music, as well as narrative forms. Instruction Mode: Lecture Grading Option: Letter

ENGL 395 Junior Honors Seminar
Units: 4 Terms Offered: Sp Selected subjects; offered in spring only and restricted to honors students. Instruction Mode: Lecture Grading Option: Letter

ENGL 402 Narrative Composition
Units: 4 Max Units: 08 Intermediate practical workshop concentrating on the creation of narrative in fiction and literary nonfiction. *Prerequisite:* ENGL 302 or ENGL 305 *Recommended Preparation:* ENGL 261g, ENGL 262g, ENGL 263g Instruction Mode: Lecture Grading Option: Letter

ENGL 404 The Writer in the Community
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Apprenticeship with experienced writer-teachers, providing students with a pedagogical framework and practical experience for teaching creative writing in schools and community settings. Instruction Mode: Lecture Grading Option: Letter

ENGL 405 Fiction Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp A practical course in composition of prose fiction. *Prerequisite:* ENGL 303 or ENGL 305. Instruction Mode: Lecture Grading Option: Letter

ENGL 406 Poetry Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp A practical course in poetry writing. *Prerequisite:* ENGL 304. Instruction Mode: Lecture Grading Option: Letter

ENGL 407 Advanced Fiction Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp *Prerequisite:* ENGL 405. Instruction Mode: Lecture Grading Option: Letter

ENGL 408 Advanced Poetry Writing
Units: 4 Max Units: 8.0 Terms Offered: FaSp *Prerequisite:* ENGL 406. Instruction Mode: Lecture Grading Option: Letter

ENGL 420 English Literature of the Middle Ages (1100–1500)
Units: 4 Terms Offered: FaSp Selected studies in major figures, genres, and themes of Middle English literature to Malory, with special emphasis on Chaucer. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 421 English Literature of the 16th Century
Units: 4 Selected studies in the non-dramatic literature of Renaissance England, with emphasis on Sidney, Spenser, and Shakespeare. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 422 English Literature of the 17th Century
Units: 4 Selected studies of prose and poetry in the age of Bacon, Donne, Jonson, Herbert, Browne, Marvell, and Milton. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 423 English Literature of the 18th Century (1660–1780)
Units: 4 Selected studies in poetry, prose, and fiction of such writers as Defoe, Dryden, Fielding, Richardson, Pope, Swift, and Johnson. *Prerequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 424 English Literature of the Romantic Age (1780–1832)
Units: 4 Selected studies in major writers, including Blake, Austen, Wordsworth, Coleridge, Byron, Mary Shelley, P.B. Shelley, and Keats. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 425 English Literature of the Victorian Age (1832–1890)
Units: 4 Selected studies in the prose and poetry of such figures as Tennyson, Dickens, the Brontes, the Brownings, Hopkins, Arnold, Ruskin, and Newman. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 426 Modern English Literature (1890–1945)
Units: 4 Studies in English literary modernism, including the prose of Conrad, Joyce, and Woolf and the poetry of Pound, Eliot, Yeats, and Auden. *Prerequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 430 Shakespeare
Units: 4 Terms Offered: FaSp Major history plays, comedies, and tragedies. Instruction Mode: Lecture Grading Option: Letter

ENGL 440 American Literature to 1865
Units: 4 Terms Offered: FaSp American poetry and prose to the Civil War with special attention to Irving, Cooper, Poe, Hawthorne, Emerson, Thoreau, Melville, and Whitman. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter

ENGL 441 American Literature, 1865 to 1920
Units: 4 Terms Offered: FaSp American poetry and prose with special attention to Twain, James, Dickinson, Henry Adams, Crane, and Dreiser. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter

ENGL 442 American Literature, 1920 to the Present
Units: 4 Terms Offered: FaSp American poetry, fiction, and drama since World War I with special attention to Eliot, Frost, Hemingway, Fitzgerald, O'Neill, Stevens, Faulkner, and Nabokov. *Corequisite:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-442

ENGL 444m Native American Literature
Units: 4 Terms Offered: FaSp Survey of Native American literature, including oral traditions and print genres, such as short story, poetry, novel, and autobiography, from 1700 to the present. *Recommended Preparation:* ENGL 263. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-444

ENGL 445m The Literatures of America: Cross-Cultural Perspectives
Units: 4 Introduction to African- American, Chicano, Asian American, and Native-American literatures — and to the literary diversity of American cultures. Instruction Mode: Lecture Grading Option: Letter

ENGL 446 African-American Poetry and Drama
Units: 4 Survey of black poetry and plays

in America from the Emancipation to the present, with special emphasis on the new poets and dramatists of the current "Black revolution." Instruction Mode: Lecture Grading Option: Letter

ENGL 447m African-American Narrative
Units: 4 Development of the novel in African-American literature beginning with the anti-slavery fiction of William W. Brown and his pre-Emancipation contemporaries and concluding with the emerging novelists of the late sixties. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-447

ENGL 448m Chicano and Latino Literature
Units: 4 Terms Offered: FaSp (Enroll in AMST 448)

ENGL 449m Asian American Literature
Units: 4 Terms Offered: FaSp (Enroll in AMST 449)

ENGL 454 Aesthetic Philosophy and Theory
Units: 4 (Enroll in COLT 454)

ENGL 461 English Drama to 1800
Units: 4 Terms Offered: FaSp Representative plays, especially those of the Elizabethan, Jacobean, and Restoration periods. *Corequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 462 British and American Drama 1800–1950
Units: 4 Terms Offered: FaSp Representative plays of England, Ireland, and the United States, especially those written after 1890. *Corequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 465 The English Novel to 1800
Units: 4 Theory and practice of fiction in works of writers such as Defoe, Richardson, Fielding, Sterne, Burney, and Smollett. *Corequisite:* ENGL 261. Instruction Mode: Lecture Grading Option: Letter

ENGL 466 The 19th Century English Novel
Units: 4 Theory and practice of fiction in works of major writers such as Austen, Dickens, Thackeray, George Eliot, Meredith, and Hardy. *Corequisite:* ENGL 262. Instruction Mode: Lecture Grading Option: Letter

ENGL 475 Politics and the Novel
Units: 4 (Enroll in COLT 475) Instruction Mode: Lecture Grading Option: Letter

ENGL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ENGL 491 Senior Seminar in Literary Studies
Units: 4 Terms Offered: FaSpSm Selected problems in literary history and criticism. Instruction Mode: Lecture Grading Option: Letter

ENGL 492 Narrative Studies Capstone Seminar
Units: 4 Individual research, reading, writing and project development as a senior capstone experience in the study of narrative. Registration Restriction: Open only to seniors in Narrative Studies Instruction Mode: Lecture Grading Option: Letter

ENGL 495 Senior Honors Seminar
Units: 4 Terms Offered: Fa Advanced seminar involving extensive reading, research, and discussions. Selected subjects; offered in Fall only and restricted to Honors students. Instruction Mode: Lecture Grading Option: Letter

ENGL 496 Senior Honors Thesis
Units: 4 Terms Offered: Sp Seminar in workshop form to accompany completion of Senior Honors Thesis. Bi-weekly meetings to complete thesis according to contract. *Prerequisite:* ENGL 491. Instruction Mode: Lecture Grading Option: Letter

ENGL 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp Intensive engagement with current research, problems, and methodologies in Early Modern discourses and cultures. Required capstone seminar for interdepartmental minor in early modern studies. Open only to seniors; open only to early modern studies minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-497, AHIS-497

ENGL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Studies in the works of one or more authors, or in the development of a theme or genre. Instruction Mode: Lecture Grading Option: Letter

ENGL 501 History of Literary and Cultural Theory
Units: 4 The assumptions and practices of major theorists and theoretical schools from Plato to literary modernism. Instruction Mode: Lecture Grading Option: Letter

ENGL 502 Contemporary Literary and Cultural Theory
Units: 4 The assumptions and practices of major post-modern theorists and theoretical schools. Instruction Mode: Lecture Grading Option: Letter

ENGL 503 Theories of History, Ideology and Politics
Units: 4 The principal ways in which history, ideology, and politics have informed the study of literary and cultural discourse. Instruction Mode: Lecture Grading Option: Letter

ENGL 504 Theories of Race, Class, and Gender
Units: 4 The principal methods and assumptions by which race, class, and gender have been studied in reference to literary and cultural discourse. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-504

ENGL 507 Rhetoric and Language
Units: 4 Examination of critical and linguistic theories; may include the changing structures of English discourse, cognitive poetics, and discourse analysis. Instruction Mode: Lecture Grading Option: Letter

ENGL 508 History, Theories and Practice of Cultural Studies
Units: 4 Max Units: 12.0 Terms Offered: FaSp Looking at specific case histories, this course introduces students to the basic methods, theories and activities in cultural studies. Instruction Mode: Lecture Grading Option: Letter

ENGL 510 Medieval English Literatures and Cultures
Units: 4 Max Units: 12.0 Investigations of chivalry and romance, allegory, drama, popular literature in the Middle Ages, the reception of medieval literature, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 520 Renaissance English Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in poetry and patronage, the popular tradition in literature and drama, the social and sexual dynamics of comedy, historical and cultural uses of genres, among other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 530 Restoration and 18th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in prose, poetry, drama, and culture of the period 1660–1800. Instruction Mode: Lecture Grading Option: Letter

ENGL 535 Literatures and Cultures of the Romantic Period
Units: 4 Max Units: 12.0 Studies in British literature and culture, from the 1790s to 1830s, including gender and genre, authorship and authenticity, "romance" and revolution, forms of belief and doubt, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 536 Literatures and Cultures of the Victorian Period
Units: 4 Max Units: 12.0 Studies in British literature and society, 1837–1901, including gender and genre, industrialism, science and technology, empire and race, new forms of media and narrative, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 540 19th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the Romantics and Victorians, gender and genre, the new woman and the novel, authorship and the marketplace, science, imperialism, the crisis of narrative, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 550 20th Century British Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in literary modernism, critical scrutiny and moral seriousness, poetry and politics, the Irish revival, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 560 Early American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the literature of discovery, exploration and conquest, the Puritan migration, literary genres in Colonial America, history and myth of American origins, and other topics. Instruction Mode: Lecture Grading Option:

Letter

ENGL 563 Poetry and Prose Into Drama
Units: 4 Terms Offered: Fa (Enroll in THTR 501)

ENGL 570 18th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in the rhetoric, literature, and language of the pre-revolutionary and revolutionary periods, narrative and polemical writing, the American Enlightenment, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 580 19th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in canonic and non-canonic literature in the American Renaissance, cultural nationalism, the consequences of race, immigration, expansion, urbanization, science, and the marketplace, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 591 20th Century American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in rural and urban fictions, modernism, the shift from imagism and symbolism to confessional poetry, recovered writers, hemispheric traditions, literature and kindred arts, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 592 Contemporary British and American Literatures and Cultures
Units: 4 Max Units: 12.0 Studies in contemporary women and ethnic writers, "extra-literary" forms (journalism, autobiography), the theatre of the absurd, post-modern fabulations, and other modes and issues since World War II. Instruction Mode: Lecture Grading Option: Letter

ENGL 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

ENGL 595 Literary Studies Across Cultures
Units: 4 Max Units: 12.0 Studies in Empire and Commonwealth literatures, post-colonialism, American hemispheric connections, African-American literary discourse, Asian American writers, dialects and the folk, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Thematic, theoretical, or experimental studies in British and American literatures and cultures. Duplicates Credit in former ENGL 699. Instruction Mode: Lecture Grading Option: Letter

ENGL 600 Publication in Humanities Journals
Units: 4 Max Units: 8 Terms Offered: FaSp Development of academic strategies for preparing articles for publication in scholarly journals. Aspects of publication will include abstracts, introductions, argumentation, style and footnotes. Instruction Mode: Lecture Grading Option: Letter

ENGL 601 Introduction to Literary Editing and Publishing
Units: 4 Terms Offered: Fa Comprehensive introduction to the MA degree and its range of study, focusing on elements of the craft of editing and the literary marketplace. Instruction Mode: Lecture Grading Option: Letter

ENGL 602 Writers in the World: Text and Context
Units: 4 Terms Offered: Sp Editing and publishing within the tradition of literary and cultural influences upon a wide range of authors, readers, and genres. Instruction Mode: Lecture Grading Option: Letter

ENGL 603 The Editorial Experience: The Craft of Publication
Units: 4 Terms Offered: Fa An intensive workshop in applied English, coordinating literary analysis with editing and publication, including relationships with authors; academic and trade presses; journals; editing, and design. Instruction Mode: Lecture Grading Option: Letter

ENGL 604 The Nonfiction Experience: A Literary-Editorial Focus
Units: 4 Max Units: 8 Terms Offered: Fa Topics on literary and popular forms: profile portrait; science writing; food writing; place and travel; memoir; and personal essay; with venues for publication. Instruction Mode: Lecture Grading Option: Letter

ENGL 605 The History of Rhetoric
Units: 4 Max Units: 12.0 Studies in European and American rhetoric and their contexts. Instruction Mode: Lecture Grading Option: Letter

ENGL 607 Digital Publishing and Literary Writing for New Media
Units: 4 Terms Offered: Sp Discussion of literary texts combined with hands-on digital practice in composition, design, and fabrication for electronic publication, including formal, technical, and philosophical issues. Instruction Mode: Lecture Grading Option: Letter

ENGL 608 Publishing on Both Sides of the Transom
Units: 4 Terms Offered: Sp Editorial and publishing workshop with an intensive hands-on student project following the progress of a single piece of writing from manuscript to print. Instruction Mode: Lecture Grading Option: Letter

ENGL 609a Internship in Editing and Publishing: Eloquence and Ethics
Units: 2 Terms Offered: Fa Practical experience in the publishing world for acquiring skills and knowledge beyond the classroom. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 609b Internship in Editing and Publishing: Eloquence and Ethics
Units: 2 Terms Offered: Sp Practical experience in the publishing world for acquiring skills and knowledge beyond the classroom. *Prerequisite:* ENGL 609a Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 610 Theory and Criticism
Units: 4 Max Units: 12.0 Studies in meaning and meaning-making, form, comparative theory, theories of history and culture, theory in the classroom, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 612 History of the Book and Material Bibliography
Units: 4 Max Units: 12 Terms Offered: FaSp Book history and the use of primary source material in literary research. Grading Option: Letter

ENGL 620 Literature and Interdisciplinary Studies
Units: 4 Max Units: 12.0 Issues and theory of studying literature in relation to history, science, politics, psychology, religion, sociology, media, the visual arts, and other disciplines. Instruction Mode: Lecture Grading Option: Letter

ENGL 630 Studies in Gender
Units: 4 Max Units: 12.0 History and ideology of gender studies, feminist theory, gay and lesbian discourse, and other studies in feminisms and masculinities in relation to literature. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-630

ENGL 640 Individual Writers
Units: 4 Max Units: 12.0 Studies in major and minor, canonic and non-canonic writers. Instruction Mode: Lecture Grading Option: Letter

ENGL 650 Multicultural Literary Studies
Units: 4 Max Units: 12.0 Theories of race and ethnicity, cultural imperialism, discourse of power and class, literatures of the Americas, and other topics. Instruction Mode: Lecture Grading Option: Letter

ENGL 660 Studies in Genre
Units: 4 Max Units: 12.0 History, transformation, and theory of genre; studies in epic, lyric, drama, comedy, tragedy, the novel, biography, essay, and other forms. Instruction Mode: Lecture Grading Option: Letter

ENGL 678 Seminar in Film Theory and Medium Specificity
Units: 4 Max Units: max 8 (Enroll in CTCS 678)

ENGL 679 Seminar in Genre and/or Narrative Theory
Units: 4 Max Units: max 8 (Enroll in CTCS 679)

ENGL 695 Graduate Fiction Form and Theory
Units: 4 Max Units: max 16 Terms Offered: FaSp Seminar. Studies in fiction form and function or critical theory. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 696 Graduate Poetry Writing Workshop
Units: 4 Max Units: max 16 Terms Offered: FaSp Intensive practicum in advanced level poetry writing, intended to develop

high level creative compositional ability. Open only to Creative Writing PhD degree candidates. Registration Restriction: Open only to doctoral English students Instruction Mode: Lecture Grading Option: Letter

ENGL 697 Graduate Fiction Writing Workshop
Units: 4 Max Units: max 16 Terms Offered: FaSp Intensive practicum in advanced level fiction writing, intended to develop high level creative compositional ability. Open only to Creative Writing PhD degree candidates. Registration Restriction: Open only to English doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 698 Graduate Poetry Form and Theory
Units: 4 Max Units: 16 Terms Offered: FaSp Seminar. Studies in poetry form and function or critical theory. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

ENGL 700x Theories and Practices of Professional Development I
Units: 2 Terms Offered: FaSp A structured environment in which to craft a research project, write a dissertation prospectus, and define areas of professional expertise. *Recommended Preparation:* passage of screening exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 701x Theories and Practices of Professional Development II
Units: 2 Terms Offered: Fa This two-credit course helps ABD students craft their professional identities and placement materials as they make the transition from graduate school to their academic position. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENGL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Engineering

ENGR 100a Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100b Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100c Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 100d Engineering Honors Colloquium
Units: 1 Recent developments in a highly technological society with emphasis on selected topics. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 101 Introduction to Engineering
Units: 3 Terms Offered: Fa Gateway to the majors and minors in engineering. Introduction to engineering disciplines. Historical and current trends in engineering; ethical and societal factors in engineering solutions. Hands-on design experiences; USC laboratory tours. Instruction Mode: Lecture Grading Option: Letter

ENGR 102 Engineering Freshman Academy
Units: 2 Introduction to the profession of engineering. Ethical, political and societal consequences of engineering innovations and the impact of engineering on everyday life. Team projects and guest lectures. Open to freshmen only. Instruction Mode: Lecture Grading Option: Letter

ENGR 150L Engineering Science and Systems: From Humans to Robots
Units: 3 Terms Offered: Fa Hands-on multidisciplinary engineering course that uses robotics as a theme to cover material from all areas of engineering. Laboratory; programming; team projects; end-of-semester exhibition. Open only to freshmen. *Recommended Preparation:* Basic programming experience (e.g., C, C++, C#, Java, Python). Registration Restriction: Open only to freshmen. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ENGR 301 Technical Entrepreneurship
Units: 3 (Enroll in BUAD 301)

ENGR 305 Engineering Biology Matters
Units: 3 Terms Offered: Fa Engineering students will learn biological phenomena in the context of engineering principles and explore biological mechanisms and processes as analogies for designing engineered systems. *Recommended Preparation:* CHEM 105a, MASC 110. Instruction Mode: Lecture Grading Option: Letter

ENGR 345 Principles and Practices of Global Innovation
Units: 3 Terms Offered: Sp Learner-centered, cross-cultural, technology-enabled approaches to principles and industrial practices leveraging cultural diversity to inspire innovations for competitive global markets. Requires an extended semester of 22 weeks, including 2-week overseas project in early summer. Instruction Mode: Lecture Grading Option: Letter

ENGR 395ax Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395bx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395cx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

ENGR 395dx Cooperative Education Work Experience
Units: 1 or 2 Max Units: 5.0 Supervised work experience in a professional environment related to a specific degree program, academic level, and career objective. Acceptance into Cooperative Education Program required. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 400 Engineering Honors Project
Units: 1, 2, 3 Max Units: 12.0 Terms Offered: FaSpSm Supervised interdisciplinary studies and projects. Enrollment limited to members of the Viterbi School of Engineering Honors Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 401x Communicating Science and Engineering to Children
Units: 3 Max Units: 6.0 Terms Offered: FaSp Engineering students communicate their knowledge, collaborate constructively with peers, and inspire underserved children to develop a curiosity and persistence for science and engineering. Registration

Restriction: Open only to junior and senior engineering students. Instruction Mode: Lecture Grading Option: Letter

ENGR 493x Dean's Seminar in Entrepreneurship
Units: 2 Terms Offered: Sp Overview of starting and developing a new business. Discussions with successful business leaders and entrepreneurs. Not available for students admitted to the Entrepreneur Program. Open only to seniors or graduate students in business or engineering. Registration Restriction: Open only to seniors or graduate students in Business or Engineering. Duplicates Credit in former BUAD 493x. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current developments in the field of engineering. Instruction Mode: Lecture Grading Option: Letter

ENGR 501x Engineering Writing and Communication for Master's Students
Units: 3 Terms Offered: FaSp Academic and discipline-specific writing skills. Emphasis on structure of discourse and writing process. Presentation and oral communication skills also addressed. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 502x Writing Skills for Engineering PhD Students
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Writing of engineering curriculum- and research-related projects for PhD students. Focus is on conference papers, dissertations and proposals, journal articles, and other forms. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 503x Oral Communication Skills for Engineering PhD Students
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Academic and professional presentation skills for PhD students. Preparation for qualifying exams, conference paper presentations, and other forms of oral communication. Use of visual aids and poster displays included. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 504x Fellowship Proposal Writing for Engineering PhD Students
Units: 2 Terms Offered: FaSp Preparation of essays and other materials for research fellowship applications. Open only to PhD engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 509 Patent Law for Scientists and Engineers
Units: 3 Terms Offered: Sp Tools for engineering and science graduate students to make informed decisions about obtaining and enforcing patent protection for their future inventions: validity, infringement, unenforceability. *Recommended Preparation:* EE 682 or ISE 565. Instruction Mode: Lecture Grading Option: Letter

ENGR 555 Invention and Technology Development
Units: 3 (Enroll in ISE 555) Grading Option: Graded CR/NC.

ENGR 595a Professional Writing and Communication for Internships
Units: 1 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595b Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595a Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595c Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595b Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595d Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595c Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 595z Professional Writing and Communication for Internships
Units: 0 Terms Offered: FaSpSm Focus on writing and communication skills for master's students pursuing a professional internship. *Prerequisite:* ENGR 595d Registration Restriction: Open only to graduate engineering students Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 596 Internship in Engineering
Units: 1 Max Units: 3.0 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENGR 599 Special Topics
Units: 2, 3, 4 Current developments in the field of engineering; topics to be selected each semester. Instruction Mode: Lecture Grading Option: Letter

Environmental Studies

ENST 100g Introduction to Environmental Studies
Units: 4 Terms Offered: FaSp Gateway to the majors and minors in Environmental Studies. Provides students with an overview of how government agencies and societal institutions address (or fail to address) the interrelated social and scientific aspects of environmental problems and policies. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

ENST 150gx Environmental Issues in Society
Units: 4 Terms Offered: Fa Exploration of the major social, political, economic, religious, and philosophical disagreements that exist between scholars, leaders, and citizens concerning today's most serious environmental issues and problems. Satisfies New General Education in C Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as IR-150

ENST 201 Introduction to Applied Environmental Science and Engineering
Units: 4 (Enroll in ENE 201)

ENST 255 American Environmentalism
Units: 4 (Enroll in GEOG 255)

ENST 270 Introduction to Environmental Law and Politics
Units: 4 Terms Offered: Sp (Enroll in POSC 270)

ENST 298aL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp Extensive academic preparation in the physics, physiology, safety, and methodology for in-water scientific diving. *Recommended Preparation:* background in natural science and/or environmental studies Duplicates Credit in former ENST 298 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 298a

ENST 298bL Introduction to Scientific Diving
Units: 2 Terms Offered: Sp Extensive academic preparation in the physics, physiology, safety, and methodology for in-water scientific diving. *Prerequisite:* ENST 298a *Recommended Preparation:* background in natural science and/or environmental studies Duplicates Credit in former ENST 298 Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCG 298b

ENST 310 Sustainable Fisheries Management
Units: 4 Terms Offered: Sp Examination of scientific, social, political, and economic factors of fisheries management, engaging students in key issues of coastal and marine sustainability. *Prerequisite:* ENST 100g *Recommended Preparation:* Any introductory Biology course Instruction Mode: Lecture Grading Option: Letter

ENST 320a Water and Soil Sustainability; Energy and Air Sustainability
Units: 4 Terms Offered: Fa Overview of issues related to water and soil sustainability including science, policy and business aspects. *Recommended Preparation:* ENST 100. Duplicates Credit in former ENST 420. Instruction Mode: Lecture Grading Option: Letter

ENST 320b Water and Soil Sustainability;

Energy and Air Sustainability
Units: 4 Terms Offered: Sp Overview of issues related to water and soil sustainability including science, policy and business aspects. *Recommended Preparation:* ENST 100. Duplicates Credit in former ENST 430. Instruction Mode: Lecture Grading Option: Letter

ENST 323 Politics of Global Environment
Units: 4 (Enroll in IR 323)

ENST 335 Science, Health and the Environment
Units: 4 Terms Offered: Sp Exploration of environmentally transmitted human diseases; understanding the human/pathogen/environment nexus that leads to disease in human populations; disease transmission reduction. *Prerequisite:* BISC 103 or BISC 120 Instruction Mode: Lecture Grading Option: Letter

ENST 344 Environmental Ethics
Units: 4 Terms Offered: Sp Explores issues concerning behavior of humans towards the nonhuman world. Examines a wide spectrum of ethical issues. *Prerequisite:* ENST 100 or ENST 150 Instruction Mode: Lecture Grading Option: Letter

ENST 345 Conservation of Natural Resources
Units: 4 (Enroll in GEOG 345)

ENST 347 Environmental Law
Units: 4 (Enroll in POSC 347)

ENST 352 Conservation Biology
Units: 4 Terms Offered: Sp (Enroll in BISC 352)

ENST 360 Environmental Disasters
Units: 4 (Enroll in GEOG 360)

ENST 370 Marine and Coastal Environmental Policy
Units: 4 Terms Offered: Sp Survey of major environmental policies both international and domestic as they relate to fisheries, shipping, pollution, seaports and coastal management. *Recommended Preparation:* ENST 100, ENST 387. Instruction Mode: Lecture Grading Option: Letter

ENST 387 Economics for Natural Resources and the Environment
Units: 4 Terms Offered: Fa An introduction to the economic tools and issues that affect natural resource use and environmental management. Instruction Mode: Lecture Grading Option: Letter

ENST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ENST 396 Directed Governmental and Political Leadership Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 (Enroll in POSC 395)

ENST 400 Environmental Engineering Principles
Units: 3 (Enroll in ENE 400)

ENST 410 Water and Energy Management in the Asia-Pacific Region
Units: 4 Terms Offered: Sp An exploration of how the essential resources of water and energy are managed in the Asia-Pacific region and the implications of such management. *Prerequisite:* ENST 320a, ENST 320b . Instruction Mode: Lecture Grading Option: Letter

ENST 422 Ecological Security and Global Politics
Units: 4 (Enroll in IR 422)

ENST 427 The Global Environment
Units: 4 Terms Offered: Sp (Enroll in BISC 427)

ENST 432 Environment and Governance: International and National Policy
Units: 4 Terms Offered: Sm Exposes students to policy makers and major institutions that work closely with local decision makers towards developing environmental policy framework. Instruction Mode: Lecture Grading Option: Letter

ENST 436 Environmental Politics
Units: 4 (Enroll in POSC 436)

ENST 440 Environmental Risk Assessment
Units: 4 Terms Offered: Sp Assesses various potential environmental risks and examines how science, government, business, and industry measure and prepare for environmental risks. *Recommended Preparation:* ENST 100. Instruction Mode: Lecture Grading Option: Letter

ENST 442 Global Climate Change: Policy and Society
Units: 4 Terms Offered: Sp Examines climate change policy at the international, national, state, and local levels, and explores the role civil society plays in climate change politics. *Prerequisite:* ENST 320b, POSC 270. Instruction Mode: Lecture Grading Option: Letter

ENST 445 Earth Climate: Past, Present, and Future
Units: 4 Terms Offered: Fa Examination of the tools used to reconstruct past climate change and a thorough discussion of past climate changes on earth with an emphasis on the recent past. *Prerequisite:* MATH 118 or MATH 125 and ENST 320b; *Recommended Preparation:* any introductory GEOL course. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GEOL-445

ENST 456L Conservation Genetics
Units: 4 Terms Offered: Sp (Enroll in BISC 456)

ENST 466 Business and Environmental Sustainability
Units: 4 (Enroll in MOR 466)

ENST 470 Environmental Hydrogeology
Units: 4 Terms Offered: FaSpSm (Enroll in GEOL 470)

ENST 480 Integrated Ecosystem Management in Micronesia
Units: 4 Terms Offered: SpSm Field studies in ecosystem management tools used to investigate complex environmental problems in Micronesia. Historical, cultural, and scientific topics, direct observations of biological, physical, and chemical conditions. *Corequisite:* ENST 298a. Instruction Mode: Lecture Grading Option: Letter

ENST 485 Role of the Environment in the Collapse of Human Societies
Units: 4 Terms Offered: Sm Field studies in the roles of environmental problems in the collapse of ancient civilizations and analogous problems facing contemporary populations in those same places. *Recommended Preparation:* ENST 100. Instruction Mode: Lecture Grading Option: Letter

ENST 487 Resource and Environmental Economics
Units: 4 (Enroll in ECON 487)

ENST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ENST 492 Directed Environmental Policy and Science Internship
Units: 2, 4 Max Units: 4 Terms Offered: FaSp Provides opportunities for professional development in environmental policy and science and prepares students for career or graduate school in environmental-related fields. Students are placed in internships and guided before and during the internship period. Students gain practical experience and learn how government and nongovernmental organizations pursue and implement environmental policy and science work. Registration Restriction: Open only to Juniors and Seniors in Environmental Science and Health, and Environmental Studies majors Instruction Mode: Lecture Grading Option: Letter

ENST 495 Senior Seminar in Environmental Studies
Units: 4 Terms Offered: Sp Students form multidisciplinary teams and are asked to study and resolve a major environmental problem facing a particular region or target population. Instruction Mode: Lecture Grading Option: Letter

ENST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics dealing with environmental issues and problems. Instruction Mode: Lecture Grading Option: Letter

ENST 500 Introduction to Environmental Studies
Units: 4 Terms Offered: Fa This course introduces students to the major environmental issues and problems society faces today. Business, industry, and government actions concerning these issues and problems are examined. Instruction Mode: Lecture Grading Option: Letter

ENST 501 Environmental Science I
Units: 2 Terms Offered: Fa Exposes students to critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. *Corequisite:* ENST 502. Instruction Mode: Lecture Grading Option: Letter

ENST 502 Environmental Science Seminar I
Units: 1 Terms Offered: Fa A series of biweekly guest lectures on critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology.

Instruction Mode: Lecture Grading Option: Letter

ENST 503 Environmental Science II
Units: 2 Terms Offered: Sp A continuation of ENST 501. Exposes students to critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. *Prerequisite:* ENST 501; *Corequisite:* ENST 504. Instruction Mode: Lecture Grading Option: Letter

ENST 504 Environmental Science Seminar II
Units: 1 Terms Offered: Sp A continuation of ENST 502. A series of biweekly guest lectures on critical scientific principles, concepts, and issues related to pollution control, remediation, and ecology. Instruction Mode: Lecture Grading Option: Letter

ENST 505a Advanced Environmental Science Seminar
Units: 2 Terms Offered: FaSp Ties together science, technology, and finance with risk assessment and policy. Instruction Mode: Lecture Grading Option: Letter

ENST 505b Advanced Environmental Science Seminar
Units: 2 Terms Offered: FaSp Ties together science, technology, and finance with risk assessment and policy. Instruction Mode: Lecture Grading Option: Letter

ENST 510 Statistics for Environmental Analysis
Units: 4 This course introduces graduate students to the various quantitative techniques and methodological approaches used in pollution control, natural resources management, and environmental protection. Instruction Mode: Lecture Grading Option: Letter

ENST 520 Environmental Law and Policy
Units: 4 Terms Offered: Sp Introduces students to the central issues, concepts, and theories in environmental law and policy and analyzes present environmental laws and regulations. Instruction Mode: Lecture Grading Option: Letter

ENST 530 Environmental Risk Analysis
Units: 4 Terms Offered: Fa Analyzes various potential environmental risks and examines how science, government, and business measure and prepare for environmental risks. Instruction Mode: Lecture Grading Option: Letter

ENST 536 The Landscape Planning Process
Units: 3 (Enroll in ARCH 536)

ENST 540 California Coastal Zone Science and Policy
Units: 4 Terms Offered: Sp Science and policy issues used to characterize and manage California coastal resources. Key issues include: coastal pollution, public health, ecosystem management, and marine reserves. *Recommended Preparation:* ENST 500. Instruction Mode: Lecture Grading Option: Letter

ENST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ENST 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

ENST 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ENST 595 Graduate Seminar in Environmental Studies
Units: 4 Terms Offered: Sp Addresses the obstacles to environmental policymaking and management by examining the interrelationships between science, technology, and social science. *Recommended Preparation:* ENST 500, ENST 501, ENST 502, ENST 503, ENST 504. Instruction Mode: Lecture Grading Option: Letter

ENST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Subjects specifically relevant to an environmental studies field, sometimes conducted as intensive short courses. Instruction Mode: Lecture Grading Option: Letter

Design

DES 102 Design Fundamentals
Units: 4 Terms Offered: FaSp Introduction to the basic elements and processes of visual communication and design. Instruction includes studio projects, lectures and readings. Various media used. Duplicates Credit in former FADN 102 Instruction Mode: Lecture Grading Option: Letter

DES 105 Art and Design Studio I
Units: 4 Terms Offered: FaSp (Enroll in ART 105)

DES 110 Drawing for Art and Design
Units: 4 Terms Offered: FaSpSm (Enroll in ART 110)

DES 123Lg The Design Challenge: Exploring the Design Process
Units: 4 Terms Offered: FaSpSm An overview of the creative design process and introduction to techniques to solve visual problems. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Lab Required Grading Option: Letter

DES 202 Design II
Units: 4 Terms Offered: FaSp Exploration of essential elements of traditional and digital design, including color and image-text integration, editing information, typography and sequencing. *Prerequisite:* DES 102 or FADN 102 *Corequisite:* DES 203 or FADN 203 Duplicates Credit in former FADN 202 Instruction Mode: Lecture Grading Option: Letter

DES 203 Digital Tools for Design
Units: 2 Terms Offered: FaSp Exploration of the processes of germination, ideation and application/execution in design integrated with computer usage. *Corequisite:* DES 202 Duplicates Credit in former FADN 203 Instruction Mode: Lecture Grading Option: Letter

DES 213 Digital Tools in 3D Design
Units: 2 Terms Offered: FaSp 3D digital modeling, rendering, digital capture and production methods for product, package and environmental design. *Prerequisite:* FADN 203 or DES 203 *Recommended Preparation:* DES 230 Instruction Mode: Lecture, Lab Grading Option: Letter

DES 223 Dummy course

DES 230 3D Design: Materials and Tools
Units: 4 Terms Offered: FaSp Introduction to the study of 3-D Design. Includes a wide investigation of materials, tools, and techniques specific to dimensional design as they apply to package, product, and environmental design. *Prerequisite:* ACAD 176 or DES 102 or FADN 102 Duplicates Credit in former FADN 230 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 230

DES 302 Design III
Units: 4 Terms Offered: FaSp Advanced exploration of typography and image-text integration, including collaborative projects, pre-press and proofing techniques, narrative concepts and information architecture. *Prerequisite:* DES 202 or FADN 202 Duplicates Credit in former FADN 302 Instruction Mode: Lecture Grading Option: Letter

DES 303 Web Design
Units: 2 Terms Offered: FaSp A workshop-based course that focuses on software applications in design and web design. *Prerequisite:* ACAD 177 or DES 203 or FADN 203 Duplicates Credit in former FADN 303 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 303

DES 313 Graphic Design in Fashion
Units: 4 Terms Offered: FaSpSm An intensive studio and lecture course focusing on the applications of graphic design in fashion and related fields. *Prerequisite:* DES 102 or FADN 102 *Recommended Preparation:* DES 203 Duplicates Credit in former FADN 313 Instruction Mode: Lecture Grading Option: Letter

DES 322 Publication Design
Units: 4 Terms Offered: FaSp Application of layout, typography, design principles and image making in the design and production of books, magazines, zines and digital books. *Prerequisite:* (DES 202 or FADN 202) and (DES 203 or FADN 203) *Recommended Preparation:* DES 332a Instruction Mode: Lecture, Lab Grading Option: Letter

DES 323g Design Theory
Units: 4 Terms Offered: FaSp A comprehensive study of visual communication focusing on graphic design from 1900 to the present. An introduction

to design thinking, language and principles including political and cultural implications. Satisfies New General Education in Category A: The Arts Duplicates Credit in former FADN 323 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 323

DES 330 3D Design: Objects and Space
Units: 4 Terms Offered: FaSp A continuation of FADN 230 to produce finished models and prototypes of package, product and environmentally-based designs in actual and virtual space. *Prerequisite:* DES 230 or FADN 230 Duplicates Credit in former FADN 330 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 330

DES 332a Typography
Units: 2 Terms Offered: FaSp The study of visual communication through the use of letterforms from historical tradition to contemporary experimental rebellion. Duplicates Credit in former FADN 332a Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 332a

DES 332b Typography
Units: 2 Terms Offered: FaSp Continuation of DES 332a. *Prerequisite:* DES 332a or FADN 332a Duplicates Credit in former FADN 332b Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 332b

DES 333 New York Design Study Tour
Units: 2 Terms Offered: Sp Historical and contemporary aspects of the New York design world, including a one-week trip to New York City to visit design firms, studios and museums. Airfare and accommodations extra. By application only. Duplicates Credit in former FADN 333 Instruction Mode: Lecture Grading Option: Letter

DES 402 Advanced Design Projects
Units: 4 Max Units: 12 Terms Offered: FaSp Advanced information design within a flexible curriculum. Emphasis on team-oriented projects. *Prerequisite:* DES 302 or FADN 302 Duplicates Credit in former FADN 402 Instruction Mode: Lecture Grading Option: Letter

DES 413 Professional Practice in Design
Units: 4 Terms Offered: FaSp A summation of one's practice, with a focus on transitioning to a career as a professional designer. *Prerequisite:* DES 402 or FADN 402 Registration Restriction: Open only to Seniors in the Roski School of Art and Design Instruction Mode: Lecture Grading Option: Letter

DES 419 Professional Internship in the Arts
Units: 2 Max Units: 4 Terms Offered: FaSpSm (Enroll in ART 419)

DES 432 Special Projects in Design
Units: 2 Terms Offered: FaSp Students work on projects for outside clients, and receive instruction in professional practices, advanced design techniques, and sophisticated technology. By invitation or portfolio review only. Only open to upper division students. *Prerequisite:* DES 302 or FADN 302 Duplicates Credit in former FADN 432 Instruction Mode: Lecture Grading Option: Letter

DES 433 International Design Study Tour
Units: 2 Terms Offered: FaSp An immersive experience in the design culture of a global city or region that includes a short (two-week or less) international trip. Instruction Mode: Lecture Grading Option: Letter

DES 494a Senior Thesis
Units: 2 Terms Offered: FaSpSm Research and writing of a senior-level thesis or thesis project under the supervision of a faculty committee. Registration Restriction: Open only to senior Desgin majors Instruction Mode: Lecture Grading Option: In Progress/Letter

DES 494b Senior Thesis
Units: 2 Terms Offered: FaSpSm Research and writing of a senior-level thesis or thesis project under the supervision of a faculty committee. *Prerequisite:* DES-494a Registration Restriction: Open only to senior Design majors Instruction Mode: Lecture Grading Option: In Progress/Letter

DES 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

DES 503 Contemporary Issues in Design
Units: 4 Terms Offered: Fa An analytic seminar of topics, ideas and concepts in the contemporary design world. Instruction Mode: Lecture Grading Option: Letter

DES 513 Visiting Designers Forum
Units: 2 Max Units: 04 Terms Offered: Fa Professional practice of design featuring formal presentations by visiting designers. Instruction Mode: Lecture Grading Option: Letter

DES 514 Designers in Residence Forum
Units: 2 Max Units: 04 Terms Offered: Sp Seminar in the professional practice of design featuring formal presentations and mentoring opportunities by designers in residence. Instruction Mode: Lecture Grading Option: Letter

DES 520 Individual Studies
Units: 2 Max Units: 06 Terms Offered: FaSp Investigation of creative problems through various design media. Instruction Mode: Lecture Grading Option: Letter

DES 523 Design Theory
Units: 4 Terms Offered: FaSp A critical examination of issues, theories, movements and practices that are relevant to the contemporary professional designer. Instruction Mode: Lecture Grading Option: Letter

DES 530 Design Studio Co-Lab
Units: 2 Max Units: 06 Terms Offered: FaSp A critical examination of contextual issues, theories, movements and ideas that are relevant to the contemporary design practice in collaboration with a professional client. Instruction Mode: Lecture Grading Option: Letter

DES 540 Design Pedagogy
Units: 4 Terms Offered: Sp A critical examination and application of the issues, theories, and ideas that support the studio practice and teaching of contemporary design. Instruction Mode: Lecture Grading Option: Letter

DES 543 Design Study Tour
Units: 2 Terms Offered: FaSp Historical and contemporary aspects of urban design with visits to design firms, studios and museums in selected cities across the United States. Airfare and accommodations extra. Instruction Mode: Lecture Grading Option: Letter

DES 550 Advancement
Units: 2 Terms Offered: Sm A preparatory workshop to prepare students advancing to candidacy. *Recommended Preparation:* Completion of 24 units of course work Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Letter

DES 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 591 Field Internship Experience
Units: 2 Terms Offered: FaSpSm Supervised internship in a design firm, or with an independent designer, on projects and research specific to design practice. *Recommended Preparation:* Completion of first year of courses Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. *Recommended Preparation:* 30 units of course work Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Master's thesis *Prerequisite:* DES 594a *Recommended Preparation:* 30 units of coursework Registration Restriction: Open only to master students in the USC Roski School of Art and Design Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 594z Master's thesis
Units: 0 Terms Offered: FaSpSm Credit upon acceptance of master's thesis. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

DES 599 Special Topics
Units: 2, 3, 4 Max Units: 08 Terms Offered: FaSpSm Selected topics in the various specialty areas within design at the graduate level. Topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Finance and Business Economics

FBE 299 Special Topics

Units: 2, 4 Max Units: 4 Terms Offered: FaSpSm Introduction to current developments in finance and business economics. Instruction Mode: Lecture Grading Option: Letter

FBE 324 The Financial System
Units: 4 Financial intermediaries in the flow of funds; aggregate financial asset analysis; money markets and interest rates; government debt and its economic effects. *Prerequisite:* BUAD 350 or BUAD 351; or ECON 203 and ECON 205; or ECON 351 and ECON 352. Instruction Mode: Lecture Grading Option: Letter

FBE 391 Real Estate Finance and Investment
Units: 4 Terms Offered: FaSp Introduction to income-producing real estate from the perspective of finance, market analysis, capital markets, development and investment. Includes focus on analytical techniques and computer applications. *Prerequisite:* BUAD 215 or BUAD 306. Duplicates Credit in former FBE 365. Instruction Mode: Lecture Grading Option: Letter

FBE 400x Introduction to Real Estate Finance and Development
Units: 4 Terms Offered: Fa Case analysis examining economic and financial aspects of real estate decisions for non-business majors. Focuses on dynamics of financing, markets and the development process. Duplicates Credit in former FBE 200x. Instruction Mode: Lecture Grading Option: Letter

FBE 402 Government and Business
Units: 4 American mixed capitalism, welfare, market failure, and the role of government in business; regulation and the public utilities, antitrust policy, and current topics in regulation-deregulation. Instruction Mode: Lecture Grading Option: Letter

FBE 403 Introduction to the Legal Environment of Business
Units: 4 Terms Offered: FaSp Legal principles of business: litigation process, constitutional law, torts, product liability, crimes, contracts, sales and leases, intellectual property, international law, agency, employment law, and ethics. Duplicates Credit in the former BUAD 403. Instruction Mode: Lecture Grading Option: Letter

FBE 416 Managerial Economics
Units: 4 Application of microeconomic theory to problems of the firm, quantification of demand and cost relationships; pricing policies. *Prerequisite:* BUAD 311; and BUAD 351 or ECON 203 or ECON 351. Instruction Mode: Lecture Grading Option: Letter

FBE 421 Financial Analysis and Valuation
Units: 4 Terms Offered: FaSp This course develops and uses tools of financial analysis to evaluate the performance and assess the value of individual companies in an industry context. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 423 Introduction to Venture Capital and Private Equity
Units: 4 Terms Offered: FaSp Introduction to venture capital and private equity. Topics include fundraising, valuation of new firms and venture capital securities, and exiting investments through public offerings. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 425 Management of Financial Institutions
Units: 4 Management problems of banks, savings and loans, and insurance companies; pricing of services; branching; lending criteria; asset and liability management. Instruction Mode: Lecture Grading Option: Letter

FBE 427 Real Estate Law
Units: 4 Terms Offered: FaSp Principles of law regarding real property transactions; buyer-seller, debtor-creditor, landlord-tenant relationships; environmental law and land use control; investments and syndication. Instruction Mode: Lecture Grading Option: Letter

FBE 428 Principles of Employment Law
Units: 4 Terms Offered: FaSpSm Survey of current employment law topics including employment discrimination arising within modern workplaces. Legal and business strategies for managing diversity for organizational success. Instruction Mode: Lecture Grading Option: Letter

FBE 429 International Business Law
Units: 4 Terms Offered: FaSp Introductory course on the legal and regulatory environment of international business transactions. Instruction Mode: Lecture Grading Option: Letter

FBE 430 Online Commerce and Intellectual Property
Units: 4 Terms Offered: Sp Introductory course on the legal and regulatory environment of online commerce, intellectual property, patents, copyright, trademarks, domain names, entertainment, multimedia, digital and Internet law. Instruction Mode: Lecture Grading Option: Letter

FBE 431 Financial Policies and Corporate Governance
Units: 4 Terms Offered: FaSp Presentation of the theory and institutional details of corporate finance, with emphasis on debt and dividend policies, governance/voting rights, and security issuance and retirement. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 432 Corporate Financial Strategy
Units: 4 Terms Offered: FaSp Linkage between financial theory and policy and corporate strategy, the role of financial managers in developing corporate strategy; applications of concepts and techniques using cases. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 433 Corporate Governance and CEO Pay
Units: 4 Terms Offered: Sp Explores how value is created (or destroyed) through incentive compensation and corporate governance. Focus on bonuses, stock options, executive compensation, and financing policies. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 435 Applied Finance in Fixed Income Securities
Units: 4 Terms Offered: Sp Emphasis on hedging tools necessary for portfolio managers. Introduction of all securities available in fixed income and provision of tools to analyze investments. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 436 Financial Management of Multinational Corporations
Units: 4 International scope and dimension of financial planning; working capital management; financing and investment decisions of multinational corporations. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 437 Entrepreneurial Finance: Financial Management for Developing Firms
Units: 4 Terms Offered: Fa Internal financial management of developing firms. Cash flow analysis; capital budgeting; sources of financing; risk analysis; measurement of profits; and mergers and acquisitions. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 440 Trading and Exchanges
Units: 4 Terms Offered: Sp Theories, practices, and technologies of trading at exchanges and in dealer networks. Sources of liquidity, volatility, profitability, and institutional change. Domestic and international public policy issues. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 441 Investments
Units: 4 Terms Offered: FaSp Theories and applications of investment decision-making; the behavior of security prices, portfolio theory, asset pricing models, market efficiency, bond valuation and term structure, derivative securities. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 443 Introduction to Forecasting and Risk Analysis
Units: 4 Introduction to econometric tools and versions of Capital Asset Pricing Models to estimate financial risk, stock market risk premia and to project economic activity. *Prerequisite:* BUAD 215 or BUAD 306 and BUAD 310. Instruction Mode: Lecture Grading Option: Letter

FBE 445 Topics in Economic Analysis of Business Strategy and Policy
Units: 4 Terms Offered: FaSpSm Development of economic analysis to define and analyze strategy and policy options. Topics may include pricing and investment strategy using game-theory, and employee compensation and motivation, or investment in emerging markets. *Prerequisite:* BUAD

350 and BUAD 351, or ECON 351 and ECON 352. Instruction Mode: Lecture Grading Option: Letter

FBE 453a Advanced Practicum in Investment Management
Units: 4 Application of investment management techniques in a laboratory setting. Stock selection, asset allocation, industry analysis, investment thesis research; off-site visits; oral and written presentations. *Prerequisite:* BUAD 215 or BUAD 306. *Corequisite:* FBE 421 or FBE 441. Open only to senior business majors. Instruction Mode: Lecture Grading Option: Letter

FBE 453b Advanced Practicum in Investment Management
Units: 4 Application of advanced investment management techniques in a laboratory setting. Bond portfolio management, quantitative stock screens, derivatives trading, portfolio optimization. Off-site visits and presentations. Open only to senior business majors. Instruction Mode: Lecture Grading Option: Letter

FBE 458 Law, Finance and Ethics
Units: 4 Terms Offered: FaSpSm Law and ethics of agency, partnerships, corporations, limited liability companies, governmental regulation, mergers, creditor rights, secured transactions, bankruptcy, securities regulation, and antitrust. Instruction Mode: Lecture Grading Option: Letter

FBE 459 Financial Derivatives
Units: 4 Terms Offered: Fa A rigorous introduction to the pricing and corporate use of financial derivatives — futures, options, forwards, and swaps — on stocks, exchange rates, bonds, and commodities. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 460 Mergers, Acquisitions and Restructuring
Units: 4 Terms Offered: FaSpSm Practical understanding of the major strategic, economic, financial, human resources, and governance issues of mergers, acquisitions, and restructuring. *Prerequisite:* BUAD 215x or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 462 International Trade, Finance and Commercial Policy
Units: 4 Terms Offered: FaSp Commercial policies, treaty relationships, examination of policies influencing world trade and finance, the international financial system, exchange rates. *Prerequisite:* ECON 203 and ECON 205; or ECON 351 and ECON 352. Open only to sophomores, juniors and seniors. Registration Restriction: Open only to sophomores, juniors, and seniors. Instruction Mode: Lecture Grading Option: Letter

FBE 465 Real Estate Analysis and Computer Modeling
Units: 2 Terms Offered: FaSp Real estate valuation. Three approaches to valuation: Market comparison, income, and cost. Highest and best use analysis. State of the art real estate software. *Prerequisite:* FBE 391 or FBE 400 Instruction Mode: Lecture Grading Option: Letter

FBE 466 Management of Real Estate Development: Feasibility Studies
Units: 4 Terms Offered: Sp By means of a significant real-world case study chosen each term, the development process is examined from the interrelated perspectives of finance, market analysis, and design and construction technology. Team-generated development proposals are proposed and presented in a consulting environment that includes industry participants. *Prerequisite:* FBE 391 and FBE 470 or FBE 400. Instruction Mode: Lecture Grading Option: Letter

FBE 470 Advanced Real Estate Analysis
Units: 4 Terms Offered: FaSp Mixed lecture/case approach covering market analysis, asset valuation, ownership structure, negotiation, asset management, corporate real estate, portfolio management, and affordable housing, appraisal and advanced financial modeling. *Prerequisite:* FBE 391. Duplicates Credit in former FBE 465. Instruction Mode: Lecture Grading Option: Letter

FBE 489 Real Estate Capital Markets
Units: 4 Terms Offered: Fa Topics in real estate capital markets including markets for debt and equity; residential and commercial mortgages and mortgage-backed securities; REITs; institutional sources of capital. *Prerequisite:* FBE 391 or FBE 400 Instruction Mode: Lecture Grading Option: Letter

FBE 491 Real Estate Finance Colloquium
Units: 2 Terms Offered: FaSp The roles of economics and finance in real estate. Lessons from history, the origin of real estate bubbles, how real estate markets work. *Prerequisite:* FBE 391 or FBE 400 Instruction Mode: Lecture Grading Option: Letter

FBE 495x Practicum in Business Issues (Internship)
Units: 1 Max Units: 12.0 Terms Offered: FaSpSm Combined classroom discussion and structured, supervised field application of business theories and practices within a part-time employment context. Open only to undergraduate students in Finance and Business Economics certificate. Registration Restriction: Open only to undergraduate students in Finance and Business Economics certificate. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 498x Business Field Project (Undergraduate)
Units: 1, 2 Terms Offered: FaSpSm Individual or team projects studying the business practices, needs, and opportunities of an entity. May include international research and travel and oral and written presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of finance and business economics; topics to be selected each semester. *Prerequisite:* BUAD 215 or BUAD 306. Instruction Mode: Lecture Grading Option: Letter

FBE 501 Investment Banking Fundamentals
Units: 1.5 Terms Offered: FaSpSm The role of an investment banking associate. Students will effectively function as a junior banker through a sell-side merger and acquisition (M & A) process. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 506 Quantitative Methods in Finance
Units: 3 Terms Offered: Sm The development of mathematical and statistical methods used in modern finance and economics. Registration Restriction: Online registration limited to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 515 Deals
Units: 3, 4 (Enroll in LAW 815)

FBE 523 Venture Capital and Private Equity
Units: 3 Terms Offered: FaSp Advanced analysis of the economics of the private equity markets. Consider and value private securities in venture capital, initial public offerings, and leveraged buyouts. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 524 Money and Capital Markets
Units: 3 Terms Offered: Fa Review of financial institutions and markets, the determinants of interest rates, the impact of government regulation and policy on the financial system. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 525 Financial Institution Management, Strategy and Valuation
Units: 3 Terms Offered: Fa Application of economic and financial analytic techniques to the managerial problems of financial institutions and implications for financial firm strategy and valuation. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 526 Macroeconomic Analysis for Business
Units: 3 Terms Offered: Sp The economic environment of business: American economic and social goals and policies and their impact on business; growth, stability, and the new priorities; international forces influencing business. Open only to graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

FBE 527 Entrepreneurial Finance: Financial Management for Developing Firms
Units: 3 Terms Offered: FaSp Internal financial management of developing firms. Cash flow analysis; capital budgeting; sources of financing; risk analysis; measurement of profits; and mergers and acquisitions. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 529 Financial Analysis and Valuation
Units: 3 Terms Offered: FaSp An applications-oriented course to develop the financial and accounting tools required to do financial planning valuation and assessment of financial performance. *Prerequisite:*

GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 531 Corporate Financial Policy and Corporate Governance
Units: 1.5, 3 Terms Offered: FaSp Advanced analysis of the determinants of corporate capital structure and payout policies, allocation and value of corporate control, and security issuance and retirement. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 532 Corporate Financial Strategy
Units: 3 Terms Offered: FaSpSm Linkage between financial theory and policy and corporate strategy; the role of financial managers in developing corporate strategy; applications of concepts and techniques using cases. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 533 CEO Pay, Corporate Governance, and the Politics of Finance
Units: 3 Terms Offered: Sp Explores how value is created (or destroyed) in organizations, focusing on compensation and incentive systems and the causes and consequences of government (and populist) intervention. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 535 Applied Finance in Fixed Income Securities
Units: 1.5, 3 Terms Offered: FaSp The basic principles underlying fixed income securities and how these principles apply to the practical aspects of fixed income management. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 540 Hedge Funds
Units: 3 Terms Offered: FaSp Introduction to the investment strategies used by hedge funds, the quantitative tools and business plans used to implement them. *Prerequisite:* GSBA 521b or GSBA 548. *Recommended Preparation:* statistics and calculus. Instruction Mode: Lecture Grading Option: Letter

FBE 543 Forecasting and Risk Analysis
Units: 3 Terms Offered: FaSpSm Application of econometric tools and versions of Capital Asset Pricing Models to estimate financial risk and stock market risk premia for portfolio management. *Prerequisite:* FBE 506 or GSBA 506b or GSBA 524 or (GSBA 516 and GSBA 545). Instruction Mode: Lecture Grading Option: Letter

FBE 550 High Yield Bond Investing - Managing Credit Risk
Units: 1.5 Terms Offered: FaSp Review the structure of the high yield bond market. Develop a practical approach to assess credit risk and understand how deals are structured and priced. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 553a Applied Portfolio Management
Units: 3 Terms Offered: Fa Application of portfolio management techniques in a laboratory setting. Stock selection, asset allocation, industry analysis, investment thesis research; off-site visits; oral and written presentations. *Prerequisite:* GSBA 521b or GSBA 548. *Corequisite:* FBE 555. Instruction Mode: Lecture Grading Option: Letter

FBE 553b Applied Portfolio Management
Units: 3 Terms Offered: Sp Application of advanced portfolio management techniques in a laboratory setting. Bond portfolio management, quantitative stock screens, derivatives trading, portfolio optimization. Off-site visits and presentations. *Prerequisite:* FBE 553a Instruction Mode: Lecture Grading Option: Letter

FBE 554 Trading and Exchanges
Units: 3 Terms Offered: Sp Theories, practices, and technologies of trading at exchanges and in dealer networks. Sources of liquidity, volatility, profitability, and institutional change. Domestic and international public policy issues. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 555 Investment Analysis and Portfolio Management
Units: 3 Terms Offered: FaSp Analysis and management of common stocks and fixed income securities; development of modern portfolio theory and the efficient market hypothesis; organization of securities markets. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 557 Business Law and Ethics
Units: 3 Terms Offered: FaSpSm Business law of traditional and e-contracts, UCC, crimes, torts, employment, ethics, social responsibility, intellectual property, digital law, e-commerce, accountants' liability, property, estates, and government regulation. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

FBE 558 Law for Structuring, Financing, and Managing Businesses
Units: 3 Terms Offered: FaSp Legal environment of agency law, general and limited partnerships, limited liability companies, corporate formation and financing, corporate governance, securities law, acquisitions, bankruptcy, and business ethics. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 559 Management of Financial Risk
Units: 3 Terms Offered: FaSp Analysis of commodity, futures, and options contracts; theoretical and empirical approaches; spot and futures price relationships, speculation and hedging strategies; market efficiency. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 560 Mergers and Acquisitions
Units: 3 Terms Offered: Sp Practical application of the critical components of mergers and acquisitions: deal flow strategies, preliminary negotiations, deal structures, due diligence, valuation, post-merger integration, and regulations. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 562 Current Issues in International Finance
Units: 3 Terms Offered: Fa International monetary relations, financial markets, and institutions; theory and evidence of alternative approaches to balance of payments; current policy evaluation. *Prerequisite:* GSBA 544 or GSBA 549 or GSBA 581 or GSBA 580a. Instruction Mode: Lecture Grading Option: Letter

FBE 563 Theory of International Trade
Units: 3 Terms Offered: Sp Comparative advantage and gains from trade; factor proportions and efficiency; factor price equalization; terms of trade; tariffs, customs, unions and trade agreements. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 564 International Financial Management
Units: 3 Terms Offered: Sm Financial management of the multinational firm; legal entities and taxation abroad; risk in foreign operations; strategies in foreign exchange, money and capital markets and institutions. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 565 Economics of Urban Land Use: Feasibility Studies
Units: 3 Terms Offered: Sp Economic, market and financial analysis related to feasibility of real estate development; theory and case analysis. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 566 Real Estate Finance, Investments and Development
Units: 3 Terms Offered: Sm Analysis of economic and financial aspects of real estate decisions for students not concentrating in real estate. Dynamics of financing, markets and the development process. Instruction Mode: Lecture Grading Option: Letter

FBE 570 Advanced Topics in Real Estate Finance
Units: 3 Terms Offered: Fa Current topics in real estate finance including sources of equity and debt, the role of capital markets, REITs, conduits, portfolio analysis, and acquisition of distressed assets. Cases and analytic methods. *Prerequisite:* GSBA 521b or GSBA 548; *Recommended Preparation:* FBE 591. Instruction Mode: Lecture Grading Option: Letter

FBE 571 Introduction to Financial Analysis: Practicum
Units: 3 Terms Offered: FaSp This introductory financial analysis (tools, techniques) practicum, emphasizes practical application of asset valuation and portfolio management techniques for those with little

previous experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 572 and FBE 573. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 572 Intermediate Financial Analysis: Practicum
Units: 3 Terms Offered: Sp This practicum emphasizes asset valuation, including applications of tools and inputs (including economics, accounting, and quantitative techniques) in asset valuation for those with prior experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 571 and FBE 573. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 573 Advanced Financial Analysis: Practicum
Units: 3 Terms Offered: Sp This is an advanced practicum emphasizing portfolio management skills, including applied strategies (tools, inputs) in equity and fixed-income management for those with extensive prior experience. *Prerequisite:* GSBA 548 or GSBA 521b. Duplicates Credit in FBE 571 and FBE 572. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 587 Legal and Regulatory Environment of Long Term Care
Units: 4 Terms Offered: Fa Comprehensive overview of substantive business law topics and issues as they affect the long term care industry. Duplicates Credit in FBE 557, FBE 558. Instruction Mode: Lecture Grading Option: Letter

FBE 588 Advanced Real Estate Law
Units: 3 Terms Offered: Sm Legal aspects of real estate transactions; partnerships, syndicates, and other ownership forms. Legal aspects of land use control, zoning and environmental impact reports. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in RED 562 Instruction Mode: Lecture Grading Option: Letter

FBE 589 Mortgages and Mortgage-Backed Securities and Markets
Units: 3 Terms Offered: Fa Valuation and analysis of residential and commercial mortgages and mortgage-backed securities and related markets. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 591 Real Estate Finance and Investment
Units: 3 Terms Offered: FaSp Analysis of investment in and financing of real estate assets including projections, valuation, deal structure, contracts, portfolio and tax and entity considerations. *Prerequisite:* GSBA 521b or GSBA 548. Instruction Mode: Lecture Grading Option: Letter

FBE 592 Field Research in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 593 Independent Research in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 595 Internship in Finance or Business Economics
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) Graded CR/NC. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, or MS Finance course work Registration Restriction: Open only to master students in accounting and business majors Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 596 Research Practicum in Finance or Business Economics
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Finance and Business Economics Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 597 Consulting Project in Finance or Business Economics
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12 Terms Offered: FaSp Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. *Recommended Preparation:* Completion of required MBA, MAcc, MBT, or MS Finance course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of Finance and Business Economics; topics to be selected each semester. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Current developments in the field of Finance and Business Economics; topics to be selected each semester. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

FBE 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Finance and Business Economics. Presentations by faculty, visiting researchers, and advanced students. Open only to Marshall PhD students. Instruction Mode: Lecture Grading Option: Credit/No Credit

FBE 630 Fundamentals of Corporate Finance
Units: 1.5 Terms Offered: Sp Core theory and empirical evidence in corporate finance. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 631a Advanced Corporate Finance
Units: 1.5 Terms Offered: FaSp Advanced and frontier issues in corporate finance. A: financial intermediation, investment-cash flow sensitivity, internal capital markets, diversification, and business groups. *Prerequisite:* FBE 630 Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 631 Instruction Mode: Lecture Grading Option: Letter

FBE 631b Advanced Corporate Finance
Units: 1.5 Terms Offered: FaSp Advanced and frontier issues in corporate finance. B: mergers and divestitures, product market competition, corporate governance, and finance and development. *Prerequisite:* FBE 630 Registration Restriction: Open only to doctoral students Duplicates Credit in former FBE 631 Instruction Mode: Lecture Grading Option: Letter

FBE 633 Fundamentals of Asset Pricing
Units: 1.5 Terms Offered: Sp Financial Economics course that focuses on core theory and empirical evidence in asset pricing. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 634 Advanced Asset Pricing
Units: 3 Terms Offered: Fa Continuous time finance and advanced empirical methods. *Prerequisite:* FBE 633 Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 652 Financial Economics I
Units: 3 Terms Offered: Irregular Doctoral level seminar in financial economics; concentration on corporate finance theory and evidence. Instruction Mode: Lecture Grading Option: Letter

FBE 653 Financial Economics II
Units: 3 Terms Offered: Irregular Doctoral level seminar in financial economics; concentration on contingent claims and continuous time models. Instruction Mode: Lecture Grading Option: Letter

FBE 654 Ph.D. Seminar-Empirical Research Methods in Finance
Units: 3 Terms Offered: Irregular Empirical financial research methods are introduced. Applications are discussed and critiqued. Special attention is given to new statistical

methods and to identifying fruitful research programs. Instruction Mode: Lecture Grading Option: Letter

FBE 655 Financial Economics III
Units: 3 Terms Offered: Sp Doctoral-level seminar in financial economics; concentration on the theory of corporate governance and incentives in organizations. Instruction Mode: Lecture Grading Option: Letter

FBE 670 Selected Topics in Finance Research
Units: 1.5 Max Units: 6 Terms Offered: FaSp Selected topics in finance research. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

FBE 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary finance and/or business economics. Registration Restriction: Open to doctoral students only. Instruction Mode: Lecture Grading Option: Letter

Food Industry Management

FIM 420 Food Retailing Management
Units: 4 Terms Offered: Sp Strategic techniques of merchandising, pricing, and distributing products in the food industry with emphasis on new product development, including market segmentation and positioning. Instruction Mode: Lecture Grading Option: Letter

FIM 480 Food Industry Financial Accounting and Analysis
Units: 4 Terms Offered: Sp Analysis of financial statements from food industry; cost and management accounting techniques in business planning, decision-making, cost control, and performance evaluation. Instruction Mode: Lecture Grading Option: Letter

FIM 481 Food Marketing Research
Units: 4 Terms Offered: Sp Application of marketing research tools and techniques to problems of the food industry. Development of a major consumer research project. Instruction Mode: Lecture Grading Option: Letter

FIM 582 Food Industry Decision-Making
Units: 4 Terms Offered: Sp Involvement with specific management situations related to the food industry, its environment, and its consumers. Emphasizes managerial functions and decision-making through case studies. Instruction Mode: Lecture Grading Option: Letter

Fixed Prosthodontics

FPRO 520 Preclinical Fixed Prosthodontics (ISP)
Units: 2 Basic fundamentals of fixed prosthodontics; preparation for clinical procedures in posterior PFM's, posterior mandibular FPD's and in restoring endodontically treated teeth. Instruction Mode: Lecture Grading Option: Letter

FPRO 521 Preclinical Fixed Prosthodontics I
Units: 3 Fundamentals and principles of posterior prosthodontic procedures, including diagnosis, biomechanic principles, and construction of fixed prosthodontic restorations. Instruction Mode: Lecture Grading Option: Letter

FPRO 522 Preclinical Fixed Prosthodontics II
Units: 3 Fundamentals of aesthetic restorations; fabrication of posterior and anterior porcelain-fused-to-metal restorations and anterior porcelain jacket crown; restoration of endodontically treated teeth. Instruction Mode: Lecture Grading Option: Letter

FPRO 561a Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561b Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561c Clinic: Fixed Prosthodontics I
Units: 0 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 561d Clinic: Fixed Prosthodontics I
Units: 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: Letter

FPRO 562a Clinic: Fixed Prosthodontics II
Units: 0, 1, 2, 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

FPRO 562b Clinic: Fixed Prosthodontics II
Units: 0, 1, 2, 3 Clinical application of fixed prosthodontic principles in patient treatment. Instruction Mode: Lecture Grading Option: Letter

FPRO 601 Advanced Fixed Prosthodontics
Units: 4 Critical review and evaluation of the fixed prosthodontic literature; guided experience in the laboratory and clinical phases of fixed prosthodontic therapy. Instruction Mode: Lecture Grading Option: Letter

French

FREN 012x General FREN 120 Tutorial
Units: 1 Terms Offered: FaSpSm Weekly tutorial for students registered in FREN 120. Differentiated multi-sensory instructional approach with explicit phonetic and grammatical explanations in English. *Concurrent Enrollment:* FREN 120 Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 015x General FREN 150 Tutorial
Units: 1 Terms Offered: FaSpSm Weekly tutorial for students registered in FREN 150. Differentiated multi-sensory instructional approach with explicit phonetic and grammatical explanations in English. *Concurrent Enrollment:* FREN 150 Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 020x Course in Reading French
Units: 2 Terms Offered: FaSpSm For graduate students who wish help in meeting the French reading requirement for the PhD degree. Synoptic presentation of French grammar. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 120 French I
Units: 4 Terms Offered: FaSpSm Introduction to current French. Oral practice, listening and reading comprehension; grammar necessary for simple spoken and written expression. *Prerequisite:* No previous experience or appropriate placement score. Instruction Mode: Lecture Grading Option: Letter

FREN 150 French II
Units: 4 Terms Offered: FaSpSm Continuation of FREN 120. *Prerequisite:* FREN 120 or appropriate placement score. Instruction Mode: Lecture Grading Option: Letter

FREN 220 French III
Units: 4 Terms Offered: FaSpSm Continuation of FREN 150. Review of structural patterns of French; selected cultural and literary readings; conversation and composition. *Prerequisite:* FREN 150 or appropriate placement score. Instruction Mode: Lecture Grading Option: Letter

FREN 235x Intermediate Conversational French: Culture, Society, and Communication
Units: 2 Terms Offered: FaSp Designed for non-majors/minors interested in maintaining and developing French language competency. Builds vocabulary, ease of communication, and cultural knowledge through discussion of contemporary topics. *Prerequisite:* FREN 220. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 236x Professional Communication in French
Units: 2 Terms Offered: FaSp Professional communication skills and cultural competency as preparation for working in an international environment. *Prerequisite:* FREN 220. Instruction Mode: Lecture Grading Option: Letter

FREN 250 French IV
Units: 4 Terms Offered: FaSpSm Introduction to French literature through the study of texts and audiovisuals organized around a central theme; develops close-reading techniques and discursive skills; reviews French grammar. *Prerequisite:* FREN 220 or French placement exam. Instruction Mode: Lecture Grading Option: Letter

FREN 300 French Grammar and Composition
Units: 4 Terms Offered: FaSpSm Grammatical structure and vocabulary building with practical application to written composition. *Prerequisite:* FREN 250. Instruction Mode: Lecture Grading Option: Letter

FREN 310 Media French
Units: 4 Terms Offered: FaSpSm Analysis of French media. Practice in sustained conversation. Emphasis on spoken sentence patterns. *Prerequisite:* FREN 250. Instruction Mode: Lecture Grading Option: Letter

FREN 315 Inside the Courts: the French Legal Language and Culture
Units: 4 Terms Offered: Sp Broaden understanding of differences between American and French cultures; acquire specialized vocabulary; develop ability to address legal issues in writing and orally. Taught in French. *Prerequisite:* FREN 300 Instruction Mode: Lecture Grading Option: Letter

FREN 320g The French New Wave and its Legacy
Units: 4 Terms Offered: FaSp Film-making in France from the earliest experiments to current trends. Emphasis on the political, social, historical context of French films. Taught in English. Reading knowledge of French recommended. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

FREN 330 Critical Writing in French
Units: 4 Terms Offered: FaSpSm Advanced composition through critical reading of literary texts; comprehensive analysis of difficult grammatical structures and stylistics. *Prerequisite:* FREN 300. Instruction Mode: Lecture Grading Option: Letter

FREN 340g Italian and French Cinema and Society
Units: 4 Terms Offered: Fa (Enroll in ITAL 340)

FREN 347 Race, Gender and Power in Francophone Literature
Units: 4 Terms Offered: FaSpSm Study of post-colonialism as a ferment for literary creation in the literature of French expression from Africa, the Caribbean and Canada. Conducted in French. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-347

FREN 351 Introduction to Research in French and Francophone Cultures
Units: 4 Terms Offered: FaSp Introduction to research methods through the study of a specific topic in French and/or Francophone literature and culture. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 360 Business and Technical French
Units: 4 Specific vocabulary and formulae used in international commerce. Attention given to developing vocabulary and standard forms appropriate to individual career objectives. *Recommended Preparation:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 370gm Equality and Difference around the Enlightenment
Units: 4 Terms Offered: FaSpSm 18th - and 20th century debates around the idea of equality and the notion of difference. Relevance of the Enlightenment to contemporary discussions of identity, citizenship, and human rights. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 373g Remembering Loss, Writing Memory
Units: 4 Terms Offered: FaSp An exploration into how genocides and episodes of mass violence have been thought about, remembered and expressed in France and the Francophone world. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

FREN 375gmw Global Narratives of Illness and Disability
Units: 4 Terms Offered: Fa Study of difference as represented through French, Francophone and related narratives of disability and illness, with attention to race and gender. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizens in a Diverse World Instruction Mode: Lecture Grading Option: Letter

FREN 382 Paris Avant-Gardes
Units: 4 Exploration of experimental artistic collaborations between poets, novelists, art critics and artists of the Paris Avant-gardes in 19th and 20th century. Taught in French. Paris Semester. *Prerequisite:* FREN 330; *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 383 French Women Writers
Units: 4 Terms Offered: FaSp Major figures and their roles in French society and contributions to French literature. Conducted in French. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-383

FREN 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

FREN 392 Seminar in Literary and Cultural Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in French and Francophone literature and culture. Conducted in French. *Corequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 393 Seminar in French Thought and Theory
Units: 4 Terms Offered: FaSp Introduction to important trends in recent French philosophy, political and social theory, psychoanalysis, ethnology, semiotics, and media studies. Emphasis to be determined by department. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

FREN 401 Studies in Early Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the early modern period (pre-1789). *Prerequisite:* FREN 330 Instruction Mode: Lecture Grading Option: Letter

FREN 402 Studies in Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the modern period (post-1789). *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 403 Studies in Colonialism and Postcolonialism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of colonialism and postcolonialism in French and Francophone contexts. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 404 Studies in an Author
Units: 4 Terms Offered: FaSp Close readings in works of a single influential French or Francophone author. Focused study of style, creative developments, historical context. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 410 Actualités Françaises
Units: 4 Terms Offered: Sp Present day French life through readings in French periodicals and viewing of French films and art exhibits. Non-majors prepare assignments in English. Conducted in French. Spring semester in Paris only. *Recommended Preparation:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 432 French Theatre
Units: 4 Terms Offered: Sp (Paris Semester only) A survey of French theatre from the 17th century to the present. Students read plays ranging from classical comedy and tragedy to modern movements. Live theatre performances will supplement class work. Taught in French. *Prerequisite:* FREN 330; *Recommended Preparation:* familiarity with French history since the Renaissance. Instruction Mode: Lecture Grading Option: Letter

FREN 445 Studies in Gender, Feminism and Sexuality
Units: 4 Terms Offered: FaSp Major feminist thinkers and writers viewed from the perspective of the evolution of gender and sexuality in contemporary France. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-445

FREN 446 Contemporary French Thought
Units: 4 Max Units: 8 Terms Offered: FaSp Readings in structuralism, post-structuralism, feminism, and deconstruction. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 448m France and Islam
Units: 4 Terms Offered: FaSp Historical and theoretical analyses of the complex history of Western perceptions of Islam, focusing on France. Taught in French. *Prerequisite:* FREN 330; *Recommended Preparation:* REL 137 for Religion majors and minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-448, REL-448

FREN 449 Studies in French Civilization
Units: 4 Terms Offered: Sp (Paris Semester only) An analysis of the prestige of Paris, past and present, based upon close examination of literary texts and graphic

materials, and visits to sites and monuments. *Recommended Preparation:* FREN 300. Instruction Mode: Lecture Grading Option: Letter

FREN 464 Colloquium: French Civilization
Units: 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics such as the press, educational institutions, French cinema today, and French colonial history. Conducted in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

FREN 499 Special Topics
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Selected topics in French. *Prerequisite:* FREN 330. Instruction Mode: Lecture Grading Option: Letter

FREN 501 Early Modernities
Units: 4 Terms Offered: FaSp Broad introduction to French culture from the late Middle Ages through the 18th century; investigation of works of literature, philosophy, and visual culture. Instruction Mode: Lecture Grading Option: Letter

FREN 503 Modernities
Units: 4 An intellectual genealogy of French modernity and modernism through the examination of canonical literary texts and theories. Instruction Mode: Lecture Grading Option: Letter

FREN 504 Studies in Francophone Literature and Thought
Units: 4 Topics in Francophone literature and intellectual history of Africa, Asia and the Americas. Emphasis on colonial history and political and aesthetic concerns. Instruction Mode: Lecture Grading Option: Letter

FREN 520 Studies in Diaspora and Transnationalism
Units: 4 Introduction to contemporary literature and thought on the dynamics of diaspora, transnationalism, and globalization. Instruction Mode: Lecture Grading Option: Letter

FREN 530 Studies in a Genre
Units: 4 Studies one of the genres in French literature (including novel, poetry, drama, and essay) in any historical period or periods. Instruction Mode: Lecture Grading Option: Letter

FREN 540 Studies in French Literature and Philosophy
Units: 4 Examines literary and philosophical works side by side in any historical period or periods in France. Instruction Mode: Lecture Grading Option: Letter

FREN 550 Studies in Literature and Other Media
Units: 4 Survey-like review of the interaction between verbal and other artistic media such as print, music, dance, theater, and painting and the visual arts. Instruction Mode: Lecture Grading Option: Letter

FREN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 592 Practicum in Teaching French
Units: 2 Terms Offered: Fa Introduction to the approaches and techniques of teaching French as a second language. Open only to master's and PhD students who will be assistant lecturers in French. Registration Restriction: Only open to Master and PhD students who will be Assistant Lecturers in French. Instruction Mode: Lecture Grading Option: CR/NC

FREN 603 Seminar on an Author
Units: 4 Examines the work of a significant French author along with its critical and theoretical assessments. Instruction Mode: Lecture Grading Option: Letter

FREN 604 Topics in Contemporary French Thought
Units: 4 Examines French thought from 1960 to the present day. Instruction Mode: Lecture Grading Option: Letter

FREN 695 Topics and/or Themes in French Literature
Units: 4 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

FREN 696 Topics and/or Themes in Francophone Literature
Units: 4 Max Units: 12.0 Advanced seminar with varying focus on the Francophone literature and culture of West Africa, North Africa, the Caribbean, Quebec and Southeast Asia. Instruction Mode: Lecture Grading Option: Letter

FREN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

FREN 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

FREN 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Freshman Seminars

FSEM 100 Freshman Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A seven-to-eleven week course offered for incoming freshmen; limited to 18 students. Instruction Mode: Lecture Grading Option: Credit/No Credit

FSEM 101 Freshman Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A seven-to-eleven week course offered for incoming freshmen; limited to 18 students. Letter graded. Instruction Mode: Lecture Grading Option: Letter

FSEM 180 First Year College Seminar
Units: 2 Max Units: 4.0 Terms Offered: FaSp A thematic seminar for entering students in the USC Dornsife College of Letters, Arts and Sciences, exploring an area of academic study, research, or creative work. Instruction Mode: Lecture Grading Option: Credit/No Credit

Geriatric Dentistry

GDEN 710 Knowledge Assessment for GDEN Students
Units: 1 Terms Offered: Sm Review of topics explored in the first two years of the program, including lectures and practical demonstrations or simulations and examinations of overall discipline knowledge. *Prerequisite:* (GDEN 722 and GDEN 725 and GDEN 713 and GDEN 715 and GDEN 711a and GDEN 711b) Registration Restriction: Open only to Geriatric Dentistry students Duplicates Credit in GDEN 716 Instruction Mode: Lecture, Quiz Grading Option: Letter

GDEN 711a Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711b Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711c Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711d Case Portfolio Preparation for GDEN Students
Units: .5 Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and

professional dental students. Registration Restriction: Open only to Master and professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 711e Case Portfolio Preparation for GDEN Students
Units: .5, Terms Offered: FaSpSm Examination of clinical cases of geriatric patients through online conferences. Development and defense of portfolio of multiple cases. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 712a Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* ADNT 701 Registration Restriction: Open only to GDEN students Duplicates Credit in OFPM 729a Instruction Mode: Lecture, Discussion Grading Option: Letter

GDEN 712b Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712a Registration Restriction: Open only to GDEN students Duplicates Credit in OFPM 729b Instruction Mode: Lecture, Discussion Grading Option: Letter

GDEN 712c Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712b Registration Restriction: Open only to GDEN students Duplicates Credit in OFPM 729c Instruction Mode: Lecture Grading Option: Letter

GDEN 712d Capstone Research Project for GDEN Students
Units: .5 Terms Offered: FaSpSm Production and defense of a research plan that demonstrates significant understanding of a topic in geriatric dentistry. *Prerequisite:* GDEN 712c Duplicates Credit in OFPM 729d Instruction Mode: Lecture, Discussion Grading Option: Letter

GDEN 713 Common Systemic Conditions in Older Patients
Units: 2 Terms Offered: FaSpSm Lectures on topics pertinent to the aging patient that highlight the differences between aging physiologic changes and disease-caused conditions most common to this demographic. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 714 Topics in Gerontology
Units: 2 Terms Offered: FaSpSm Gerontology topics for dentists including clinical assessment tools for aging patients, policy issues, myths, social supports, and consent and communication issues in the clinical setting. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 715 Geriatric Dentistry Issues
Units: 2 Terms Offered: FaSpSm Common geriatric dentistry topics including epidemiology of oral diseases, common dental diseases, their management and prevention protocols for older adult patients. Open only to master's and professional dental students. Registration Restriction: Open only to Master and Professional Dental students. Instruction Mode: Lecture Grading Option: Letter

GDEN 716 Knowledge Assessment for GDEN Certificate Students
Units: 1 Terms Offered: Sm Review of topics explored in the certificate program, including lectures and practical demonstrations or simulations and examinations of overall discipline knowledge. Open only to certificate in Geriatric Dentistry students. (Duplicates credit in GDEN 710) *Prerequisite:* GDEN 711a and GDEN 711b and GDEN 713 and GDEN 714 and GDEN 715 and OFPM 722 and OFPM 725 Registration Restriction: Open only to certificate in Geriatric Dentistry students. Duplicates Credit in GDEN 710 Instruction Mode: Lecture, Quiz Grading Option: Letter

GDEN 722 Internal Medicine and Systemic Disease for Dental Residents
Units: 2 Terms Offered: FaSpSm (Enroll in OFPM 722)

GDEN 725 Epidemiology, Nutrition and Aging for Dental Residents
Units: 2 Terms Offered: FaSpSm (Enroll in OFPM 725)

Geography

GEOG 255 American Environmentalism
Units: 4 Terms Offered: FaSm Geographic and historic approach to the growth of environmental awareness in the United States from Colonial times to the present. Extensive use of case materials. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-255

GEOG 257g Environment and Ethics
Units: 4 Terms Offered: SpSm Examination of ethical issues in environmental context: systematic analysis of problems associated with protection and use of selected environments. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

GEOG 345 Conservation of Natural Resources
Units: 4 Terms Offered: Fa Interaction between resource conservation and people based on recent advances, current developments, and future resource utilization. Special attention to the western United States. Field trips. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-345

GEOG 360 Environmental Disasters
Units: 4 Terms Offered: Sp Evaluates the causes, effects, and responses to international environmental disasters. Emphasis is on contemporary case studies in a theoretical context. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-360

GEOG 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GEOG 431 California's Changing Landscapes
Units: 4 Terms Offered: Sp Type study of a region; distribution of physical and cultural phenomena; delimitation into natural regions; analysis of human-environment interaction in regions of the state. Field trips. Instruction Mode: Lecture Grading Option: Letter

GEOG 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 12 Terms Offered: FaSp Individual research and readings.

GEOG 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

GEOG 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Seminar in selected topics in geography. Instruction Mode: Lecture Grading Option: Letter

GEOG 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOG 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOG 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOG 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOG 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOG 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Earth Sciences

GEOL 105Lg Planet Earth
Units: 4 Terms Offered: FaSpSm Geologic structure and evolution of planet earth.

Principles of plate tectonics, rocks and minerals, processes of mountain building, continent and ocean formation, earthquakes, volcanism, development of landforms by running water and glaciers. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 107Lg Oceanography
Units: 4 Terms Offered: FaSp Physical, chemical, and geological character of the oceans and ocean basins. Origin of the oceans. Ocean processes and agents. Economic value of the oceans. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 108Lg Crises of a Planet
Units: 4 Terms Offered: FaSpSm Impact of civilization on planet earth, and impact of earth's natural evolution on society: earthquakes, volcanism, landslides, floods, global warming, acid rain, groundwater depletion and pollution; mineral and fossil fuel depletion, formation of the ozone hole. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 115L Exploring California's National Parks
Units: 4 Terms Offered: FaSpSm Overview of basic geologic principles and California geology taught through California's National Parks; additional focus on park history, policy, economics, and geologic hazards affecting parks. Lecture, 3 hours; laboratory, 2 hours. One all-day and one three-day field trip to a National Park required. Instruction Mode: Lecture, Required Lab Grading Option: Letter

GEOL 125Lg Earth History: A Planet and Its Evolution
Units: 4 Terms Offered: FaSpSm Basic principles of physics, chemistry, biology, and mathematics used in evaluating clues written in the rock record, and the processes that have shaped our planet. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 126Lg The History of Life on Earth: A View from the Museum
Units: 4 Terms Offered: FaSp Topically-driven exploration of evolution, environmental change, and the history of life on Earth via the fossil record with the Natural History Museum of Los Angeles as a laboratory. How the changing Earth and life co-evolved through time. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 130Lg The Nature of Scientific Inquiry
Units: 4 Terms Offered: FaSp Examination of the scientific process: what constitutes science; evolution of ideas about the nature of space, time, matter, and complexity; paradigm shifts in the biological and earth sciences. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 150Lg Climate Change
Units: 4 Terms Offered: FaSp Climate systems from the beginning of earth history to the present; tools and techniques used to reconstruct prehistoric climate records; effects of climate variations on development of life forms on earth. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 160Lg Introduction to Geosystems
Units: 4 Terms Offered: FaSpSm Survey of natural geological/ environmental processes (systems) and variability active near the earth's surface in the region that houses most life (the biosphere). Satisfies New General Education in Category E: Physical Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 240Lg Earthquakes
Units: 4 Terms Offered: FaSpSm Causes of earthquakes and nature of large faults; earthquake hazard and risk; world's great earthquakes; understanding the Richter scale. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 241Lg Energy Systems
Units: 4 Terms Offered: FaSpSm Energy resources from a global perspective, including fossil fuels, nuclear, and renewable energy. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 290L Special Laboratory
Units: 1 Terms Offered: FaSp Laboratory component for GEOL 105, GEOL 107, GEOL 108, GEOL 125, GEOL 130, GEOL 150, or GEOL 240 for students with equivalent lecture credit from another institution. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 305L Introduction to Engineering Geology
Units: 4 Terms Offered: Sp Principles of geology with emphasis on structural geology, hydrogeology and geological hazards; basic geologic considerations in civil engineering practice; introduction to mineralogy and petrology. Field trip required. Duplicates Credit in GEOL 105 and GEOL 108. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 315L Minerals and Earth Systems
Units: 4 Terms Offered: Fa Minerals and their formation in Earth geosystems; includes discussions of mineral properties, crystal structures, uses and bio geochemical importance. *Recommended Preparation:* any introductory GEOL course. *Corequisite:* CHEM 105a or CHEM 115a; Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 316L Petrologic Systems
Units: 4 Terms Offered: Sp Formation and identification of igneous, metamorphic and sedimentary rocks; interpretation of tectonic and environmental settings based on rock type and chemistry. *Prerequisite:* GEOL 315. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 320L Surficial Processes and Stratigraphic Systems
Units: 4 Terms Offered: Fa Processes of erosion, sediment transport, and deposition that shape the land surface; landscape response to tectonism; recognition and interpretation of depositional environments in the stratigraphic record. *Corequisite:* GEOL 315. Duplicates Credit in former GEOL 334L, GEOL 451L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 321L Structural Geology and Tectonics
Units: 4 Terms Offered: Sp Field and theoretical aspects of rock deformation, analysis of structural systems, and stress and strain; orogenic belts and plate tectonics; introduction to field techniques and construction of geologic maps. *Recommended Preparation:* GEOL 320. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 351L Climate Systems
Units: 4 Terms Offered: FaSp Introduces systems behavior in the context of climate dynamics. Modules of instruction geared to climate system application to real world problems. *Prerequisite:* MATH 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 387ag Undergraduate Team Research
Units: 2 Terms Offered: FaSpSm Introduction to scientific inquiry, field research opportunities, and history of physical sciences; strategies, research methodologies, and writing skills for proposals, abstracts, papers, and professional development. *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture Grading Option: Letter

GEOL 387bg Undergraduate Team Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based

student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture, Discussion Grading Option: Letter

GEOL 387cg Undergraduate Team Research
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm *Recommended Preparation:* A GE course in Earth Science. b. Multidisciplinary, learner-centered, individual and team-based student research, abroad and in the U.S.; field data collection and interpretation, mentored by domestic and international scientists. Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in the former GEOL 385. Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

GEOL 390 Special Problems
Units: 1, 2, 3, 4 Supervised individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GEOL 412 Oceans, Climate, and the Environment
Units: 4 Terms Offered: Sp Survey of physical, chemical, and geological oceanography emphasizing the role of the oceans in modulation of climate, atmospheric composition and biogeochemical cycles; paleoceanography and paleo climate. *Recommended Preparation:* PHYS 151 or PHYS 135a, PHYS 135b. *Corequisite:* CHEM 105b, MATH 126; Instruction Mode: Lecture Grading Option: Letter

GEOL 425L Data Analysis in the Earth and Environmental Sciences
Units: 4 Terms Offered: Fa Introduction to mathematical methods giving insight into earth and environmental data. Topics include probability and statistics, timeseries analysis, spectral analysis, inverse theory, interpolation. *Recommended Preparation:* MATH 126, familiarity with matrix algebra. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 427 The Global Environment
Units: 4 Terms Offered: Sp (Enroll in BISC 427)

GEOL 432L Introduction to Field Techniques
Units: 2 Terms Offered: FaSpSm Introduction to field techniques used in a variety of Earth Science disciplines. Field and digital techniques for map making including use of GIS, GPS, and digital tablets. Field analyses of rocks and rock structures. Map interpretation and digital processing of field data. Includes weekly labs and some weekend field trips. *Recommended Preparation:* GEOL 316L, GEOL 320L, GEOL 321L Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 433L Paleontology and Evolution in Deep Time
Units: 4 Terms Offered: Fa Origin and evolution of life; Precambrian life; evolutionary history of major groups during the Phanerozoic; mass extinctions; deep time and evolutionary processes. *Recommended Preparation:* any introductory GEOL course. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 440L Geophysics and Geoengineering
Units: 4 Terms Offered: Sp Plate tectonics, magnetic and gravity fields, earthquakes, seismic waves, reflection and refraction seismics, heat transport, mantle convection, deep Earth structure, data analysis. Includes field trip. *Prerequisite:* MATH 126; *Corequisite:* PHYS 135b or PHYS 152. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 441 Seismic Exploration Geophysics
Units: 4 Terms Offered: FaSp Seismic wave theory, ray theory, reflection, refraction, data processing, signal enhancement, field instrumentation and techniques on land and at sea; geological interpretation of seismic data. One field trip. Instruction Mode: Lecture Grading Option: Letter

GEOL 445 Earth Climate: Past, Present, and Future
Units: 4 (Enroll in ENST 445)

GEOL 450L Geosystems
Units: 4 Terms Offered: Fa Geosystems, such as mantle convection, active faults, climate, and the carbon cycle, will be studied using numerical models and concepts such as chaos, universality, emergence, and intermittency. *Prerequisite:* MATH 125; *Recommended Preparation:* MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 460L Geochemistry
Units: 4 Terms Offered: Fa Composition, origin, and evolution of the earth; principles of physical chemistry applied to aqueous systems; reaction-diffusion modeling and problems in sedimentary geochemistry; global (bio)geochemical cycles and environmental problems. *Prerequisite:* CHEM 105b or CHEM 115b and MATH 126. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 465L Field Geology
Units: 4 Max Units: 8.0 Terms Offered: SpSm Ten days to four weeks of field study in an area of geological complexity, with preparatory instruction. *Recommended Preparation:* introductory earth science course, e.g., GEOL 105), GEOL 315. One or more of GEOL 316 , GEOL 320. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 470L Environmental Hydrogeology
Units: 4 Terms Offered: FaSpSm Concepts in hydrogeology and application to environmental problems. Topics include groundwater and surface water hydrology, chemistry, and contamination. Includes labs, guest lectures, and field trips. *Recommended Preparation:* GEOL 105, GEOL 160. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ENST-470

GEOL 474 Ecosystem Function and Earth Systems
Units: 4 (Enroll in BISC 474)

GEOL 483 Geobiology and Astrobiology
Units: 4 (Enroll in BISC 483)

GEOL 485L Tectonic Geomorphology
Units: 4 Terms Offered: FaSp Focuses on the analysis of landforms that develop and evolve in tectonically active settings through the interplay of tectonics, climate, and surface processes. *Recommended Preparation:* GEOL 320L, GEOL 321L Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GEOL 491x Earth Sciences Internship
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8 Terms Offered: FaSpSm Local, national, and international internships providing earth sciences experience in a professional setting. Registration Restriction: Not available for graduate credit. Department permission required Instruction Mode: Lecture Grading Option: Letter

GEOL 494x Senior Thesis
Units: 2 Terms Offered: FaSp Writing of a thesis under individual faculty super vision. Instruction Mode: Lecture Grading Option: Letter

GEOL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the earth sciences. Field trip required when appropriate to the topic. Instruction Mode: Lecture Grading Option: Letter

GEOL 500 Marine Paleoecology
Units: 3, 2 years Terms Offered: Sp Principles of marine paleoecology; interrelationships between marine organisms and their environment in geologic time. *Recommended Preparation:* GEOL 577. Instruction Mode: Lecture Grading Option: Letter

GEOL 501 Paleobiology
Units: 3 Terms Offered: Fa Concepts and methods for functional morphologic analysis of fossil marine invertebrates. Systematics theory and methodology, macro evolution, and broad biotic trends in the Phanerozoic. *Recommended Preparation:* GEOL 433. Instruction Mode: Lecture Grading Option: Letter

GEOL 505 Introductory Graduate Seminar in Earth Sciences
Units: 2 Terms Offered: Fa Lectures by Earth Sciences faculty about current research; introduction of new graduate students to the breadth of current research; applying for research funding; practicing effective research presentations. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 510L Advanced Stratigraphic Field Methods
Units: 3 Stratigraphic field methods and computer-assisted data analysis. Field trips incorporating vertical and lateral facies analysis; collection of paleocurrent, fabric, paleomagnetic, photogeologic and compaction data. *Prerequisite:* GEOL 320.

Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 511L Depositional Systems
Units: 3 Analysis of depositional systems, including conceptual methods of lithostratigraphy, biostratigraphy, chronostratigraphy, and paleoecology; description of major depositional environments. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 512 Introduction to Chemical and Physical Oceanography
Units: 4 Terms Offered: Fa (Enroll in OS 512)

GEOL 514 Marine Geology
Units: 3 Terms Offered: Fa Origin and characteristics of ocean basins; marine sedimentary environments; shoreline classification and character; evolution of oceanic features. Instruction Mode: Lecture Grading Option: Letter

GEOL 515 Introduction to Atmospheric Science
Units: 3 Terms Offered: Fa Elementary physical principles underlying the behavior of Earth's atmosphere. Dry and moist thermodynamics, radiative transfer, conservation laws, fundamental dynamical balances, instability theory, cloud physics. *Recommended Preparation:* PHYS 161, PHYS 304. Instruction Mode: Lecture Grading Option: Letter

GEOL 520 Biosedimentology
Units: 3 Terms Offered: FaSp Ancient and recent borings and bioturbation structures and their utilization in stratigraphic, paleoenvironmental, paleoecological, sedimentological, and geochemical studies. *Recommended Preparation:* GEOL 320L and GEOL 433L Instruction Mode: Lecture Grading Option: Letter

GEOL 521L Advanced Structural Geology
Units: 3 Terms Offered: FaSp Advanced field and theoretical aspects of rock deformation, strain and stress analyses, and evolution of structural systems. Includes lab, field trip(s), and class project. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 525 The Science of Climate Change
Units: 4 Terms Offered: Sp Introduction to the fundamental aspects and the factors that influence ocean and atmospheric behavior, and how the earth's climate has varied in the past. Instruction Mode: Lecture Grading Option: Letter

GEOL 530 Modern Perspectives on Crustal Dynamics
Units: 3, 2 years Terms Offered: Sp Deformation mechanisms, strength and structure of the crust. Fractal scaling in structures and dynamic processes. Geodetic measurement of crustal deformation and spatio-temporal patterns of seismicity. Instruction Mode: Lecture Grading Option: Letter

GEOL 531 Plate Interactions: Geological Aspects
Units: 3, 2 years Terms Offered: Sp Principles and geometrics of plate tectonics; geologic characteristics of modern plate boundaries of divergent, convergent, transform type; ocean basin and orogen development from worldwide examples. Field trip. Instruction Mode: Lecture Grading Option: Letter

GEOL 532 Advanced Geologic Mapping
Units: 3 Terms Offered: Fa Principles of mapping geologically complex terranes of different structural style. Fieldwork will be coordinated with seminar review of diverse structural phenomena. Field trips. *Recommended Preparation:* GEOL 321, GEOL 465. Instruction Mode: Lecture Grading Option: Letter

GEOL 533L Continental Margin Arcs
Units: 3 Evolution of continental margin arcs, magmatic systems within arcs. Arcs as tectonic elements and "differentiation factories" leading to formation and removal of continental material. *Recommended Preparation:* GEOL 316, GEOL 321. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 534L Mechanics of Lithospheric Deformation
Units: 3 Terms Offered: Fa The mechanical description of deformational processes at both crustal and lithospheric scales, and the interpretation of geological and geophysical data in terms of these processes. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 535L Microstructures and Deformation Mechanisms
Units: 3, 3 years Terms Offered: Fa Examination of deformation mechanisms and resulting microstructures in rocks; chemical and textural equilibrium; physical and chemical processes during fluid flow; prophyroblast-matrix relationships; interpretation of kinematic indicators. Laboratory. *Prerequisite:* GEOL 321. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 536 Principles of Geomagnetism and Paleomagnetism
Units: 3, 2 years Terms Offered: Sp Historic geomagnetic field behavior, secular variation, rock magnetism, paleomagnetic techniques, magnetic polarity time scale, apparent-polar-wander paths, and applications to strati graphic and geotectonic studies. *Recommended Preparation:* GEOL 440. Instruction Mode: Lecture Grading Option: Letter

GEOL 537 Rock Mechanics
Units: 3, 2 years Terms Offered: Sp Elasticity, fracture, and flow properties of rocks and minerals; effects of temperature, pressure, petrology, fractures, and interstitial fluids. Experimental techniques and geological applications. Instruction Mode: Lecture Grading Option: Letter

GEOL 538 Tectonic Evolution of Western North America
Units: 3, 2 years Terms Offered: Sp Geosynclinal and orogenic development of western North America from the Precambrian to present, in the light of plate tectonics concepts. Field trips. *Recommended Preparation:* GEOL 321. Instruction Mode: Lecture Grading Option: Letter

GEOL 540 The Mantle System
Units: 3 Terms Offered: Sp Dynamics and structure of the deep earth and its relationship to earth evolution. *Recommended Preparation:* GEOL 440 and GEOL 534. Instruction Mode: Lecture Grading Option: Letter

GEOL 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp (Enroll in BISC 545)

GEOL 550 Chemical Equilibrium and Disequilibrium in Geology
Units: 3, 2 years Terms Offered: Sp Phase equilibria; phase diagrams; thermodynamics of aqueous and solid solutions; irreversible thermodynamics; kinetics, diffusion, and metasomatism, with applications to problems in petrology and geochemistry. *Prerequisite:* GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 551 Introduction to Seismology
Units: 3, 2 years Terms Offered: Fa Basic elements of seismology for the study of the earth's interior and the tectonic process, utilizing observations of seismic waves. Instruction Mode: Lecture Grading Option: Letter

GEOL 552 Advanced Seismology
Units: 3 Advanced methods of theoretical seismology for studying the generation of seismic waves from natural and artificial sources and the propagation through realistic earth models. Instruction Mode: Lecture Grading Option: Letter

GEOL 553 Physics of Earthquakes
Units: 3, 2 years Terms Offered: Fa Basic physics of earthquakes and seismicity. Continuum elasticity; fracture mechanics; laboratory friction; damage rheology; physics of critical phenomena; spatio-temporal seismicity patterns; analysis of complex data sets. *Recommended Preparation:* GEOL 537 and/or GEOL 551. Instruction Mode: Lecture Grading Option: Letter

GEOL 555 Paleoceanography
Units: 3 Mesozoic and Cenozoic paleoceanography; analytical approaches applied to water mass history, paleocirculation, paleoproductivity, nutrient cycling, and paleotemperature reconstruction. Lecture, readings, and research project. *Recommended Preparation:* GEOL 412 or GEOL 512 and GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 556 Active Tectonics
Units: 3 Terms Offered: Sp Aspects of deformation and associated seismicity at active plate margins around the world. Includes review of plate tectonics, seismology, geodesy, paleomagnetism, geodynamics, - Quaternary dating techniques, tectonic geomorphology, paleoseismology, and seismic hazard assessment. Two weekend field trips required. *Prerequisite:* GEOL 321. *Recommended Preparation:* GEOL 530, GEOL 531 Instruction Mode: Lecture Grading Option: Letter

GEOL 557 Numerical Modeling of Earth Systems

Units: 3 Terms Offered: Fa The quantitative modeling of ordinary and partial differential equations as they arise in geology, geophysics, climate modeling and related fields with practical, numerical focus. *Recommended Preparation:* GEOL 425, GEOL 534, and GEOL 540. Instruction Mode: Lecture Grading Option: Letter

GEOL 558 Inverse Theory in the Earth Sciences
Units: 3 Terms Offered: FaSp Short review of probability theory, and extensive coverage of linear inverse theory, including seismic imaging. Non-linear inverse problems and factor analysis. *Recommended Preparation:* GEOL 425. Instruction Mode: Lecture Grading Option: Letter

GEOL 560 Marine Geochemistry
Units: 3, 2 years Terms Offered: Sp Principles of chemical sedimentology and aquatic chemistry; diagenesis, authigenesis, and the geochemical cycle. *Prerequisite:* GEOL 460. Instruction Mode: Lecture Grading Option: Letter

GEOL 564 Isotope Geochemistry
Units: 3, 2 years Terms Offered: Sp Variations in the isotopic composition of elements in the earth's crust with applications to geological problems, including geochronology, geothermometry, ore genesis, and crustal evolution. Instruction Mode: Lecture Grading Option: Letter

GEOL 566 Geochemistry Seminar
Units: 1, 2, 3, 4 Current topics in geochemistry. Instruction Mode: Lecture Grading Option: Letter

GEOL 567 Stable Isotope Geochemistry
Units: 3 Theoretical basis; nuclide nomenclature, partition function ratios, mechanisms and rates of isotope exchange; mass spectrometry and extraction techniques; application of stable isotopes to geologic problems. Instruction Mode: Lecture Grading Option: Letter

GEOL 568L Metamorphic Petrology
Units: 3, 2 years Terms Offered: Fa An introduction to advanced study of metamorphic mineral assemblages with use of experimental and field data. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 569L Igneous Petrology
Units: 3, 2 years Terms Offered: Fa Study of igneous and meta-igneous rocks from the basis of experimental and field data and theoretical considerations. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 575 Organic Geochemistry
Units: 3 Terms Offered: Sp Advanced course on the fundamentals and frontiers of organic geochemistry. Topics include biomarker and isotope geochemical approaches to reconstructing past marine, terrestrial environmental change. *Recommended Preparation:* CHEM 105a, CHEM 105b , CHEM 322a, CHEM 322b, GEOL 150, GEOL 412, or equivalent background. Instruction Mode: Lecture Grading Option: Letter

GEOL 577L Micropaleontology
Units: 3, 2 years Terms Offered: Fa Microscopic fossils, especially foraminifera, their classification, the common genera, morphology, evolutionary trends; laboratory and field techniques. *Recommended Preparation:* GEOL 433. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GEOL 588L Quantitative Analysis for Biological and Earth Sciences
Units: 4 Terms Offered: Sp (Enroll in BISC 588.)

GEOL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 593 Practicum in Teaching the Liberal Arts
Units: 2 Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: Irregular Special topics in the earth sciences. Field trip required when appropriate to the topic. *Prerequisite:* second-year graduate standing normally required. Instruction Mode: Lecture Grading Option: Letter

GEOL 601 Seminar in Sedimentary Geology
Units: 1, 2, 3 Max Units: 6.0 Terms Offered: Sp Analysis and discussion of current topics in sedimentary geology; topics will be chosen by students and faculty to focus on areas of recent advances. Instruction Mode: Lecture Grading Option: Letter

GEOL 609 Seminar in Earthquake Physics
Units: 2 Max Units: 6.0 Terms Offered: FaSp Current research on the physics governing earthquakes and faults, including results from continuum and fracture mechanics, statistical physics, lab experiments, and seismological observations. Instruction Mode: Lecture Grading Option: Letter

GEOL 650 Recent Advances in Paleontology
Units: 3 Selected review of recent ideas in paleobiology, evolution, and paleoecology related to examining the current frontiers in paleontology. Instruction Mode: Lecture Grading Option: Letter

GEOL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GEOL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GEOL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

German

GERM 020x Course in Reading German
Units: 2 For graduate students who wish help in meeting the German reading requirement for the PhD degree. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERM 025x Course in Reading German
Units: 2 Continuation of 020x. Reading selections appropriate to candidate's major field. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERM 101 German I
Units: 4 Introduction to modern German. Oral practice, listening and reading comprehension. Basic structures necessary for simple spoken and written expression. Instruction Mode: Lecture Grading Option: Letter

GERM 102 German II
Units: 4 Continuation of German I. Introduction to German culture. *Prerequisite:* GERM 101. Instruction Mode: Lecture Grading Option: Letter

GERM 201 German III, Conversation and Composition
Units: 4 Intermediate German. Increasing emphasis on listening and speaking skills and a review of basic structures of German. Discussion of cultural aspects. *Prerequisite:* GERM 102. Instruction Mode: Lecture Grading Option: Letter

GERM 221 Conversational German IV
Units: 4 Conversational German in a variety of topical settings and vocabulary domains. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 310 Business German I
Units: 4 Terms Offered: Sp Introduction to German business language structure including correspondence and oral

communication. In German. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 311 Business German II
Units: 4 Terms Offered: Fa Continuation of GERM 310. Terminology and style of commercial and legal texts, analyzed and applied in oral and written work. In German. *Prerequisite:* GERM 201. Instruction Mode: Lecture Grading Option: Letter

GERM 320 Composition and Conversation on Contemporary Affairs
Units: 4 Practice in oral and written German, emphasizing contemporary cultural and social developments in the German-speaking countries of Europe. In German. *Prerequisite:* GERM 221. Instruction Mode: Lecture Grading Option: Letter

GERM 325 Composition and Conversation in Cultural History
Units: 4 Practice in oral and written German, emphasizing the cultural history of the German-speaking countries of Europe. In German. *Prerequisite:* GERM 221. Instruction Mode: Lecture Grading Option: Letter

GERM 330 Introduction to Literary Studies
Units: 4 Review of essential literary terms, concepts, and critical methods through analysis and discussion of selected primary and secondary works. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 335 Applied German Drama
Units: 4 Max Units: 8.0 Works of a German playwright in their social and cultural context, leading to a dramatization of one of the works. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 340 German Prose Fiction from Goethe to Thomas Mann
Units: 4 Examines German prose fiction from the late 18th to the early 20th centuries, with particular emphasis on how narrative texts are constructed. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 346 German Folklore and Popular Culture
Units: 4 Survey and analysis of folklore and cultural phenomena, including tales, legends, and myths; folk and popular music; beliefs and customs. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 351 Colloquium on Drama
Units: 4 German drama from the 18th century, with emphasis on modernism (since Büchner) and the 20th century avant garde styles: Expressionist, Epic, Grotesque, Documentary, and Sprechtheater. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 352 Colloquium on Poetry
Units: 4 Definition and analysis of lyric genre through a study of major poets, such as Goethe, Schiller, Heine, Rilke, and Hofmannsthal; poetic traditions from the 17th century to the present. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 353 Colloquium on Prose
Units: 4 Study of German prose from the 18th century to the present; emphasis on narrative and thematic perspectives in relation to social change and on modernism since Kafka. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 360g 20th Century German Prose: Texts and Films
Units: 4 Aesthetic and historical analysis of major German 20th century novels, complemented by brief study of cinematic adaptation of each text. Texts in English; films with subtitles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 370 Literature and Culture in Vienna at the Turn of the Century
Units: 4 Literature, culture, and society in Vienna 1890–1925; works by figures such as Schnitzler, Hofmannsthal, Kafka, Musil, Kraus, Schönberg, Kokoschka, Freud, Wittgenstein, and others. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 372g Literature and Culture in Berlin in the 1920s
Units: 4 Literature, culture, and society through works by figures such as Kaiser, Toller, Brecht/Weill, Piscator, Th. Mann, Doeblin, Lukacs, Heidegger, etc. Films: Caligari, Metropolis, Berlin, M, Blue Angel. In English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 375g The German Exile Experience
Units: 4 Terms Offered: FaSp Surveys the work of German intellectuals, writers, artists, and scientists in U.S. exile during the time of the Nazi government in the 1930s and 1940s. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

GERM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GERM 410 Profile of German Literature I
Units: 4 Survey of major trends in German literature within their historical and cultural contexts from the beginnings to the Baroque period. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 420 Profile of German Literature II
Units: 4 Survey of major trends, figures, and authors in German literature and culture of the 18th and 19th centuries within the European context. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 430 Age of Goethe
Units: 4 Background and significance of the period; lyrics, major dramatic and prose works from 1770–1832; Storm and Stress; Classicism; Goethe and Schiller. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 440 Women's Literature in Germany I
Units: 4 Reading and analysis of medieval texts from German-speaking countries, written by and about women: science, love, poetry, letters, drama, mysticism, romance. Conducted in German. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-440

GERM 460 Expressionism to the Present
Units: 4 Representative authors and works since 1910; World War I, Expressionism, New Objectivity, World War II; literature after 1945: East and West, Swiss and Austrian. Instruction Mode: Lecture Grading Option: Letter

GERM 465 Germany East and West
Units: 4 Study of the ideological, economic, social, and cultural differences between East and West Germany between 1945 and 1990 and their impact on today's unified Germany. In English. Instruction Mode: Lecture Grading Option: Letter

GERM 466 The German Speaking Nations
Units: 4 Focus on the culture, history, and society of Austria, East and West Germany, and Switzerland. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 470 Advanced Composition and Stylistics
Units: 4 Development of competence in written expression; fundamentals of style in expository writing. In German. Instruction Mode: Lecture Grading Option: Letter

GERM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GERM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected topics or regions. Instruction Mode: Lecture Grading Option: Letter

GERM 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

Gerontology

GERO 200 Gerontology: The Science of Adult Development
Units: 4 Terms Offered: FaSp Introduction to adult development through the lifespan; biological, psychological, and social processes; gerontology as a career for the future. Instruction Mode: Lecture Grading Option: Letter

GERO 310 Physiology of Aging
Units: 4 Terms Offered: Fa Effects of normative aging processes on homeostatic mechanisms and how these changes relate to development of disorder and disease in later life. Instruction Mode: Lecture Grading Option: Letter

GERO 315g A Journey into the Mind
Units: 4 Terms Offered: Sp Introduction to the brain and mind. A unique multimedia approach to stress how knowledge about the mind is gained from scientific and clinical investigations. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture Grading Option:

Letter

GERO 320g Psychology of Adult Development
Units: 4 Terms Offered: FaSpSm How psychologists study thinking, memory, emotions, personality, and behavior, and how people change in these throughout adulthood to old age. *Recommended Preparation:* PSYC 100Lg Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

GERO 330 Society and Adult Development
Units: 4 Terms Offered: FaSp How social relationships affect adults of different ages; the changing contract across generations; interaction of culture, race, family and social values with adult development. Instruction Mode: Lecture Grading Option: Letter

GERO 340 Policy, Values, and Power in an Aging Society
Units: 4 Terms Offered: FaSp How Americans' political values affect public policy. Studies of landmark legislation to explore the social contract between generations and role of governments in social welfare. Instruction Mode: Lecture Grading Option: Letter

GERO 350 Administrative Problems in Aging
Units: 2 or 4 Terms Offered: Fa Analysis of the skills, approaches and issues involved in the planning, development, and implementation of programs directed at meeting the needs of older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 353g Social and Behavioral Foundations of Health and Aging
Units: 4 Terms Offered: Fa Explore social and behavioral foundations of health, longevity, and medicine, in the context of an increasingly diverse and long-lived population. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture

GERO 380m Diversity in Aging
Units: 4 Exploring diversity in the older population and variability in the human aging process. Instruction Mode: Lecture Grading Option: Letter

GERO 385 Transitions in Adulthood
Units: 2 or 4 An exploration of the critical issues and transitions in the adult years, including careers, relationships, parenthood, and major turning points for personal development. Instruction Mode: Lecture Grading Option: Letter

GERO 390 Special Problems
Units: 1-4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GERO 402 Housing for the Elderly: Policy, Programs, and Design
Units: 2 An overview of housing policies, programs and design for the elderly, including analysis and evaluation of past, current and proposed government programs. Instruction Mode: Lecture Grading Option: Letter

GERO 411L Physiology, Nutrition, and Aging
Units: 2 or 4 Explores nutritional needs and the physiological, psychological, and sociological relationships to nutrition. Laboratory experiments in assessment and evaluation. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 412L Exercise and Aging: Principles and Programs
Units: 2 or 4 Physiological, psychological, and sociological aspects of exercise. Laboratory involvement in assessment and evaluation of fitness. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 414 Neurobiology of Aging
Units: 4 Terms Offered: Fa Age-related changes in nervous system structure and function; relationship of brain changes to changes in cognitive function and perception; Alzheimer's and Parkinson's diseases. Lecture and discussion. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

GERO 415 Neuroaffective Disorders of Aging
Units: 4 Terms Offered: Sp Methods of studying, evaluating, and treating cognitive, psychiatric, and behavioral problems associated with medical conditions of old age. Instruction Mode: Lecture Grading Option: Letter

GERO 416 Health Issues in Adulthood
Units: 4 Terms Offered: Sp Physiological, psychological, and social health problems of adults as they are impacted by health choices throughout life. Instruction Mode: Lecture Grading Option: Letter

GERO 421 Managed Care for an Aging Society
Units: 4 Terms Offered: FaSp Examines key legislation, policies, practice, and outcomes of managed care and how population aging affects health care delivery. Instruction Mode: Lecture Grading Option: Letter

GERO 423 Psychological Development through Autobiography
Units: 4 Introduction to autobiography as a source of individual psychological development, with emphasis on integration of cognitive, emotional, and decision processes. Instruction Mode: Lecture Grading Option: Letter

GERO 435m Women and Aging: Psychological, Social and Political Implications
Units: 4 Terms Offered: FaSpSm Problems and resources of the middle-aged and older woman in a changing society; including discrimination, stereotypes, employment, social interaction, etc. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-434

GERO 437 Social and Psychological Aspects of Death and Dying
Units: 2 or 4 Terms Offered: FaSp Introduction and critical survey of the current issues, concepts, and research of the social and psychological aspects of death and dying. Instruction Mode: Lecture Grading Option: Letter

GERO 440 Biodemography of Aging
Units: 4 Consideration of the biological and social-cultural factors that govern the evolution of life spans and the life of humans and selected animal models *Prerequisite:* BISC 112 or BISC 113 or BISC 120 or BISC 121; *Recommended Preparation:* recommended preparation: statistics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC-440

GERO 451 Policy and Program Development in Aging
Units: 4 Policy trends and changing roles of local, state, and federal agencies in planning, managing, and evaluating programs in comprehensive, coordinated systems of service for older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 452 Economic Issues and the Aged
Units: 2 or 4 Analysis of economic factors associated with the aged; implications for individuals, society, and the economy; lifecycle economics, retirement, income maintenance, and social security. Instruction Mode: Lecture Grading Option: Letter

GERO 461 Seminar in Molecular and Computational Biology
Units: 2 Terms Offered: FaSpSm (Enroll in BISC 461) Grading Option: Letter

GERO 470 Aging and Business
Units: 4 Terms Offered: Fa An introduction to the dynamic roles of business in an aging society focusing on workplace issues, marketing to mature consumers, and careers for business gerontologists. Instruction Mode: Lecture Grading Option: Letter

GERO 475 Ethical Issues in Geriatric Health Care
Units: 4 Biomedical ethical issues that are encountered in working with geriatric patients. Examination of ethical theory and the application of theory to clinical settings. Instruction Mode: Lecture Grading Option: Letter

GERO 481 Case Management for Older Adults
Units: 4 Terms Offered: Fa Overview of the concepts, characteristics, skills, and clinical issues of case management in a variety of settings serving older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 483 Global Health and Aging
Units: 4 Terms Offered: Fa Overview of the impact aging populations will have on global institutions from a variety of perspectives. Examination of public health policy issues. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HP-483

GERO 490x Directed Research
Units: 1-8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

GERO 491 Practicum
Units: 2-8 Max Units: 8.0 Terms Offered: FaSpSm Supervised experience in one or more community agencies. Instruction Mode:

Lecture Grading Option: Credit/No Credit

GERO 492 Senior Seminar
Units: 4 Terms Offered: Sp An in-depth integration of major research and professional themes in the study of human development and aging. Instruction Mode: Lecture Grading Option: Letter

GERO 493p Longevity and Death among Ancient and Modern European Populations (Italy)
Units: 2 Terms Offered: SpSm The discoveries of ancient humans and bodies that have been preserved illuminate the connection between diet, health, and disease. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 494 Emotion-Cognition Interactions and Aging
Units: 4 Terms Offered: Sm Covers the paradox of emotion in aging, as well as how stress and emotion influence cognition and the brain across the lifespan. Instruction Mode: Lecture Grading Option: Letter

GERO 495 Practicum in Geriatric Care
Units: 4 Terms Offered: FaSpSm Supervised experience in a geriatric health care setting which allows students to put theories and ideas into practice. Graded CR/NC. Lecture, discussion, and fieldwork. Instruction Mode: Lecture Grading Option: Letter

GERO 496 Introduction to Clinical Geriatrics
Units: 4 Medical problems of older adults emphasizing common geriatric syndromes, chronic illness, and alternative approaches to primary health care of older persons and their families. Upper division standing. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture

GERO 497a Honors Seminar
Units: 2 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 497b Honors Seminar
Units: 2 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 497c Honors Seminar
Units: 2-4 Terms Offered: FaSpSm Advanced study of empirical approaches in gerontology. Preparation, progress, presentation, and evaluation of Senior Honors Thesis research. *Prerequisite:* standing in Gerontology Honors Program. Instruction Mode: Lecture Grading Option: Letter

GERO 498 Nutrition, Genes, Longevity and Diseases
Units: 4 Terms Offered: Sm Examines the role of nutrition and genes and the impact each has on longevity and diseases, particularly diseases related to aging. Offered in Genoa, Italy. Instruction Mode: Lecture Grading Option: Letter

GERO 499 Special Topics
Units: 2-4 Max Units: 8.0 Terms Offered: FaSpSm Examination of special topics in the area of gerontology. Instruction Mode: Lecture Grading Option: Letter

GERO 500 Perspectives on a Changing Society: An Introduction to Aging
Units: 4 Terms Offered: Fa Analysis of physical, mental, and social age-related changes as well as implications of population aging trends for individuals and society. Instruction Mode: Lecture Grading Option: Letter

GERO 501 Applied Legal and Regulatory Issues in Aging
Units: 4 Terms Offered: Fa Analysis of shifting legal and regulatory issues affecting the delivery of aging services. Instruction Mode: Lecture Grading Option: Letter

GERO 502 Marketing and Shifts in Consumer Decision Making
Units: 4 Terms Offered: Fa Branding, marketing, and consumer behavior through examination of established, transitioning and emerging aging services and organizations. Instruction Mode: Lecture Grading Option: Letter

GERO 504 Current Issues in Aging Services Management
Units: 4 Terms Offered: Sp Basic skills needed for an executive working in an aging services environment. Recommended for entry level administrators and managers. Instruction Mode: Lecture Grading Option: Letter

GERO 505 Housing and Community Policies and Programs
Units: 4 Terms Offered: FaSp Examination of the behavioral and social consequences of design and the environment to create a more satisfying physical environment for both frail and active older adults. Instruction Mode: Lecture Grading Option: Letter

GERO 506 Technological Innovations in Aging (Gerontechnology)
Units: 4 Terms Offered: Sp Reflections on shifts in preferences for aging in place and the market ramifications of innovations in science and technology on older consumers and service providers. Instruction Mode: Lecture Grading Option: Letter

GERO 507 End of Life Care
Units: 4 Terms Offered: Sp Examination of programs related to end of life care. Cultural competencies in working with a diverse population on end of life issues. Instruction Mode: Lecture Grading Option: Letter

GERO 508 The Mind and Body Connection through the Lifespan
Units: 4 Terms Offered: FaSpSm An introduction to mind-body processes involved in healthy aging. Examines the interplay of emotions, beliefs, and behaviors in shaping health-relevant biological processes. Instruction Mode: Lecture Grading Option: Letter

GERO 510 Physiology of Development and Aging
Units: 4 Terms Offered: Sp Examination of lifespan physiology of human development, growth, and aging; major emphasis in the physiology of the later years and implications for health maintenance. Instruction Mode: Lecture Grading Option: Letter

GERO 511 Fundamentals of Clinical Nutrition Screening and Assessment
Units: 4 Terms Offered: Sp Examines tools and resources used to evaluate the nutrition status of individuals across the lifespan including biochemical, anthropometric and subjective global assessment. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 512 Communicating Nutrition and Health
Units: 2 Terms Offered: Fa Overview of current understanding of the dietary and nutritional needs of individuals across their lifespan. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 513 Fundamentals of Nutrition: Macronutrients
Units: 3 Terms Offered: Fa A study of the principles of human nutrition throughout the life cycle. Current topics and controversies in nutrition and health are discussed. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 515L Food Production and Food Service Management
Units: 4 Terms Offered: FaSp A study of principles and procedures for food systems including techniques of food preparation, development, modification and evaluation of recipes, menus and products. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 517L Advanced Therapeutic Nutrition
Units: 4 Terms Offered: Fa Application of nutrition science, physiology, biochemistry, and metabolism to evaluate critically ill patients and plan nutrition intervention and monitoring. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GERO 518 Current Topics in Clinical Nutrition
Units: 4 Terms Offered: Sp Discuss various factors that affect nutrition and aging. Topics include allergies in nutrition, food toxins, weight factors, and prevention and treatment of multiple organ systems. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 519 Recent Advances in Neurobiology and Endocrinology of Aging
Units: 2 or 4 Theories of the biology of aging and the effects of age on functional integrity of the total organism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BISC-519

GERO 520 Life Span Developmental Psychology
Units: 2 or 4 Terms Offered: FaSm Behavior from adulthood to old age; study of major components of behavior such as perception, cognitive processes, personality, intergenerational relationships, sexuality, and life styles. Instruction Mode: Lecture Grading Option: Letter

GERO 522 Counseling Older Adults and Their Families
Units: 2 or 4 Terms Offered: Sp Theory and application of assessment and intervention techniques with older adults and their families. Topics include: treatment modalities, psychopathology, ethical and legal issues, brain disorders. Instruction Mode: Lecture Grading Option: Letter

GERO 529 Seminar in Psychological Aspects of Aging
Units: 2 or 4 Psychological changes in the later years; perception; sensory factors; intelligence and memory; psychophysiological measures; personality; psychopathology. Instruction Mode: Lecture Grading Option: Letter

GERO 530 Life Span Developmental Sociology
Units: 4 Terms Offered: Sp Life span perspective on the sociological theories of marriage and the family, inter-generational relationships, work and retirement, and other forms of social organization. Instruction Mode: Lecture Grading Option: Letter

GERO 540 Social Policy and Aging
Units: 4 Terms Offered: Fa Major legislation and programs; examination and analysis of policy-making and political processes affecting development and implementation of programs for older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 541 Health Care Delivery Models: Comparative Approaches
Units: 4 Examination of current trends and future prospects of finance and reimbursement systems. Topics include major legislation and programs such as Medicare and Medicaid. Instruction Mode: Lecture Grading Option: Letter

GERO 543 Continuum of Care: Systems Perspective
Units: 4 Structural and organizational aspects of institutional and community programs; public policies, fiscal management, regulation, administration; obstacles to interagency coordination; the continuum of care. Instruction Mode: Lecture Grading Option: Letter

GERO 550 Administration and System Management in Programs for Older Adults
Units: 4 Terms Offered: Sp Application of theories of administration and system management to public and volunteer programs and services for older adults including residential institutions and community programs. Instruction Mode: Lecture Grading Option: Letter

GERO 551 Applied Policy Skills in Aging
Units: 4 Terms Offered: Sp An overview and application of techniques and approaches used in the definition and analysis of policy problems in aging. *Prerequisite:* GERO 540. Instruction Mode: Lecture Grading Option: Letter

GERO 554 Evaluation: Incorporating Evidence-Based Practices
Units: 4 Terms Offered: Sp Examination of the evaluation of health and service delivery in aging services industries. Instruction Mode: Lecture Grading Option: Letter

GERO 555 Integrating Gerontology: A Multidisciplinary Approach
Units: 4 Terms Offered: Sp Aging (commonalities and distinctions) as addressed by biologists, psychologists, and sociologists. Topics include research perspectives, normative aging, functional decline and disability, and aging and society. Instruction Mode: Lecture Grading Option: Letter

GERO 556 Program Development
Units: 2 or 4 Principles and procedures of assessing needs, collecting resources, designing activities, and implementing programs for older people in a variety of community and institutional settings. Instruction Mode: Lecture Grading Option: Letter

GERO 557 Geriatric Care Management
Units: 4 Terms Offered: Sp Overview of concepts, issues, and approaches to geriatric care management. Includes analysis and practice of a variety of care management clinical skills. Instruction Mode: Lecture Grading Option: Letter

GERO 560 Micronutrients, Health, and Longevity
Units: 4 Terms Offered: FaSpSm Explores the basis of nutrition needs for vitamins, major minerals and trace minerals including nutrient interaction and their role in health and longevity. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

GERO 570 Corporate Policies and Aging
Units: 4 An introduction to the evolving roles of corporations in an aging society including such topics as retaining older workers, retiree benefits, and the mature consumer. Instruction Mode: Lecture Grading Option: Letter

GERO 585 The Aging Family
Units: 2 or 4 Terms Offered: Sm Family processes and structure in families with aged persons will be reviewed, including marital and family therapy and intervention strategies. Instruction Mode: Lecture Grading Option: Letter

GERO 589 Case Studies in Leadership and Change Management
Units: 4 Terms Offered: Fa Examination of case studies of issues affecting the aging services industries and the role industry leaders play in reacting to change. Instruction Mode: Lecture Grading Option: Letter

GERO 590 Directed Research
Units: 1-12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 591 Field Practicum
Units: 1-12 Max Units: 12.0 Terms Offered: FaSpSm Supervised experiential learning in one or more organizations that serve older adults; includes a regularly scheduled seminar. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 592 Multidisciplinary Research Seminar in Aging
Units: 2 Max Units: 8.0 Terms Offered: FaSp Multidisciplinary perspectives on current research in gerontology, including physiology, neurobiology, health and medicine, psychology, sociology, and public policy. Topics will change each semester. Instruction Mode: Lecture Grading Option: Letter

GERO 593 Research Methods
Units: 4 Terms Offered: Fa An introduction to research methods and their application to gerontology including problem formation, research design, data collection, descriptive and analytic statistics, interpretation, and report preparation. Instruction Mode: Lecture Grading Option: Letter

GERO 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 599 Special Topics
Units: 2-4 Max Units: 8.0 Terms Offered: FaSpSm Examination of special topics in the area of gerontological study. Instruction Mode: Lecture Grading Option: Letter

GERO 600 Geroscience: Molecular and Cellular Biology
Units: 4 Terms Offered: Fa Emphasizes the molecular and cellular biology of aging and age-related pathology and other aspects of basic aging research, including evolutionary biology, demography, epidemiology and bioinformatics. Instruction Mode: Lecture, Discussion Grading Option: Letter

GERO 601 Molecular Genetics of Aging
Units: 4 Terms Offered: Sp Explores concepts of molecular and genetic regulation of healthy aging, lifespan, and age-related diseases. Instruction Mode: Lecture, Discussion Grading Option: Letter

GERO 602a Seminar on Discoveries in Biogerontology
Units: 2 Terms Offered: FaSp Critical analyses of primary scientific data and interpretations presented in the literature. Duplicates Credit in former GERO 602. Instruction Mode: Lecture Grading Option: Letter

GERO 602b Seminar on Discoveries in

Biogerontology
Units: 2 Terms Offered: FaSp Critical analyses of primary scientific data and interpretations presented in the literature. Duplicates Credit in former GERO 602. Instruction Mode: Lecture Grading Option: Letter

GERO 603 Research Integrity
Units: 2 Terms Offered: Fa Explores scientific integrity, mentoring, scientific record keeping, authorship, peer review, animal and human experimentation, conflict of interest, data ownership and intellectual property, and genetic technology. Instruction Mode: Lecture Grading Option: Letter

GERO 610 The Aging Society
Units: 4 Terms Offered: Sp The interaction of demographic and economic processes, with emphasis on how the contemporary nature of these interactions influence public policy response to an aging population. Instruction Mode: Lecture Grading Option: Letter

GERO 613 Health and Aging
Units: 4 Terms Offered: Sp Examination of changes in health related to age, changes in health in populations over time, and the key health issues facing older persons. Instruction Mode: Lecture Grading Option: Letter

GERO 614L Laboratory Rotations in the Biology of Aging
Units: 4, 5, 6, 7, 8 Terms Offered: FaSpSm Mandatory organized laboratory rotation. Allows students to participate in laboratory activities. Designed to help select dissertation advisor and research. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

GERO 620 Psychology of Aging
Units: 4 Terms Offered: Fa Overview of topics in the psychology of aging. Includes research and theory bearing on cognitive, personality, adaptive, and social processes throughout the adult life span. Open only to doctoral students. *Recommended Preparation:* undergraduate course work in psychology. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

GERO 628 Theories of Aging
Units: 4 An examination of the nature and adequacy of existing explanations of aging. Focus will be on psychological, sociological, and biological paradigms, and on the epistemology of theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-628

GERO 640 Data Analysis Strategies
Units: 4 Terms Offered: FaSpSm Hands-on experience in developing and testing hypotheses using various types of databases, data management and analysis strategies and written presentation of findings. *Recommended Preparation:* GERO 593. Instruction Mode: Lecture Grading Option: Letter

GERO 645 Politics and Policy Processes in an Aging Society
Units: 4 Terms Offered: Fa Dynamics of the policy-making process in the context of aging policy in the United States; focus on the political system and its social dynamics. Instruction Mode: Lecture Grading Option: Letter

GERO 666 Free Radical Chemistry, Biology, and Medicine
Units: 4 Terms Offered: Fa Explores the chemical and physical chemical nature of free radicals and related reactive species. Examines the roles of antioxidants and how they work. *Recommended Preparation:* Course work in biology and chemistry. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSCI-633

GERO 790 Research
Units: 1-12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GERO 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GERO 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

General Education Seminar

GESM 110g Seminar in the Arts
Units: 4 Terms Offered: FaSpSm The multifaceted history of the creative act, its analysis, production, and context as a representation of human experience. Satisfies New General Education in Category A: The Arts Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 111g Seminar in the Arts
Units: 4 Terms Offered: FaSp The multifaceted history of the creative act, its analysis, production, and context as a representation of human experience. Offered by a USC professional school. Satisfies New General Education in Category A: The Arts Registration Restriction: Open only to freshmen Duplicates Credit in GESM 110 Instruction Mode: Lecture Grading Option: Letter

GESM 120g Seminar in Humanistic Inquiry
Units: 4 Terms Offered: FaSpSm Interpretation and analysis of works of the imagination, exploring language, thought, and cultural traditions in relation to one another. Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 121g Seminar in Humanistic Inquiry
Units: 4 Terms Offered: FaSp Critical appreciation of various forms of human expression, evaluating works of literature, philosophy, and the arts to enable informed opinions about ideas and values. Offered by a professional school. Satisfies New General Education in Category B: Humanistic Inquiry Registration Restriction: Open only to freshmen Duplicates Credit in GESM 120 Instruction Mode: Lecture Grading Option: Letter

GESM 130g Seminar in Social Analysis
Units: 4 Terms Offered: FaSpSm Individual and collective human action as it shapes and is shaped by economic organizations, political institutions, and broad social and cultural settings. Satisfies New General Education in Category C: Social Analysis Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 131g Seminar in Social Analysis
Units: 4 Terms Offered: FaSp The causes and consequences of social phenomena; quantitative and qualitative methods of the social sciences; how people behave and influence the world through cultural forms. Offered by a professional school. Satisfies New General Education in Category C: Social Analysis Duplicates Credit in GESM 130 Instruction Mode: Lecture Grading Option: Letter

GESM 140g Seminar in the Life Sciences
Units: 4 Terms Offered: FaSpSm Scientific understanding of a full range of living systems from molecules to ecosystems, prokaryotes to humans, past and present. (Satisfies GE-D, Life Sciences). Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 141g Seminar in the Life Sciences
Units: 4 Terms Offered: FaSp Scientific understanding of living systems from molecules to ecosystems; how data is generated and interpreted; how scientific discovery spurs technological growth and impacts society. Offered by a professional school. Satisfies New General Education in Category D: Life Sciences Registration Restriction: Open only to freshmen Duplicates Credit in GESM 140 Instruction Mode: Lecture Grading Option: Letter

GESM 150Lg Seminar in the Physical Sciences
Units: 4 Terms Offered: FaSpSm Analysis of natural phenomenon through quantitative description and synthesis; the processes

by which scientific knowledge is obtained, evaluated, and placed in social context. (Satisfies GE-E, Physical Sciences) Satisfies New General Education in Category E: Physical Sciences Registration Restriction: Open only to freshmen. Instruction Mode: Lecture, Lab Required Grading Option: Letter

GESM 151Lg Seminar in the Physical Sciences
Units: 4 Terms Offered: FaSp Natural phenomena analyzed through quantitative description and synthesis to demonstrate how scientific knowledge is obtained, evaluated and made socially relevant. A separate lab is required. Offered by a professional school. Registration Restriction: Open only to freshmen Duplicates Credit in GESM 150 Instruction Mode: Lecture, Required Lab Grading Option: Letter

GESM 160g Seminar in Quantitative Reasoning
Units: 4 Terms Offered: FaSpSm Analysis and manipulation of data and information related to quantifiable objects, symbolic elements, or logic; formal reasoning, abstract representation, and empirical analysis. (Satisfies GE-F, Quantitative Reasoning). Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to freshmen. Instruction Mode: Lecture Grading Option: Letter

GESM 161g Seminar in Quantitative Reasoning
Units: 4 Terms Offered: FaSp Logical or statistical inference, probability, or mathematical analysis used as tools to evaluate hypotheses, claims, questions, or problems within a formal mode of thought. Offered by a professional school. Satisfies New General Education in Category F: Quantitative Reasoning Registration Restriction: Open only to freshmen Duplicates Credit in GESM 160 Instruction Mode: Lecture Grading Option: Letter

General Practice Residency

GPR 601 Hospital Dentistry I
Units: 1 Terms Offered: FaSpSm Residents learn the nature of performing dentistry within a hospital setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 603a Dental Ethics
Units: .5, Terms Offered: FaSpSm Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603b Dental Ethics
Units: .5, Terms Offered: Fa Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603c Dental Ethics
Units: .5, Terms Offered: Sp Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 603d Dental Ethics
Units: .5, Terms Offered: SpSm Residents prepare for ethical dilemmas which may occur when they are practicing dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 604a Practice Management
Units: .5, Terms Offered: FaSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604b Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604c Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 604d Practice Management
Units: .5, Terms Offered: FaSpSm Residents learn the tools and principles of running or working in a private practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 605a Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605b Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605c Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 605d Review of General Dentistry Literature
Units: 1 Terms Offered: FaSpSm Residents learn how to research various topics and to critically review each article in order to practice evidence-based dentistry. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 611a Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611b Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611c Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 611d Emergency Medicine
Units: .5, Terms Offered: FaSm Residents utilize medical knowledge to detect and identify early signs of medical emergencies. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 622 Forensic Dentistry
Units: 1 Terms Offered: FaSpSm Introduction to Forensic Odontology. Residents to learn the principles of Dental Forensics. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 701 Treating Medically Compromised Dental Patients
Units: 1 Terms Offered: FaSpSm Residents learn of various medical problems, how they relate to dental treatment and how to manage patients with various medical problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 702 General Dentistry Overview
Units: 1 Terms Offered: FaSpSm Residents demonstrate the most appropriate and ideal restorative treatment utilizing various dental materials. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705a Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705b Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705c Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 705d Periodontal Treatment Procedures
Units: .5, Terms Offered: FaSpSm Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 706a Treatment Planning
Units: 1 Terms Offered: Sm Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706b Treatment Planning
Units: 1 Terms Offered: Fa Residents lead seminars with case presentations of complex

multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706c Treatment Planning
Units: 1 Terms Offered: Sp Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 706d Treatment Planning
Units: 1 Terms Offered: Sp Residents lead seminars with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

GPR 710a Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm
More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710b Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm
More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710c Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm
More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 710d Oral and Maxillofacial Surgery
Units: 1 Terms Offered: FaSpSm
More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 711a Implantology
Units: 1 Terms Offered: FaSpSm Residents recognize the importance of implant dentistry and various implant systems and their restorative options. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 711b Implantology
Units: 1 Terms Offered: FaSpSm Residents recognize the importance of implant dentistry and various implant systems and their restorative options. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

GPR 722 Occlusion, TMJ Dysfunction, Orofacial Pain
Units: 1 Terms Offered: FaSpSm
Residents review the important role that Occlusion plays in General Dentistry and neuromuscular problems of the head and neck. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733a Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733b Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733c Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

GPR 733d Advanced and Maxillofacial Prosthodontics
Units: .5, Terms Offered: FaSpSm Residents train to treat patients requiring various types of removable and fixed prosthetics, including Maxillofacial prostheses. Instruction Mode: Lecture Grading Option: Credit/No Credit

Global Policy, Planning and Development

GPPD 500a Global Policy Challenges and Solutions
Units: 2 Consideration of current public policy issues through informed discourse and debate; analysis and policy arguments. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 500b Global Policy Challenges and Solutions
Units: 2 Consideration of current public policy issues through informed discourse and debate; analysis and policy arguments *Prerequisite:* GPPD 500a Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 510 Economic Foundations for Public Policy
Units: 3 Microeconomic foundations; analysis of public sector problems; markets; producer and consumer theory; private and social efficiency. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 520 Leadership in Public-Private Partnerships
Units: 2 Issues across public/private partnerships; leadership and followership in cross-sector settings; organizational and institutional designs; problem solving, negotiation and conflict resolution. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 530 Art and Craft of Public Policy Analysis
Units: 1 Foundations of public policy as a profession, and develops basic skills in policy analytic reasoning, policy design, normative analysis and ethics, and argumentation. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 540 Comparative Institutions and Policy Context
Units: 3 Theoretical and empirical foundations on how institutions affect policy performance; comparative institutional analysis and framework; approaches to organizing public action. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 550 Quantitative Methods for Public Policy
Units: 3 Economic theory and statistical inference methods to estimate the relationship between economic, social and political variables; foundations of data-based argumentation, specifically in regards to public policy in an international context. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 560 Methods for Policy Evaluation
Units: 3 Methods utilized in the analysis of public policy choices; ex ante and ex post analysis; cost-benefit analysis; decision and risk analysis; applied social science methods. Registration Restriction: Open only to Master of Global Public Policy majors. Instruction Mode: Lecture Grading Option: Letter

GPPD 570 Institutions and Policy Processes
Units: 3 Policy formulation and implementation in a comparative context and in the context of an East-West dichotomy. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 580 Policy Challenges in International Development
Units: 3 Overview of the overarching issues of problem definition of "development" and the policy implications of new ideas for development as it faces a new set of challenges in an increasingly globalized, complex, and interconnected world. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 600a Public Policy Capstone
Units: 1 Terms Offered: Sp Hands-on experience in policy analysis. Participants learn to work on a specific, client oriented public policy issue, assess policy alternatives, and write an official report. Registration Restriction: Open only to Master of Global Public Policy majors Instruction Mode: Lecture Grading Option: Letter

GPPD 600b Public Policy Capstone

Units: 2 Terms Offered: Sm Hands-on experience in policy analysis. Participants learn to work on a specific, client oriented public policy issue, assess policy alternatives, and write an official report. Registration Restriction: Open only to Master of Global Public Policy majors. Instruction Mode: Lecture Grading Option: Letter

Greek

GR 120 Greek I
Units: 4 Terms Offered: FaSp Essentials of classical Greek grammar and vocabulary. Instruction Mode: Lecture Grading Option: Letter

GR 150 Greek II
Units: 4 Terms Offered: FaSp Essentials of classical Greek grammar and vocabulary, continued. Basic reading skills. *Prerequisite:* GR 120. Instruction Mode: Lecture Grading Option: Letter

GR 220 Greek III
Units: 4 Terms Offered: FaSp Reading Greek literature. Introduction to reading and translation of classical Greek prose and poetry. Extensive grammar review. *Prerequisite:* GR 150. Instruction Mode: Lecture Grading Option: Letter

GR 345 Greek Tragic Poets
Units: 4 Selected plays of Aeschylus, Sophocles, and Euripides. Instruction Mode: Lecture Grading Option: Letter

GR 353 Plato
Units: 4 Readings from the Republic or other dialogues. Instruction Mode: Lecture Grading Option: Letter

GR 354 Greek Historians
Units: 4 Selections from such representative historians as Herodotus and Thucydides. Instruction Mode: Lecture Grading Option: Letter

GR 355 Aristophanes
Units: 4 A study of at least three comedies. Instruction Mode: Lecture Grading Option: Letter

GR 362 Homer and the Greek Epic
Units: 4 Selections from the Iliad and/or Odyssey. Problems of oral composition and transmission. Instruction Mode: Lecture Grading Option: Letter

GR 365 Greek Lyric Poetry
Units: 4 Readings from Archilochus, Sappho, Alcaeus, Pindar, and other lyric poets. *Prerequisite:* GR 220. Instruction Mode: Lecture Grading Option: Letter

GR 375 Plutarch
Units: 4 Readings of selected works by the Greek author Plutarch. *Prerequisite:* GR 220. Instruction Mode: Lecture Grading Option: Letter

GR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

GR 450 Readings in Greek Literature
Units: 4 Max Units: 12.0 Readings in various authors and genres of Greek literature. *Prerequisite:* 300-level Greek course. Instruction Mode: Lecture Grading Option: Letter

GR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

GR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Graduate Studies

GRSC 596 Internship for Curricular Practical Training
Units: 1 Max Units: 3.0 Terms Offered: FaSpSm Part-time or full-time, practical work experience in the student's field of study. The internship must be located at an off-campus facility. Students are individually supervised by faculty. May not be taken until the student has completed at least one semester of enrollment in the graduate program with a cumulative 3.0 GPA. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 610 The Innovation Process: Development, Diffusion and Leadership
Units: 4 Terms Offered: Fa Exploration of general principles and evolution of innovation, theoretical perspectives on the innovation process, organizing and leadership for innovation, and practical tools for innovation development, diffusion, market acceptance, and business planning. Instruction Mode: Lecture Grading Option: Letter

GRSC 615 Disciplinary Perspectives on Innovation
Units: 4 Terms Offered: Fa A deeper understanding of the innovation process via a survey of various disciplines' approaches to the subject. Instruction Mode: Lecture Grading Option: Letter

GRSC 791 Directed Research
Units: 2 Terms Offered: FaSpSm Directed Studies in Academic Innovation. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 800 Studies for the Qualifying Examination
Units: 0 Terms Offered: FaSpSm *Prerequisite:* permission of the Graduate School. Instruction Mode: Lecture Grading Option: Credit/No Credit

GRSC 810 Studies for Master's Examination
Units: 0 Terms Offered: FaSpSm *Prerequisite:* completion of all course work for the master's degree. Permission of the Graduate School. Instruction Mode: Lecture Grading Option: Non-Graded

GRSC 850a The Professoriate: Preparing for the Future
Units: 2 Terms Offered: FaSp Preparation for academic careers: various methodologies and approaches to teaching, learning, assessment, and research; statements of research and teaching philosophies; creation of online academic portfolio. Instruction Mode: Lecture Grading Option: Non-Graded

GRSC 850b The Professoriate: Preparing for the Future
Units: 2 Terms Offered: FaSp Preparation for academic careers: various methodologies and approaches to teaching, learning, assessment, and research; statements of research and teaching philosophies; creation of online academic portfolio. Instruction Mode: Lecture Grading Option: Credit/No Credit

Graduate School of Business Administration

GSBA 501 The Role of the Manager
Units: 3 Terms Offered: FaSp Fundamental roles of a manager and skill sets necessary to performing these roles. Open only to online MBA students. Registration Restriction: Open only to online MBA students. Instruction Mode: Lecture Grading Option: Letter

GSBA 502 Management Communication for Leaders
Units: 3 Terms Offered: Fa Integrates leadership theory and practice with communication skills to improve individual, team, and organizational performance. Emphasizes interpersonal, presentation, and writing skills; teamwork; and value-based leadership. Duplicates Credit in GSBA 523, GSBA 542 and the former GSBA 502ab. Open only to master's students. Instruction Mode: Lecture Grading Option: Letter

GSBA 504a Operations Management
Units: 1.5 Terms Offered: Fa Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of a firm. Duplicates Credit in GSBA 534 and former GSBA 504. Instruction Mode: Lecture Grading Option: Letter

GSBA 504b Operations Management
Units: 1.5 Terms Offered: Fa Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of a firm. Duplicates Credit in GSBA 534 and former GSBA 504. Instruction Mode: Lecture Grading Option: Letter

GSBA 505 Fundamentals of Business
Units: 10 Terms Offered: FaSpSm Fundamentals of financial accounting, microeconomics, statistics, analytics and communication. *Prerequisite:* GSBA 501. Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 506a, GSBA 506b, GSBA 510, GSBA 511, GSBA 516, GSBA 524, and GSBA 545. Instruction Mode: Lecture Grading Option: Letter

GSBA 506a Applied Managerial Statistics
Units: 1.5 Terms Offered: FaSpSm Principles of probability theory and classical statistics applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Duplicates Credit in GSBA 524, GSBA 516, GSBA 545. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 506b Applied Managerial Statistics
Units: 1.5 Terms Offered: FaSpSm Principles of probability theory and classical statistics

applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Duplicates Credit in GSBA 524, GSBA 516, GSBA 545. Instruction Mode: Lecture Grading Option: Letter

GSBA 509 Marketing Management
Units: 1.5 Terms Offered: Fa Development of analytical, strategic, and planning skills. Application within an integrated strategic framework to the development of a comprehensive marketing plan for a product, service, and/or organization. Registration Restriction: Open only to master students Duplicates Credit in GSBA 528 and the former GSBA 509a Instruction Mode: Lecture Grading Option: Letter

GSBA 510 Accounting Concepts and Financial Reporting
Units: 1.5, 2, 3 Terms Offered: Fa Information systems for public reporting and for management decision-making; theory of asset and income measurement; interpretation and uses of accounting data and financial statements; analysis of cases. Instruction Mode: Lecture Grading Option: Letter

GSBA 511 Microeconomics for Management
Units: 1.5, 3 Terms Offered: Fa Microeconomic theory with business applications; consumer demand, production theory, cost theory, and market theory; decision-making within the firm under different market and regulatory environments. Instruction Mode: Lecture Grading Option: Letter

GSBA 516 Essentials of Data Analysis and Modeling
Units: 1.5 Terms Offered: Fa Data collection, data analysis, and critical understanding of the role of data in making business decisions. Ways to quantify uncertainty and model decision problems. Duplicates Credit in GSBA 506a, GSBA 506b and GSBA 524. Instruction Mode: Lecture Grading Option: Letter

GSBA 518 Accounting Control Systems
Units: 3 Terms Offered: Sm Accumulation and interpretation of accounting data by management; profit planning; analysis of operations; systems for control of production and distribution costs; cost and profit centers for decentralized control. *Recommended Preparation:* GSBA 510. Instruction Mode: Lecture Grading Option: Letter

GSBA 519a Strategic Formulation for Competitive Advantage
Units: 1.5 Terms Offered: FaSm Analyses of environments and competition, the basis of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. Duplicates Credit in GSBA 529 and GSBA 540. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 519b Strategic Formulation for Competitive Advantage
Units: 1.5 Terms Offered: FaSm Analyses of environments and competition, the basis of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. Duplicates Credit in GSBA 529 and GSBA 540. Instruction Mode: Lecture Grading Option: Letter

GSBA 520 Business Fundamentals for Non-Business Professionals
Units: 3, 4 Terms Offered: FaSp An overview of concepts, tools and principles of business management to develop a general management point of view. Open only to non-business graduate students. Registration Restriction: Open only to non-business graduate students. Instruction Mode: Lecture Grading Option: Letter

GSBA 521a Corporate Finance
Units: 1.5 Terms Offered: Fa Basic principles of corporate finance; theory and application; management of short-term and long-term assets; financial instruments and markets; financial policy applications. *Recommended Preparation:* GSBA 510. Duplicates Credit in GSBA 548 and the former GSBA 521. Instruction Mode: Lecture Grading Option: Letter

GSBA 521b Corporate Finance
Units: 1.5 Terms Offered: Fa Basic principles of corporate finance; theory and application; management of short-term and long-term assets; financial instruments and markets; financial policy applications. *Recommended Preparation:* GSBA 510. Duplicates Credit in GSBA 548 and the former GSBA 521. Instruction Mode: Lecture Grading Option: Letter

GSBA 522a Managerial Perspectives
Units: 1.5 Terms Offered: FaSp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and work. Duplicates Credit in GSBA 532 and GSBA 543. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 522b Managerial Perspectives
Units: 1.5 Terms Offered: FaSp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and work. Duplicates Credit in GSBA 532 and GSBA 543. Instruction Mode: Lecture Grading Option: Letter

GSBA 523 Communication for Management
Units: 2, 3 Terms Offered: FaSp Internal and external communication, research methods; reports for decision-making; oral presentations and briefings; strategies to assure communication; field studies. Duplicates Credit in GSBA 502, GSBA 542 and the former GSBA 502ab. Instruction Mode: Lecture Grading Option: Letter

GSBA 523T Communication for Accounting and Tax Professionals
Units: 3 Communication strategies to ensure effective communication to internal and external business audiences at all levels; business writing and presentations; electronic communication; communicating ethics in business. Open only to accounting, business taxation, law/business, and taxation majors. Duplicates Credit in GSBA 502, the former GSBA 502b, GSBA 523 and GSBA 542. Instruction Mode: Lecture Grading Option: Letter

GSBA 524 Managerial Statistics
Units: 2, 3 Terms Offered: Fa Principles of probability theory and classical statistics applied to business decision problems; survey analysis, estimation and prediction methods, evaluation, and control techniques. Registration Restriction: Open only to master students. Duplicates Credit in GSBA 506a, GSBA 506b , GSBA 516, GSBA 545. Open only to Master students. Instruction Mode: Lecture Grading Option: Letter

GSBA 528 Marketing Management
Units: 3 Terms Offered: Sp Marketing is treated as a managerial decision-making process. Emphasis is given to understanding the concepts, tools, and techniques that comprise a comprehensive marketing strategy. Duplicates Credit in GSBA 509 and the former GSBA 509a Instruction Mode: Lecture Grading Option: Letter

GSBA 529 Strategic Formulation for Competitive Advantage
Units: 3 Terms Offered: FaSpSm Analyses of environments and competition, the bases of competitive strategy, strategy models, and the achievement of sustainable competitive advantage. *Recommended Preparation:* completion of first year courses. Duplicates Credit in GSBA 519a, GSBA 519b and GSBA 540. Instruction Mode: Lecture Grading Option: Letter

GSBA 532 Behavior and Organizations
Units: 3 Terms Offered: Sp Individual behavior (motives, cognitive process, learning), interpersonal processes (perception, communication), small group dynamics (power, productivity, and morale), and organization theory and development (culture, design). Duplicates Credit in GSBA 522a, GSBA 522b and GSBA 543. Instruction Mode: Lecture Grading Option: Letter

GSBA 533 Organizational Behavior and Leadership
Units: 1.5 Terms Offered: Fa Maximize organizational effectiveness through managing team and individual processes. Topics may include ethics, decision making, motivation, power and influence, organizational culture and change, negotiation. Duplicates Credit in GSBA 522a, GSBA 522b, GSBA 532, GSBA 543. Instruction Mode: Lecture Grading Option: Letter

GSBA 534 Operations Management
Units: 2, 3 Terms Offered: FaSpSm Formulation, modeling, analysis, and optimization of business decision problems; survey of concepts and techniques necessary to manage the operations function of the firm. *Recommended Preparation:* GSBA 506b or GSBA 524 or GSBA 516 and GSBA 545. Duplicates Credit in GSBA 504a, GSBA 504b. Instruction Mode: Lecture Grading Option: Letter

GSBA 535 Opportunity Recognition and Implementation
Units: 9.5 Terms Offered: FaSpSm Thematic

exploration of entrepreneurship and key aspects of new venture development. Contract law, analytics, negotiations, and communication. *Prerequisite:* GSBA 505 Registration Restriction: Open only to Marshall Online MBA students Duplicates Credit in BAEP 549, BAEP 550, BAEP 551, GSBA 550a, GSBA 550b, the former GSBA 586 Instruction Mode: Lecture Grading Option: Letter

GSBA 537 Managing Inside the Firm
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of managerial accounting, employment law, operations management and organizational behavior. Application of analytics and communication to optimize internal operations. *Prerequisite:* GSBA 505 Registration Restriction: Open only to online MBA students Duplicates Credit in GSBA 504, GSBA 504a, GSBA 504b, GSBA 518, GSBA 522a, GSBA 522b, GSBA 532, GSBA 533, GSBA 534, GSBA 536, GSBA 543 Instruction Mode: Lecture Grading Option: Letter

GSBA 538 Managing Outside the Firm
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of operations management, corporate finance, marketing, and microeconomics. Coordinating production processes, marketing strategies, and corporate financial plans in order to maximize growth. *Prerequisite:* GSBA 505 , GSBA 509 Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 506a, GSBA 506b, GSBA 509, GSBA 509a, GSBA 509b, GSBA 511, GSBA 521a, GSBA 521b, GSBA 528, GSBA 534, and GSBA 548. Instruction Mode: Lecture Grading Option: Letter

GSBA 539 Business Environment and Leadership
Units: 9.5 Terms Offered: FaSpSm Thematic exploration of finance, macroeconomics, international business, corporate strategy, and marketing strategy. *Prerequisite:* GSBA 505. Registration Restriction: Open only to online MBA students. Duplicates Credit in GSBA 519a, GSBA 519b, GSBA 521a, GSBA 521b, GSBA 529, GSBA 540, GSBA 548, GSBA 580a, and GSBA 580b. Instruction Mode: Lecture Grading Option: Letter

GSBA 540 Contemporary Issues in Competitive Strategy
Units: 1.5 Terms Offered: FaSp Introduces the role industry and competitive analysis serves in an organization. Topics covered include global competition, innovation, the use of standards, competence, and building organizational capabilities to sustain competitive advantage. Duplicates Credit in GSBA 519a, GSBA 519b and GSBA 529. Instruction Mode: Lecture Grading Option: Letter

GSBA 542 Communication for Management
Units: 1.5 Terms Offered: Fa Internal and external communication, research methods, reports for decision-making, oral presentations and briefings, strategies to assure communication; field studies. Duplicates Credit in GSBA 502, GSBA 523, GSBA 523T and the former GSBA 502ab. Instruction Mode: Lecture Grading Option: Letter

GSBA 543 Managerial Perspectives
Units: 3 Terms Offered: Sp Managerial careers, development of critical executive and managerial abilities, and the dynamics of organizational environment and systems as they impact managerial progression and growth. Duplicates Credit in GSBA 522a, GSBA 522b , GSBA 532, GSBA 533, and GSBA 543. Instruction Mode: Lecture Grading Option: Letter

GSBA 544 The Firm in the National Economy
Units: 1.5 Terms Offered: Sp The economic environment of business and the forces influencing the firm. Duplicates Credit in former GSBA 526 and GSBA 549. Instruction Mode: Lecture Grading Option: Letter

GSBA 545 Data Driven Decision Making
Units: 1.5 Terms Offered: Fa Data analysis technologies for business decision making; principles and techniques of statistical inference for business problem solving; foundations of data-driven regression and time series analytics. Duplicates Credit in GSBA 506ab and GSBA 524. Instruction Mode: Lecture Grading Option: Letter

GSBA 548 Corporate Finance
Units: 2, 3 Terms Offered: FaSpSm Modern theory of corporate investment and financing decisions. Online registration open only to Business and Accounting majors. Registration Restriction: Online registration open only to business and accounting students. Duplicates Credit in GSBA 521a and GSBA 521b. Instruction Mode: Lecture Grading Option: Letter

GSBA 549 The Firm in the National and International Economy
Units: 3 Terms Offered: Sp The economic environment of business and international forces influencing the firm. Duplicates Credit in former GSBA 526 and GSBA 544. Instruction Mode: Lecture Grading Option: Letter

GSBA 550a Entrepreneurship
Units: .5 Terms Offered: Fa Fundamentals of entrepreneurship. Understanding the new venture creation process. Duplicates Credit in BAEP 549 and BAEP 550 and BAEP 551 and the former GSBA 586. Instruction Mode: Lecture Grading Option: Letter

GSBA 550b Entrepreneurship
Units: 1 Terms Offered: Sp Fundamentals of entrepreneurship. Understanding the new venture creation process. *Prerequisite:* GSBA 550a. Duplicates Credit in BAEP 549 and BAEP 550 and BAEP 551 and the former GSBA 586. Instruction Mode: Lecture Grading Option: Letter

GSBA 552 Problem Solving and Decision Making: An Integrative Approach
Units: 3 Terms Offered: Fa An integrative, multi-disciplined and immersion-based approach to addressing unstructured business situations and imperfect data using a variety of analytical tools and critical thought processes. Instruction Mode: Lecture Grading Option: Letter

GSBA 554 Digital Strategies for Sustainability in Global Markets
Units: 3 Terms Offered: Sp Designing and executing business strategies for sustainability (environmental, economic, social/cultural) enabled by digital technologies. Emerging market contexts; team consulting project; international travel. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

GSBA 555 Management and Organization of the Creative Industries
Units: 3 Terms Offered: Sp How creative industries (motion pictures, television, publishing, radio, music, arts, games) operate and are organized. Critical discussion of pressing issues that these industries face. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

GSBA 560 The Perspective of Top Management
Units: 2 Terms Offered: Fa Using cases, students are introduced to top management issues of executive leadership, environmental and strategic analysis, use of financial statements, organizational assessment and design, technology management and decision support systems. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 561 Evaluating Market Performance
Units: 9 Terms Offered: Fa Evaluation of the firm by the market forces that affect its success; financial accounting and reporting; competitive market analysis; external communication; microeconomics; labor, customer and financial markets, statistical and decision analysis, financial and organization measures of effectiveness. Instruction Mode: Lecture Grading Option: Letter

GSBA 562 Management of Operations
Units: 11 Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Instruction Mode: Lecture Grading Option: Letter

GSBA 562a Management of Operations
Units: 1 Terms Offered: Fa Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Duplicates Credit in GSBA 562. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 562b Management of Operations
Units: 10 Terms Offered: Sp Analysis of operations management and business functions; managerial accounting; finance; marketing; production; data processing and information systems; human resources management. Duplicates Credit in GSBA 562. Instruction Mode: Lecture Grading Option: Letter

GSBA 563 Technology and Information

Systems Management
Units: 6 Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Instruction Mode: Lecture Grading Option: Letter

GSBA 563a Technology and Information Systems Management
Units: 2 Terms Offered: Sp Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Duplicates Credit in GSBA 563. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 563b Technology and Information Systems Management
Units: 4 Terms Offered: Sp Impact of technology on organizations; new product development; investment decisions and capital budgeting; decision support systems, expert systems; information technology; organizational design; management of information systems. Duplicates Credit in GSBA 563. Instruction Mode: Lecture Grading Option: Letter

GSBA 564 Functional Strategies and Implementation
Units: 2 Terms Offered: Sm Developing functional strategies and interdependence to achieve organizational goals; negotiations, conflict resolution; communication strategies; organizational effectiveness; implementation and change strategies; self-assessment and individual presentations. Instruction Mode: Lecture Grading Option: Letter

GSBA 570 The Role of the Senior Executive
Units: 2 Terms Offered: Fa Introduction to strategic management; executive leadership; environmental analysis; international context; financial growth strategies; social, legal and macroeconomic issues; role of CEO with boards, media and other publics; business ethics, strategic planning project. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 571 Environmental Analysis: Establishing Competitive Advantage
Units: 9 Terms Offered: Fa Development of strategic planning processes; analysis of economic, social, political environment; forecasting; futures research; macroeconomics; international economics; technological developments; multinational management simulation; field projects. Instruction Mode: Lecture Grading Option: Letter

GSBA 572 Strategic Planning for Growth
Units: 11 Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Instruction Mode: Lecture Grading Option: Letter

GSBA 572a Strategic Planning for Growth
Units: 3 Terms Offered: Fa Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Duplicates Credit in GSBA 572. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 572b Strategic Planning for Growth
Units: 8 Terms Offered: Sp Formulation and implementation of strategies in different organizational and environmental contexts; financial growth strategies; comparative management; impact of taxation; technology strategies; product development and new market strategies. Duplicates Credit in GSBA 572. Instruction Mode: Lecture Grading Option: Letter

GSBA 573 Managing Strategic Change and Implementation
Units: 6 Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Instruction Mode: Lecture Grading Option: Letter

GSBA 573a Managing Strategic Change and Implementation
Units: 5 Terms Offered: Sp Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Duplicates Credit in GSBA 573. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 573b Managing Strategic Change and Implementation
Units: 1 Terms Offered: Sm Management of the strategic change process for the total organization including implementing growth strategies, use of consultants, corporate governance, implementation in a multinational environment, leadership and power, use of technology, innovation, corporate cultures, executive succession, corporate relations. Duplicates Credit in GSBA 573. Instruction Mode: Lecture Grading Option: Letter

GSBA 574 The Executive of the Future
Units: 2 Terms Offered: Sm Forecasting future environments; the role of the executive in the future, changing organizations; executive development; personal development goal setting. Instruction Mode: Lecture Grading Option: Letter

GSBA 580a The Global Context of Business
Units: 1.5 Terms Offered: Sp Political, economic, cultural forces in a global context. Effects on markets, policies, and strategies. Global Economics. Registration Restriction: Open only to full time MBA students. Duplicates Credit in GSBA 582a and the former GSBA 582 Instruction Mode: Lecture Grading Option: Letter

GSBA 580b The Global Context of Business
Units: 1.5 Terms Offered: Sp Political, economic, cultural forces in a global context. Effects on markets, policies, and strategies. Global Strategy. Registration Restriction: Open only to full time MBA students. Duplicates Credit in GSBA 582a and the former GSBA 582 Instruction Mode: Lecture Grading Option: Letter

GSBA 580c The Global Context of Business
Units: 1.5 Terms Offered: Sp Political, economic, cultural forces in a global context. Effects on markets, policies, and strategies. PRIME. Requires international travel. Registration Restriction: Open only to full time MBA students. Duplicates Credit in GSBA 582b and the former GSBA 582 Instruction Mode: Lecture Grading Option: Letter

GSBA 581 Information Management and Analytics
Units: 3 Terms Offered: Sm Foundational knowledge for using innovation, technology, and analytics to improve organizational performance, enhance competitiveness, and create leadership opportunities integrated with hands-on skills for data analysis. Duplicates Credit in former GSBA 581a and GSBA 581b. Instruction Mode: Lecture Grading Option: Letter

GSBA 582a The Global Context and International Business
Units: 1.5 Terms Offered: Sp Explores the global context of business, including the economic, financial, political, social/cultural, and institutional environments. Considers the implications of the global context for international business. *Recommended Preparation:* MBA.PM core courses. *Corequisite:* GSBA 582b Registration Restriction: Open only to Marshall MBA students. Duplicates Credit in GSBA 580a and GSBA 580b and GSBA 582 Instruction Mode: Lecture Grading Option: Letter

GSBA 582b The Global Context and International Business
Units: 1.5 Terms Offered: Sp Explores the global context of business, including the economic, financial, political, social/cultural, and institutional environments. Considers the implications of the global context for international business. b: International Field Experience. *Prerequisite:* GSBA 582a *Recommended Preparation:* MBA.PM core courses Registration Restriction: Open only to Marshall MBA students Duplicates Credit in GSBA 582 and GSBA 580c Instruction Mode: Lecture Grading Option: Letter

GSBA 584a International Business Consulting Project
Units: 3 Terms Offered: SpSm IBEAR team consulting projects addressing international business problems. Projects culminate in written and oral presentations to corporate

clients. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSBA 584b International Business Consulting Project
Units: 2 Terms Offered: SpSm Continuation of a. Instruction Mode: Lecture Grading Option: Letter

GSBA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 592 Field Research in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the business practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 593 Independent Research in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4, Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Open only to master's students. Registration Restriction: Open only to masters students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 595 Internship in Business
Units: 0.5, 1, 1.5, 2 Max Units: 9.0 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) *Recommended Preparation:* Completion of required MBA, MAcc., or MBT course work. Registration Restriction: Open only to master students in Accounting and Business majors Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 596 Research Practicum in Business
Units: 0.5-2, Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member on an ongoing research project. *Recommended Preparation:* completion of courses required for the MBA, MAcc., MBT, or PhD Registration Restriction: Open only to masters and doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 597 Consulting Project in Business
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to Master and Doctoral Students. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business administration. Graded CR/NC. Registration Restriction: Online registration open to only graduate accounting and business majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: Irregular Selected topics reflecting current trends and recent developments in business administration. Emphasis on cross-disciplinary inquiry. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

GSBA 602 Selected Issues in Economic Theory I
Units: 3 Terms Offered: Fa Methodology and research perspectives of economics; contribution of the economics paradigm to accounting, management, finance, marketing, and decision sciences. *Recommended Preparation:* admission to doctoral program in business administration or department approval. Instruction Mode: Lecture Grading Option: Letter

GSBA 604 Regression and Generalized Linear Models for Business Applications
Units: 3 Terms Offered: Sp Theory and application of linear regression models; role of substantive theory in statistical model building; model specification, estimation, diagnostic checking; the general linear hypothesis. Instruction Mode: Lecture Grading Option: Letter

GSBA 610 Seminar in Business Research
Units: 3 Max Units: 9.0 Terms Offered: Irregular Critical analysis of research studies in the functional areas of business; practice in formulating and conducting research; presentation of original research of publishable quality (may be repeated for credit up to 9 units). Instruction Mode: Lecture Grading Option: Letter

GSBA 611 Seminar in Research Methodology
Units: 3 Terms Offered: FaSpSm Conceptual foundations of research methodology; survey and research design; measurement theory; advanced techniques of statistical investigation; data analysis using computer packages; preparation of research reports. Instruction Mode: Lecture Grading Option: Letter

GSBA 612 Selected Issues in Economic Theory II
Units: 3 Terms Offered: Sp Further investigation of selected topics in methodology and research perspectives of economics. Topics vary in response to new developments and current trends in the field. *Prerequisite:* GSBA 602. Instruction Mode: Lecture Grading Option: Letter

GSBA 625 Designing and Running Experiments
Units: 3 Terms Offered: Fa Introduction to design and implementation of experiments. Single and multiple factors, fully crossed and fractional factorial designs, repeated measures, measurement, manipulations, subject choice, demand effects. Open only to PhD students. Instruction Mode: Lecture Grading Option: Letter

GSBA 690 Tutorial on the Research Process
Units: 3 Max Units: 9.0 Terms Offered: Sp Gain an understanding of the research process, identify/generate a research question, collect and organize data, predict results, and critically write and present the results. *Recommended Preparation:* GSBA first year PhD course work. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

GSBA 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

GSBA 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Geriatric and Special Patient Dentistry

GSPD 504 Dental Treatment of the Geriatric and Special Patient
Units: 2 Social, psychological, economic and health factors which influence dental care for the geriatric and special patient populations; specific considerations and modifications of conventional dental treatment. Instruction Mode: Lecture Grading Option: Letter

GSPD 562a Clinic: Geriatric Dentistry
Units: 0 Clinical experience in dental treatment of geriatric patients at an extramural site. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 562b Clinic: Geriatric Dentistry
Units: 0 Clinical experience in dental treatment of geriatric patients at an extramural site. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 562c Clinic: Geriatric Dentistry
Units: 1 Clinical experience in dental treatment of geriatric patients at an extramural site. Instruction Mode: Lecture Grading Option: Letter

GSPD 563a Clinic: Special Patient Care

Units: 0 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 563b Clinic: Special Patient Care
Units: 0 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

GSPD 563c Clinic: Special Patient Care
Units: 1 Clinical experience in treatment of the physically, medically, or mentally disabled patient. Instruction Mode: Lecture Grading Option: Letter

GSPD 610 Clinical Gerontology
Units: 1 Clinical application of principles of geriatric dentistry. Evaluation, treatment planning, and clinical care of elderly patients at residential and skilled-nursing care facilities. Instruction Mode: Lecture Grading Option: Letter

GSPD 612 Special Patient Care Clinic
Units: 1 Clinical experience in the evaluation, diagnosis, treatment planning and management of oral problems in special needs patients. Instruction Mode: Lecture Grading Option: Letter

Human Behavior

HBHV 310 Interactional Skills in Dental Hygiene
Units: 1 Training in the application of behavioral and communication skills. Instruction Mode: Lecture Grading Option: Letter

HBHV 501 Behavioral Skills in Dentistry
Units: 1 Introduction to key personal, interpersonal, and professional factors that shape the doctor-patient relationship; ways interactional skills influence the effectiveness, durability, and satisfaction of the doctor-patient relationship. Instruction Mode: Lecture Grading Option: Letter

HBHV 502 Interactional Skills
Units: 1 Introduction to purpose, objectives, and principles of clinical interviewing. Instruction Mode: Lecture Grading Option: Letter

HBHV 504 Patient Education and Management
Units: 1 Management of difficult patients; psychology and behavioral treatment of pain; patient education of treatment planning; smoking cessation program. Instruction Mode: Lecture Grading Option: Letter

HBHV 550 Communications in Clinical Dentistry
Units: 1 Verbal and nonverbal communication in clinical dentistry; clinical experience in use of manual, verbal, and non-verbal communication skills during a traumatic injection procedure. Instruction Mode: Lecture Grading Option: Letter

HBHV 561a Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561b Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561c Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561d Clinic: Behavioral Dentistry
Units: 0 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

HBHV 561e Clinic: Behavioral Dentistry
Units: 1 Clinical application of behavioral dentistry principles. Data collection, case presentation, fear reduction (iatrosedation), and tobacco cessation. Instruction Mode: Lecture Grading Option: Letter

HBHV 601 Understanding Stress in Dental Practice
Units: 2 Investigation of the approaches to understanding and managing stress, especially the stress issues in dentistry. Instruction Mode: Lecture Grading Option: Letter

Human Biology

HBIO 200Lg The Human Animal
Units: 4 Foundations of the human species. Examination of scientific evidence from Darwinian theory, primate behavior, fossils, and the behavior of modern people. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in former ANTH 200. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ANTH 200

HBIO 202Lg Nutrition for Life
Units: 4 Terms Offered: FaSpSm To develop an understanding of Nutrition, especially as it pertains to optimal health and prevention of diseases. A study of macro and micro nutrients. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in EXSC 202L Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 203L Individualized Exercise Prescription
Units: 2 Terms Offered: FaSp Principles and theories related to exercise prescription; programs of weight-training, circuit-training, aerobics, flexibility, high and low-intensity training guidelines; safeguards and effectiveness. Duplicates Credit in former EXSC 203L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 205Lgx The Science of Sport
Units: 4 Terms Offered: FaSpSm The physiological and nutritional basis of human performance. Factors that facilitate and limit athletic achievement. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in former EXSC 205Lxg. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 250g The Pharmacology of Performance Enhancing Drugs
Units: 4 Terms Offered: Sp Evaluation of drugs, nutritional supplements, and ergogenic aids that are purported to enhance human athletic performance to promote weight and fat loss. Satisfies New General Education in Category D: Life Sciences Duplicates Credit in former EXSC 250. Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 300 Evolution, Ecology, and Culture
Units: 4 Terms Offered: FaSpSm The roles of biology, culture, and the environment in shaping human society, integrating evolutionary biology and cultural theory. Duplicates Credit in former ANTH 300. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 300

HBIO 301L Human Anatomy
Units: 4 Terms Offered: FaSp Major organ systems; functional implications of their relationships; gross and microscopic examination with an emphasis on practical skills in recognizing, dissecting, and differentiating anatomical structures. Duplicates Credit in former EXSC 301L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 302L Nutrition and Metabolism
Units: 4 Terms Offered: Fa Gastrointestinal physiology and energy metabolism as it relates to macronutrient intake. Theories and principles of nutrition and their impact on metabolic regulation. *Prerequisite:* BISC 220 or BISC 221. Duplicates Credit in former EXSC 200. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 306 Primate Social Behavior and Ecology
Units: 4 Terms Offered: FaSpSm Behavior and ecology of living nonhuman primates, with an emphasis on field studies of apes and monkeys. Topics include aggression, communication, reproduction, and cognition. *Recommended Preparation:* HBIO 200. Duplicates Credit in former ANTH 306. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 306

HBIO 308 Origins and Evolution of Human Behavior
Units: 4 Examination of the evidence for and against evolutionary bases of a range of human behaviors. Topics include sex differences, human reproductive strategies, race, IQ, human ecology. Duplicates Credit in former ANTH 308. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 308

HBIO 310 Sociopsychological Aspects of Sport and Physical Activity
Units: 4 Terms Offered: FaSp Examination of the individual in a social environment

related to sport and physical activity; personality, motivation, attitude, and group behavior viewed in physical activity contexts. Duplicates Credit in former EXSC 310. Instruction Mode: Lecture Grading Option: Letter

HBIO 320 Muscle Physiology
Units: 4 Terms Offered: Fa Analysis of the skeletal muscular system (anatomy, physiology, biochemistry, and development) and its functional properties under both normal and pathological conditions. *Prerequisite:* BISC 220 Duplicates Credit in former EXSC 300 Instruction Mode: Lecture Grading Option: Letter

HBIO 350 Nutrition and Homeostasis
Units: 4 Terms Offered: Sp Theories and principles of regulation of vitamin/mineral metabolism as it relates to homeostasis of organ systems. *Prerequisite:* HBIO 302 or CHEM 350 or BISC 330 or BISC 312 Duplicates Credit in former EXSC 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 360 Nutrition and Disease
Units: 4 Terms Offered: Fa Principles of diet therapy for the prevention and treatment of human disease. *Prerequisite:* BISC 220L or BISC 221L Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 370 Genetics and Disease
Units: 4 Terms Offered: FaSpSm An overview of the genetic underpinning of human health and disease. Inheritance of mendelian diseases, common diseases, developmental diseases and cancer; prenatal testing, genetic counseling and genetic therapies. *Prerequisite:* BISC 220 Instruction Mode: Lecture, Discussion Grading Option: Letter

HBIO 400L Motor Control and Learning
Units: 4 Terms Offered: Fa Theories of control and learning applied to motor performance; variables affecting performance in exercise, games, sports, and dance. *Prerequisite:* HBIO 320. Duplicates Credit in former EXSC 400L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 401 Physiology and Biomechanics of Movement
Units: 4 Terms Offered: Sp Terminology, structure and function of muscle, bone and endocrine systems; Effects of exercise and training on those systems. *Prerequisite:* BISC 220. Duplicates Credit in former EXSC 401. Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 403L Forensic Science of the Bones
Units: 4 Terms Offered: FaSpSm Comprehensive study of forensic anthropology; emphasis on identification of human remains and creation of biological profiles including age, sex, time and manner of death, etc. *Prerequisite:* HBIO 301L *Recommended Preparation:* HBIO 200Lg Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 405 Evolutionary Medicine
Units: 4 Terms Offered: Fa Evolutionary, cultural, and environmental factors in the emergence and existence of diseases; a Darwinian examination of illness in the human species. *Prerequisite:* BISC 120Lg or BISC 121Lg *Recommended Preparation:* HBIO 200Lg Duplicates Credit in former ANTH 405 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 405

HBIO 406 Theory and Method in Human Evolutionary Biology
Units: 4 Terms Offered: FaSpSm Historical and theoretical approaches to major issues in the field of human evolutionary biology. Capstone course in which students will undertake an original independent research project. *Prerequisite:* HBIO 200. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH 406

HBIO 407L Endocrinology and Metabolism
Units: 4 Terms Offered: Sp Regulation of metabolic pathways and endocrinology in health and metabolic diseases. *Prerequisite:* HBIO 302. Duplicates Credit in former EXSC 406L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 408L Biomechanics
Units: 4 Terms Offered: Fa Kinematic and kinetic analysis of human motion. Emphasis on performance enhancement and injury prevention. *Prerequisite:* MATH 108 and PHYS 135a Duplicates Credit in former EXSC 408 Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 409 Metabolic Diseases
Units: 4 Terms Offered: FaSp Examination of the etiology, prevention, and treatment of metabolic disorders such as diabetes mellitus and obesity that are major threats to public health. *Prerequisite:* BISC 220. Duplicates Credit in former EXSC 409. Instruction Mode: Lecture Grading Option: Letter

HBIO 420L Applied Human Physiology
Units: 4 Terms Offered: Sp The physiology of the respiratory, cardiovascular, renal, musculoskeletal, digestive, endocrine, and nervous systems in humans, with application to human health and pathology. *Prerequisite:* BISC 220. Duplicates Credit in former EXSC 405. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 435 Neurobiology of Feeding Behavior and Obesity
Units: 4 Terms Offered: Fa Neurobiological systems that control feeding behavior and energy balance with an emphasis on the determinants of obesity. *Prerequisite:* BISC 220 and HBIO 302. Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 439L Human Performance and Bioenergetics
Units: 2 or 4 Terms Offered: FaSp Application of physiology, biomechanics and perceptual-motor principles to the study of skill acquisition and human performance. *Prerequisite:* HBIO 408. Duplicates Credit in former EXSC 439L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 441L Prevention of Athletic Injuries
Units: 4 Terms Offered: Fa Application of scientific principles to conditioning, protecting, and rehabilitating the athlete. *Prerequisite:* HBIO 301. Duplicates Credit in former EXSC 441L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 442L Evaluation and Rehabilitation of Athletic Injuries
Units: 4 Terms Offered: Sp Application of scientific principles to evaluating and rehabilitating athletic injuries. *Prerequisite:* HBIO 301. Duplicates Credit in former EXSC 442L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HBIO 491L Laboratory Experience in Kinesiology
Units: 2, 4 Terms Offered: FaSpSm Practical laboratory experience in basic and applied exercise physiology, biochemistry, and/or biomechanics. Emphasizing development of laboratory techniques. *Prerequisite:* HBIO 203, HBIO 301, HBIO 302, HBIO 320. Duplicates Credit in former EXSC 491. Instruction Mode: Lecture, Lab Grading Option: Letter

HBIO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Human and Evolutionary Biology. Instruction Mode: Lecture Grading Option: Letter

Health Care Decision Analysis

HCDA 501 Fundamentals of Healthcare Insurance Design
Units: 3 Terms Offered: Sm Introduction to insurance payer types, functions, actuarial pricing methods, network design and business operations impacting the provision of health benefits and reimbursement for medical products and services. Instruction Mode: Lecture Grading Option: Letter

HCDA 502 Comparative International Healthcare Systems
Units: 3 Terms Offered: Sp Health coverage and funding across seven industrial countries, with examination of variances and similarities in stated policy and outcomes by region and population mix. Instruction Mode: Lecture Grading Option: Letter

HCDA 503 Competitive Health Care Intelligence and Pricing
Units: 3 Analysis and techniques to evaluate marketplace opportunities and value and pricing determinations for medical products; considers product launch and positioning strategies, intelligence gathering, and decision-making. *Recommended Preparation:* HCDA 501 and undergraduate degree in pharmacy, medicine, other health care, economics and administrative sciences or related disciplines; enrollment in a related MS or PhD program. Instruction Mode: Lecture Grading Option: Letter

HCDA 506 Foundations of Insurance and Global Access
Units: 3 Terms Offered: Fa Basic overview focused on the coverage, payment, reimbursement and access to healthcare and pharmaceuticals across a global landscape including the US, EU, and the big five countries of Asia-Pacific. Instruction Mode: Lecture Grading Option: Letter

HCDA 507 Foundations of Product Development and Commercialization
Units: 3 Terms Offered: Sp Basic introduction focused on the pathways and principles for managing new health technology discovery, funding, development, Food and Drug Administration (FDA) approval, and commerical market launch. Instruction Mode: Lecture Grading Option: Letter

HCDA 510 Business Implications of Health Care Reform
Units: 3 Coverage, access and reimbursement changes from health care reform; individual and mandated benefits, medical loss ratio, health care exchanges and impact of comparative effectiveness review. Instruction Mode: Lecture Grading Option: Letter

HCDA 515 Medical Decision Analysis and Modeling
Units: 3 Quantitative methods of evaluating business, policy, pharmaceuticals, medical care resource allocations. Budget Impact Models, Decision Trees, Sensitivity Analysis tradeoffs between treatment strategies, interventions, risks, outcomes. Instruction Mode: Lecture Grading Option: Letter

HCDA 520 Health Economic and Outcomes Methodology
Units: 3 Comprehensive review of core biostatistics principles and applications through practical problem solving approach and case studies. Statistical methods, data validation and outcomes research, clinical trials. Instruction Mode: Lecture Grading Option: Letter

HCDA 525 Healthcare Literature Analysis and Applications
Units: 3 Review and critique of health economics, P&T and outcomes literature. Core biostatical measures used to deconstruct and evaluate published research through case studies. *Recommended Preparation:* HCDA 520. Instruction Mode: Lecture Grading Option: Letter

HCDA 530 Total Product Development: Benchtop to Launch
Units: 3 Systematic review from discovery to market assessment, bio-targeting through clinical trail design. Profile past and current launch strategies, pharmacovigilance, regulatory and filing requirements. Instruction Mode: Lecture Grading Option: Letter

HCDA 540 Executive Leadership and Healthcare Marketing
Units: 3 Critical principles of leadership, communication, best practice marketing presentations, project management techniques, business innovations and strategy. Use of case studies, team projects, real world examples.

HCDA 550 Healthcare Innovation: Creativity to Value
Units: 3 Systematically review creativity and innovation techniques across healthcare industry, examine breakthrough genomic and biopharmaceutical processes and thinking, evaluate novel therapeutic and economic measures transforming outcomes. Instruction Mode: Lecture Grading Option: Letter

HCDA 553 Advanced Pricing Strategies
Units: 3 Positioning products in global markets; market share targets, payer value, life cycle and launch techniques, tools for formulary positioning and reimbursement. Instruction Mode: Lecture Grading Option: Letter

HCDA 560 Managing Effective Partnerships and Mergers
Units: 3 M&A and partnering in the health care industry; law, due diligence, contracts, research alliances, structured agreements, global partners, and tactical business strategies. Instruction Mode: Lecture Grading Option: Letter

HCDA 570 Asia Pacific: Access, Delivery and Reimbursement
Units: 3 In-depth review China, India, Japan, Korea, Taiwan. Analyzing regional pharmaceutical industry, research, manufacturing, partnerships, licensing, trials. Compare insurance, pricing, access, reimbursement for drugs, healthcare services. Instruction Mode: Lecture Grading Option: Letter

HCDA 580 Seminars in Healthcare Decision Analysis
Units: 3 Weekly seminar and literature series, review and discuss policy, biopharmaceuticals, insurance, global healthcare access issues. Student lead discussions, expert guest speakers, group projects, critical thinking. Instruction Mode: Lecture Grading Option: Letter

HCDA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HCDA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Special topics in Healthcare Decision Analysis. Instruction Mode: Lecture Grading Option: Letter

Hebrew

HEBR 120 Hebrew I
Units: 4 Terms Offered: FaSpSm Focuses on the acquisition of proficiency and communicative skills in speaking, reading, writing, and comprehension as well as cultural literacy. Instruction Mode: Lecture Grading Option: Letter

HEBR 150 Hebrew II
Units: 4 Terms Offered: FaSpSm A continuation of Hebrew I. Offers a higher level of skill development in reading, writing and conversation. *Prerequisite:* HEBR 120 Instruction Mode: Lecture Grading Option: Letter

HEBR 220 Hebrew III
Units: 4 Terms Offered: Fa Continuation of Hebrew II; stress on grammar, composition, and conversation. *Prerequisite:* HEBR 315. Instruction Mode: Lecture Grading Option: Letter

HEBR 315 Modern Hebrew Language (Hebrew IV)
Units: 4 Terms Offered: Sp Examines Hebrew in depth and introduces students to Modern Hebrew literature through major poems, novels and films from the 20th and 21st centuries. *Prerequisite:* HEBR 220 Instruction Mode: Lecture Grading Option: Letter

History

HIST 100gm The American Experience
Units: 4 Terms Offered: FaSpSm Patterns of American development from Colonial times to the present. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former HIST 200gm. Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 101gp State and Society in the Ancient World
Units: 4 Terms Offered: FaSpSm Achievements of the near East, Greece, and Rome with emphasis on the development of ideas, arts, and institutions which have influenced modern man. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CLAS 101

HIST 102gm Medieval People: Early Europe and Its Neighbors, 400–1500
Units: 4 Early Europe, c. 400– 1500, with a focus on Europe's diverse communities, cultural interactions among them, dealings between conquerors and conquered, and European contacts with non-Europeans. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 103g The Emergence of Modern Europe
Units: 4 Terms Offered: Fa Political, intellectual, and cultural developments in Europe, 1300–1815. Renaissance and Reformation; absolute monarchy, scientific changes, and Enlightenment; French Revolution and Napoleon. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 104gp Modern Europe
Units: 4 Terms Offered: Sp The Enlightenment, French Revolution, industrialization, Darwinism, socialism, nationalism, technological revolutions, mass culture, imperialism, race, fascism, communism, world wars, genocide, migration, the Cold War, terrorism. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture,

Discussion Grading Option: Letter

HIST 105g The Korean Past
Units: 4 A topical and chronological study of the major political, social, and intellectual forces that have shaped the history of Korea. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 106g Chinese Lives: An Introduction to Chinese History
Units: 4 Terms Offered: FaSp Study of the lives of selected individuals who have helped to shape Chinese politics and culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 107gp Introduction to the History of Japan
Units: 4 Terms Offered: FaSp Japan from the earliest times to the present; social, cultural, and political dimensions. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 180gw The Middle East
Units: 4 Terms Offered: FaSpSm Introduction to the history and the study of the Middle East from ancient to modern times. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as MDES 180

HIST 185g Introduction to Armenian Studies and Armenian History
Units: 4 Terms Offered: FaSp Introduction to Armenian history and its connections with the region and the world. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

HIST 195 Selected Themes and Topics in History
Units: 4 Terms Offered: Irregular Study of special historical themes and topics through readings, lectures, discussions, and supervised writings. Instruction Mode: Lecture Grading Option: Letter

HIST 201 Approaches to History
Units: 4 Terms Offered: FaSp Methods and theories of historical interpretation of evidence; uses of archives; modes of presenting the past to the public. Required of all history majors. Duplicates Credit in former HIST 300. Instruction Mode: Lecture Grading Option: Letter

HIST 210gw How to Be An American: Global Histories of U.S. Citizenship
Units: 4 Terms Offered: FaSp History of United States citizenship from its origins to the present day, with particular attention to relationship between law and culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 215g Business and Labor in America
Units: 4 Terms Offered: Fa Expansion of business enterprise from colonial merchants to modern corporations; evolution of the labor force from artisans to skilled and unskilled industrial workers. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 220 Murder on Trial in America
Units: 4 Examination of high-profile murders and murder trials in order to explore major social, political, and cultural issues from the colonial period to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 225g Film, Power, and American History
Units: 4 Terms Offered: Sp U.S. motion pictures as both a response to and comment upon major events, problems, and themes in 20th century America. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 235g War and the American Experience
Units: 4 Terms Offered: Fa Comparative historical analysis of the American experience of war: war decision-making processes; evolution of strategy and tactics; the political, economic, and social effects of war. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 240gp The History of California
Units: 4 Terms Offered: Fa A thematic approach to California history from precontact to present; focus on peoples, environment, economic, social, and cultural development, politics, and rise to global influence. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 245gm Gender and Sexualities in American History
Units: 4 An investigation of the nature of femininities and masculinities over the course of U.S. history; including topics like women's rights, birth control, abortion, and gay/lesbian liberation. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 245

HIST 255g The Evolution Debates
Units: 4 Terms Offered: Irregular Historical perspective for current debates on evolution, investigating the contexts for the emergence and development of evolutionary theory and its subsequent impact on society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 260g Dramatizations of Korean History
Units: 4 Terms Offered: FaSp Analysis and interpretation of popular depictions of Korean history. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

HIST 265gw Racism, Sexism, and the Law
Units: 4 Terms Offered: FaSp Study of laws concerning marriage, inheritance, slavery, immigration and the allocation of public space and how they have organized historical constructions of race and sex. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS 265

HIST 266gp Business and East Asian Culture, 1800-Present
Units: 4 Terms Offered: Sp Business history of East Asia (China, Japan, Korea, Taiwan, and Hong Kong) as related to culture, politics, and society. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 268g Kings, Courts, and Clerics: Foundations of East Asian Political Culture
Units: 4 Terms Offered: FaSp Rulership and society in classical China and Japan; influence of these norms in the region today. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 270 Queens, Witches, Courtesans: Women and Power in Renaissance Europe
Units: 4 Exploration of the lives of women who defied the ideals of "wife, mother, widow" and examination of how gender and power were negotiated. Instruction Mode: Lecture Grading Option: Letter

HIST 271g Telling Native American Stories
Units: 4 Terms Offered: Sp An exploration of the history of Native America peoples and the ways they understood and explained the changes in their lives from 1492 to 1840. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 273g Colonial Latin America
Units: 4 Terms Offered: Sp Introduction to Colonial Latin America; native American peoples, themes, issues, and evolution of

Spanish and Portuguese colonial rule to ca. 1800. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 275g The Worlds of the Silk Road
Units: 4 Terms Offered: Sp Exploration of the two millennia of economic exchanges and cross cultural interaction between Asia and Europe. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 278gp Ottomans and Empire: Anatolia, the Middle East, and the Mediterranean World
Units: 4 Terms Offered: FaSp Overview of the history of the Ottomans and their imperial subjects. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 301 Religions of Ancient Egypt and the Near East
Units: 4 (Enroll in REL 302)

HIST 302 From Sappho to Stonewall: Lesbians in History
Units: 4 Terms Offered: Other The cultural, social, and personal meanings of same-sex relations between women in Europe and the United States, from archaic Greece to the 1960s. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 302

HIST 303 Barbarians, Romans, and Christians
Units: 4 Terms Offered: Other Exploration of the dynamic transformation of the social, political, religious, and intellectual landscape of the Mediterranean during Late Antiquity, c. 200 – c. 700 AD. Instruction Mode: Lecture Grading Option: Letter

HIST 304 Archaeology of Egypt and the Near East
Units: 4 (Enroll in REL 394)

HIST 305 From Goddesses to Witches: Women in Premodern Europe
Units: 4 Terms Offered: Sp Social, cultural and political contexts of women's spiritualities in Europe from the Paleolithic to the Reformation. Topics include: goddess-worship; Christian and Jewish contexts; male attitudes. Duplicates Credit in former HIST 270. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-303

HIST 306 The Early Middle Ages
Units: 4 Survey of European civilization in the Early Middle Ages. Instruction Mode: Lecture Grading Option: Letter

HIST 307 Women in Medieval Europe, c. 1000–1500
Units: 4 Terms Offered: Other The influences of cultural, social, economic, familial, religious, and political factors on medieval women, as well as consideration of differences among them. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 307

HIST 308 Britain and Ireland to 1200 C.E.
Units: 4 Terms Offered: Fa Anglo-Saxon and Celtic societies from the Iron Age to the Norman Invasions. Topics include: King Arthur, epics, sagas, Christianization, kingship, women, economic development and Vikings. Duplicates Credit in former HIST 430. Instruction Mode: Lecture Grading Option: Letter

HIST 309 Britain and Ireland, 1100–1500 C.E.
Units: 4 Terms Offered: Other English and Irish culture, economics, and politics during the expansion of the Norman-English kingdom, the colonization of Ireland, and subsequent development toward the English nation-state. Instruction Mode: Lecture Grading Option: Letter

HIST 310 Shadow of God on Earth: Religion/Politics in Medieval Persia
Units: 4 Terms Offered: FaSp (Enroll in MDES 312)

HIST 312 The Age of the French Revolution and Napoleon
Units: 4 Terms Offered: Fa Europe in the Old Regime; causes and course of the French Revolution; rise of Napoleon; revolutionary impact on Europe, 1715–1815. Instruction Mode: Lecture Grading Option: Letter

HIST 313 France and the French from Napoleon to Mitterand
Units: 4 Terms Offered: Irregular Social, cultural, and political history of France from 1789 to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 316 The Renaissance
Units: 4 Terms Offered: Irregular The flowering of arts, literature, and learning at the end of the Middle Ages. Instruction Mode: Lecture Grading Option: Letter

HIST 317gm North American Indians in American Public Life
Units: 4 Terms Offered: Irregular (Enroll in ANTH 316)

HIST 318 Early American Indian History
Units: 4 Terms Offered: Sp Relations of European settlers with native Americans from the 16th into the early 19th centuries; cultural contacts, trade and eventual conflicts. Instruction Mode: Lecture Grading Option: Letter

HIST 320 Law, Slavery, and Race
Units: 4 (Enroll in LAW 320)

HIST 322 Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp (Enroll in JS 315g)

HIST 323 The Holocaust in 20th Century Europe
Units: 4 Terms Offered: Sp The origins and development of anti-Jewish persecution in Germany, resulting in the systematic mass murder of Europe's Jews during World War II. Instruction Mode: Lecture Grading Option: Letter

HIST 324g Islam in Russia, the USSR, and Independent States
Units: 4 Terms Offered: Sp Cultural cohesiveness and ethnic diversity of Islam in the USSR; nature and effect of government policies aimed at the integration of Islam into the state. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

HIST 325 Early Modern Britain
Units: 4 Terms Offered: Other A survey of one of the most pivotal eras in British history: reform, regicide, and revolutions; new ideas, new religions, and new worlds. Instruction Mode: Lecture Grading Option: Letter

HIST 326 The Victorians
Units: 4 Britain in the 19th century, politics, industrialization, and imperialism, change and continuity in social and cultural aspects, especially class, gender, and race relations. Duplicates Credit in the former HIST 433. Instruction Mode: Lecture Grading Option: Letter

HIST 327 Twentieth Century Britain
Units: 4 The rise and decline of modern Britain as a global political and economic force, social and cultural change, emergence of a multiracial and multiethnic society. Duplicates Credit in the former HIST 434. Instruction Mode: Lecture Grading Option: Letter

HIST 328 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp (Enroll in CLAS 378)

HIST 329 Madness and Society in the Modern Age
Units: 4 The shifting place of insanity and "the mad" in Europe and the United States from the French Revolution to the anti-psychiatry movement. Instruction Mode: Lecture Grading Option: Letter

HIST 330 Drugs, Disease, and Medicine in History
Units: 4 Terms Offered: Irregular An overview of the role played by disease and the health sciences in history. Instruction Mode: Lecture Grading Option: Letter

HIST 331 The British Empire: 1588–1834
Units: 4 Terms Offered: Sp Emergence of the British Empire, emphasizing colonies in the Americas; the development of imperial economy, imperial wars, slavery and abolitionism. Instruction Mode: Lecture Grading Option: Letter

HIST 332 British Empire from the Mid-19th Century
Units: 4 Terms Offered: Other Political and economic development of the British Empire since Victoria; rise of the British Commonwealth. Instruction Mode: Lecture Grading Option: Letter

HIST 333 Korea: The Modern Transformation
Units: 4 Terms Offered: Sp Examination of selected topics on Korea's transition to the modern era; focus on the traditional roots of 20th century developments. Instruction Mode: Lecture Grading Option: Letter

HIST 334 History of the Samurai
Units: 4 Terms Offered: FaSpSm Development of the Japanese samurai from the 6th to the 16th centuries. *Recommended*

Preparation: a course in East Asian history. Instruction Mode: Lecture Grading Option: Letter

HIST 335 History of Japan to 1550
Units: 4 Terms Offered: Irregular Growth of Japanese civilization from the mythological "age of the gods" through the feudal "age of the samurai"; foundations of a great Asian power. Instruction Mode: Lecture Grading Option: Letter

HIST 336 History of Japan, 1550–1945
Units: 4 Terms Offered: Irregular Development of Japan as a modern world power; tradition and change in Japanese life; impact of Western culture, politics, and diplomacy from 1550 to 1945. Instruction Mode: Lecture Grading Option: Letter

HIST 337 Japan since 1945
Units: 4 Terms Offered: Irregular Survey of the impact of World War II, American occupation, and rapid economic growth on Japan's politics, society, economy, and culture; Japan as a post-modern nation. Instruction Mode: Lecture Grading Option: Letter

HIST 338 China to 960 A.D.
Units: 4 Terms Offered: Irregular The origins of China's distinctive civilization; cultural and political ferment in the late Chou; the greatness of Han and T'ang. Instruction Mode: Lecture Grading Option: Letter

HIST 339 China, 960–1800 A.D.
Units: 4 Terms Offered: Irregular Politics and culture under the Sung; Mongols, Manchus, and other invaders; the golden autumn of a great civilization. Instruction Mode: Lecture Grading Option: Letter

HIST 340 History of China since 1800
Units: 4 Terms Offered: Sp Western impact and dynastic decline; problems of the Chinese Republic; nationalism and communism. Instruction Mode: Lecture Grading Option: Letter

HIST 341 American Social History
Units: 4 Terms Offered: Irregular The social history of the American peoples from Colonial times until the 20th century, to include industrialization, urbanization, women, families, workers, immigration, ethnicity, racism, radicalism. Instruction Mode: Lecture Grading Option: Letter

HIST 342 Love and Politics in America, 1750s to 2050s
Units: 4 Terms Offered: Other An analysis of the intersections of love and politics, private and public, in fiction, non-fiction, and film in America from the Enlightenment into the future. Instruction Mode: Lecture Grading Option: Letter

HIST 343 Work, Leisure, and Violence in Industrializing America
Units: 4 Terms Offered: Irregular Rise of industrial America from 18th to 20th centuries: changing work ethics, rise of factories, women workers, mass leisure, consumer culture, urban and industrial violence. Instruction Mode: Lecture Grading Option: Letter

HIST 344 The Vietnam War, 1945–1975
Units: 4 Terms Offered: Other Analysis of causes, conduct, and consequences of war in Southeast Asia; of participants' experiences; and of post-war debate. Instruction Mode: Lecture Grading Option: Letter

HIST 345 Men and Women in United States History from the 1920s to the Present
Units: 4 Terms Offered: Other Investigation of the roles and relationships of men and women in American society and culture from the era of the "flapper" to the era of the "yuppie." Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 345

HIST 346 American Intellectual History
Units: 4 Terms Offered: Sp Study of major American ideas and values as reflected in philosophy, political and economic thought, religion, and social movements. Instruction Mode: Lecture Grading Option: Letter

HIST 347 Urbanization in the American Experience
Units: 4 Terms Offered: Irregular The American city in interdisciplinary perspective; emphasis on growth and change in relation to architecture, urban planning, demography, and ethnic politics. Instruction Mode: Lecture Grading Option: Letter

HIST 348 The Dynamics of American Capitalism
Units: 4 Terms Offered: Irregular Economic growth and institutional change in American capitalism from the Colonial era to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 349 Colonial North America 1600–1760
Units: 4 Terms Offered: Fa Colonial history of United States area, Canada, and Caribbean to 1760; Indians, European migration, plantation complexes, Puritan colonies, African slave migration, creole culture, borderlands, wars for empire. Instruction Mode: Lecture Grading Option: Letter

HIST 351 The American Revolution
Units: 4 Terms Offered: Fa Origins, course and consequences of the American Revolution; the post-war establishment of the Constitution. Instruction Mode: Lecture Grading Option: Letter

HIST 352gp The American Civil War
Units: 4 Terms Offered: Irregular The causes, course, campaigns, and consequences of the American Civil War, 1861–1865. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 353m Race and Racism in the Americas
Units: 4 (Enroll in AMST 353)

HIST 354 Mexican Migration to the United States
Units: 4, 2 years Terms Offered: Fa Mexican migration from the 1850s to the present, emphasizing labor migrants to the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 355 The African-American Experience
Units: 4 Terms Offered: Fa An historical and social analysis of the African- American experience from Colonial times to the present. Duplicates Credit in former HIST 250. Instruction Mode: Lecture Grading Option: Letter

HIST 356 The Old South
Units: 4 Terms Offered: Irregular The South from Colonial days to 1860; slavery, the plantation system, politics; important social and economic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 358 U.S. Gay and Lesbian History
Units: 4 Terms Offered: Sp (Enroll in SWMS 358)

HIST 360 19th Century U.S. History
Units: 4 Terms Offered: Sp The social, political, and economic history of the United States from the formation of the Constitution to 1900. Instruction Mode: Lecture Grading Option: Letter

HIST 361 20th Century U.S. History
Units: 4 Terms Offered: Fa Critical turning points in the 20th century; sources of major social and political change. Course materials include primary documents and historic radio/television recordings. Instruction Mode: Lecture Grading Option: Letter

HIST 362 Authenticity in Twentieth Century Popular Music
Units: 4 Terms Offered: FaSp Explores how the idea of authenticity shaped American popular music and influenced iconic musicians in the twentieth century. Instruction Mode: Lecture Grading Option: Letter

HIST 363 Foundations of American Foreign Policy, 1776 to the Present
Units: 4 Terms Offered: Other Evolution of American principles, roles and policies in international relations from the founding of the republic to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 365 The Second World War
Units: 4, 2 years Terms Offered: Sp Comparative analysis of the Second World War as a major transforming event of the 20th century. Its causes, conduct, and consequences for humanity. Instruction Mode: Lecture Grading Option: Letter

HIST 366 The People's Republic of China
Units: 4 Politics, economy, society, and culture from 1949 to the present including the role of the communist party and the experiences of ordinary people. Instruction Mode: Lecture Grading Option: Letter

HIST 369 Aztecs, Mayas, and other Indigenous Peoples of the Americas
Units: 4 Introduction to Pre- Columbian Mesoamerica and the Andes, the causes and consequences of the Spanish conquest, and the establishment of colonial societies and economies. Instruction Mode: Lecture Grading Option: Letter

HIST 370 Spanish America, 1492–1821
Units: 4 Terms Offered: Sp Topics in Spanish colonialism in Americas, with a focus on how religious, sexual, and racial differences shaped colonial policies and practices. Instruction Mode: Lecture Grading Option:

Letter

HIST 371 Culture in Diaspora: The Jews of Spain
Units: 4 (Enroll in REL 359g)

HIST 372 Modern Latin America
Units: 4 Terms Offered: FaSpSm Exploration of major themes and events in Latin American history from independence to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 373 History of the Mexican American
Units: 4 Terms Offered: FaSp (Enroll in AMST 373)

HIST 374 History of Mexico
Units: 4 Terms Offered: Fa The native cultures of Meso-America; colonial government, economy, and society; independence and 19th century liberalism; the Mexican revolution, 1910 to 1950. Duplicates Credit in former HIST 450. Instruction Mode: Lecture Grading Option: Letter

HIST 375 North Korean History
Units: 4 Terms Offered: FaSp History of North Korea from before statehood to the present. *Recommended Preparation:* Introductory course of Korean history. Instruction Mode: Lecture Grading Option: Letter

HIST 376 U.S.-Japan Encounters: War, Trade, and Culture
Units: 4 Terms Offered: Fa (Enroll in IR 376)

HIST 377 Law and Society in Premodern China and Japan
Units: 4 A broad but deep look into the nature and development of law in two great East Asian civilizations, China and Japan, up to the modern era. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC 377

HIST 378m Introduction to Asian American History
Units: 4 Terms Offered: FaSp (Enroll in AMST 378)

HIST 379 Arabs in America
Units: 4 Terms Offered: FaSp (Enroll in AMST 379)

HIST 380 American Popular Culture
Units: 4 Terms Offered: Sp Rise of popular culture (sports, amusement parks, movies, and television) and its significance in American society from mid 19th century to the present. Duplicates Credit in former HIST 255. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-380

HIST 381 Cinema and History
Units: 4 Terms Offered: Irregular Examines film as a means to narrate the past; treats the question of genre: epic, docudrama, the biopic, the music, adaptation, and such issues as authenticity and infotainment. Instruction Mode: Lecture Grading Option: Letter

HIST 382 The Middle East, 500–1500
Units: 4 Major topics, themes, and representative writings in the history and literature of the Arabic and Islamic World during the Medieval period. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-382

HIST 383 The Modern Middle East
Units: 4 Terms Offered: FaSp Survey of major political, economic, and cultural developments in the Middle East on the basis of documents, literature, and film produced in the region. Duplicates Credit in former HIST 280. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-383

HIST 384 Popular Culture in the Middle East
Units: 4 Terms Offered: FaSpSm Examination of the Middle East through the prism of its popular cultures; emphasis on audio, visual, and literary representations in relation to colonialism, nation-building, and globalization. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-384

HIST 385 Anglo-American Law before the 18th Century
Units: 4 Terms Offered: Other The evolution of discourse, practices, and institutions in Anglo-American legal history from the later Middle Ages to the 18th century. Instruction Mode: Lecture Grading Option: Letter

HIST 386 American Legal History
Units: 4 Terms Offered: Sp An introduction to the study of law from a historical perspective; explores the interaction of law, culture, and politics from the Revolution through the New Deal. Instruction Mode: Lecture, Discussion Grading Option: Letter

HIST 387 From Alexander to Cleopatra: The Mediterranean in an Age of Expansion
Units: 4 Terms Offered: FaSp (Enroll in CLAS 371)

HIST 388 Women and Gender in North American History through 1920
Units: 4 Roles and relationships of women and men in North America from first contact to the 1920s, with special emphasis on race, marriage, and political culture. Instruction Mode: Lecture Grading Option: Letter

HIST 389 Modern Iran
Units: 4 Terms Offered: FaSpSm (Enroll in MDES 313)

HIST 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

HIST 392 The Southern California Armenian Diaspora
Units: 4 Terms Offered: Sp Explores concepts of identity, community- and state-building, diaspora, and migration through historical and ethnographic research in Southern California Instruction Mode: Lecture Grading Option: Letter

HIST 393g Quantitative Historical Analysis
Units: 4 Terms Offered: FaSp Reading and doing quantitative research with historical data. Covers research designs, appropriate statistical analysis, and software packages for the use of historians. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

HIST 394p The Great Muslim Empires of the Near East and India
Units: 4 (Enroll in MDES 316p) Satisfies Global Perspective in Category H: Traditions and Historical Foundations

HIST 395 Sex and the City: Constructing Gender in London, 1700-1900
Units: 4 Terms Offered: Sp Explores changes in gender expectations in England between 1700 and 1900 through readings and one-week travel to London Instruction Mode: Lecture Grading Option: Letter

HIST 401 The Roman World
Units: 4 Terms Offered: Other Rome at the crossroads of Europe and the Mediterranean; the rise of Rome to world power; social, cultural and political history of Republic and Empire. Instruction Mode: Lecture Grading Option: Letter

HIST 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402)

HIST 403 Carolingian Europe
Units: 4 Political, religious, and intellectual culture of Europe in the 8th and 9th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 404 Seminar in Korean History
Units: 4 Terms Offered: Irregular Exploration of issues and sources in Korean history; work on an individual research paper through an incremental process. Instruction Mode: Lecture Grading Option: Letter

HIST 406 Special Periods in Medieval History
Units: 4 Terms Offered: Irregular Intensive study of selected periods. Instruction Mode: Lecture Grading Option: Letter

HIST 407 Europe in the 10th Century
Units: 4 Political, religious, and intellectual culture of Europe in the 10th century and beyond. Instruction Mode: Lecture Grading Option: Letter

HIST 410 The Age of Humanism and Reformation
Units: 4 Terms Offered: Irregular The thought, art, politics, and religion of western Europe in the 16th and 17th centuries; emphasis on the contribution of Christian humanism. Instruction Mode: Lecture Grading Option: Letter

HIST 413 The Age of Revolution
Units: 4 Terms Offered: Irregular The French and industrial revolutions and their interaction in 19th century Europe. Instruction Mode: Lecture Grading Option: Letter

HIST 414 Contemporary Europe
Units: 4 Terms Offered: Irregular World War I and its aftermath; challenge of new culture values; World War II; problems of postwar adjustment. Instruction Mode: Lecture Grading Option: Letter

HIST 415 Medieval and Early Modern

Russia
Units: 4, 2 years Terms Offered: Fa The politics, society, and culture of medieval and early modern Russia; the emergence of empire and the roots of its Eurasian identity. Instruction Mode: Lecture Grading Option: Letter

HIST 416 History of Imperial Russia: 1689–1917
Units: 4 Terms Offered: Sp The evolution of imperial society, politics and culture from Peter the Great to the Bolshevik Revolution. The dilemmas of identity in a multinational empire. Instruction Mode: Lecture Grading Option: Letter

HIST 417 History of Soviet Russia: 1917–1991
Units: 4, 2 years Terms Offered: Fa The birth of the totalitarian regime, the emergence of the superpower and the socioeconomic, political and cultural developments that culminate in its demise. Instruction Mode: Lecture Grading Option: Letter

HIST 420 European Intellectual and Cultural History: The 19th Century, 1790–1870
Units: 4 Intellectual and cultural trends of 19th century Europe, including Romanticism, Conservatism, Liberalism, Socialism and Evolutionary Theory. Instruction Mode: Lecture Grading Option: Letter

HIST 421 European Intellectual and Cultural History: The Turn of the Century 1880–1920
Units: 4 Intellectual and cultural trends of turn-of-the-century Europe, including the avant-garde, the crisis of positivism, psychoanalysis and gender theory. Instruction Mode: Lecture Grading Option: Letter

HIST 422 European Intellectual and Cultural History: The 20th Century, 1920 to the Present
Units: 4 Terms Offered: Irregular Intellectual and cultural trends of contemporary Europe, including Dadaism, Surrealism, Western Marxism, Fascism, Existentialism and Structuralism. Instruction Mode: Lecture Grading Option: Letter

HIST 424 Family, Work, and Leisure in Russian History
Units: 4 Terms Offered: Irregular Children and parents, love and marriage, work and leisure in the Russian village and city before and after the Revolution. Instruction Mode: Lecture Grading Option: Letter

HIST 425 The Era of the First World War
Units: 4 Terms Offered: FaSp The background, causes, course, and aftermath of the First World War, with attention to the events in the United Kingdom and continental Europe. Instruction Mode: Lecture Grading Option: Letter

HIST 426 Gender, Family, and Society in Europe and the United States, 1500–Present
Units: 4 Terms Offered: Other Changing social, economic, and cultural functions of the family and the roles of men, women, and children from pre-industrial times to the present in Europe and the United States. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 426

HIST 427 The German Question: Nation and Identity in Modern Central Europe
Units: 4 A seminar on the making, unmaking and remaking of the German nation-state, with particular attention to issues of race, class and gender in German identity. Instruction Mode: Lecture Grading Option: Letter

HIST 428 Life and Death in Nazi Germany
Units: 4 Social, cultural and medical history of Nazi Germany, emphasizing the Nazi vision of a racially pure national community. *Recommended Preparation:* some European history. Instruction Mode: Lecture Grading Option: Letter

HIST 429 Street Life: Urban Culture in Modern Europe
Units: 4 Terms Offered: Sp The 19th and 20th century European city as social artifact, cultural setting and object of fascination for its contemporary inhabitants. Instruction Mode: Lecture Grading Option: Letter

HIST 432 Britain in the 18th Century
Units: 4 Political, social, and cultural aspects of British life from the accession of George I to about 1820. Instruction Mode: Lecture Grading Option: Letter

HIST 437 Seminar in Modern Chinese History
Units: 4 Max Units: 8.0 Terms Offered: FaSp A readings and research seminar dealing with one topic in the history of China since 1600. Topics will change each time the course is offered. *Recommended Preparation:* a class in Chinese history. Instruction Mode: Lecture Grading Option: Letter

HIST 438 Seminar in Pre-Modern Japanese History
Units: 4 Max Units: 8.0 Terms Offered: FaSp A readings and research seminar dealing with one topic in the history of Japan before 1550. Topics will change each time the course is offered. *Recommended Preparation:* a course in Japanese history. Instruction Mode: Lecture Grading Option: Letter

HIST 440 Early Modern World History
Units: 4 Terms Offered: Fa Comparative patterns of historical change around the world, from ca. 1500 to ca. 1800. Instruction Mode: Lecture Grading Option: Letter

HIST 441 Modern World History
Units: 4 Terms Offered: Sp Comparative patterns of historical change around the world, from ca. 1800 to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 442 The Ethics of Financial and Political Accountability
Units: 4 Examination of how kingdoms, empires and great companies have risen and fallen due to good or poor financial and political accountability. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACCT-442

HIST 443 Race and Religious Riots in Modern World History
Units: 4 Terms Offered: FaSpSm Origins of riots against Mexicans, Chinese, Jews and other minority groups in Asia, Europe, Australia and the Americas. Instruction Mode: Lecture Grading Option: Letter

HIST 444 Mass Violence and Comparative Genocide in Modern World History
Units: 4 Systematic exploration of origins, developments, forms, and aftermath of mass murder of large population groups, one of the dark elements of modern world history. Instruction Mode: Lecture Grading Option: Letter

HIST 446 Resistance to Genocide
Units: 4 Examination of theoretical approaches to and historical accounts of resistance to genocide. Students conduct original research on how people oppose or resist mass atrocities. *Recommended Preparation:* course on the Holocaust or genocide. Instruction Mode: Lecture Grading Option: Letter

HIST 451 The Mexican Revolution
Units: 4 Terms Offered: Other The roots, trajectory and outcome of the Mexican revolution of 1910. Instruction Mode: Lecture Grading Option: Letter

HIST 452 Beauty and the Body in Historical Perspective
Units: 4 Terms Offered: Other Cultural constructions of the body and beauty from gender, ethnicity, age, and disability perspectives in Europe and the United States from 1800 to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 453 The Age of Emancipation
Units: 4 Examines the evolution of racial status law in the long 19th century, with special emphasis on the relationship between slavery, segregation, and citizenship. Instruction Mode: Lecture Grading Option: Letter

HIST 454 The World Pirates Made: Piracy and Privateering, 1500–1815
Units: 4 Research seminar on history of piracy and its role in rise of modern state and nation. *Recommended Preparation:* HIST 201. Instruction Mode: Lecture Grading Option: Letter

HIST 455 Advanced Topics in African-American History
Units: 4 Terms Offered: Sp Exploration of African-American history through primary and secondary sources employing a colloquium format with an emphasis on shared responsibility for comprehensive discussion and analysis. Instruction Mode: Lecture Grading Option: Letter

HIST 456 Race, Slavery, and the Making of the Atlantic World
Units: 4 Terms Offered: Other Introduction to the literature of the Atlantic World with a focus on slavery and its role in the emergence of the modern era. Seminar enrollment limited to 15 students. Instruction Mode: Lecture Grading Option: Letter

HIST 457 The American West
Units: 4 Terms Offered: Irregular The nation's westward movement from Colonial times to the present, with emphasis on the frontier's effect on American life and institutions. Instruction Mode: Lecture Grading Option: Letter

HIST 458 History of California
Units: 4 Terms Offered: Fa Exploration, colonization, and development of Hispanic California; coming of the Americans; political, economic, and cultural development of California since its acquisition by the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 460 War, Race, and the Constitution
Units: 4 Terms Offered: Irregular Examines the World War II incarceration of Japanese Americans and its impact on issues of civil liberties as well as national security. Instruction Mode: Lecture Grading Option: Letter

HIST 461 19th Century American Thought
Units: 4 Terms Offered: Fa Major American thinkers from Emerson and Margaret Fuller to William James and W.E.B. DuBois, with emphasis on race, religion, politics, and gender. Instruction Mode: Lecture Grading Option: Letter

HIST 462 20th Century American Thought
Units: 4 Terms Offered: Fa Major American thinkers from John Dewey and Jane Addams to Martin Luther King and Richard Rorty, with emphasis on race, religion, politics, and gender. Instruction Mode: Lecture Grading Option: Letter

HIST 463 The Constitutional History of the United States
Units: 4 Historical influences on changes in the structure, practice, and interpretation of the American Constitution, including debates about institutional powers and civil/political rights and liberties. *Recommended Preparation:* HIST 360 and HIST 361. Instruction Mode: Lecture Grading Option: Letter

HIST 464 Culture, Money, and Power: Japanese-American Relations since 1853
Units: 4 Terms Offered: Sp Examination of the role of cultural, economic, and military forces in shaping relations between two of the most important nations in the Asia/Pacific regions. *Recommended Preparation:* HIST 363 or appropriate International Relations course. Instruction Mode: Lecture Grading Option: Letter

HIST 465 America in the Cold War World, 1945–1991
Units: 4 Terms Offered: Fa America's role in the Cold War and the impact of that conflict on its people, society and culture. Instruction Mode: Lecture Grading Option: Letter

HIST 466 New World Orders: US and the Atlantic World, 1918-2018
Units: 4 Terms Offered: FaSp Critical examination of attempts by the United States and major European powers to institute varying kinds of order across borders. Instruction Mode: Lecture Grading Option: Letter

HIST 470 The Spanish Inquisition in the Early Modern Hispanic World
Units: 4, 2 years Terms Offered: Fa The Spanish Inquisition in Spain and Colonial Latin America, major theories and interpretations. Instruction Mode: Lecture Grading Option: Letter

HIST 473 Colonial Latin America Seminar
Units: 4 Terms Offered: Sp The history of colonial Latin America, focusing on the transformation of native Americans and Europeans into participants in a new colonial tradition. Duplicates Credit in HIST 371. Instruction Mode: Lecture Grading Option: Letter

HIST 474 Sex, Gender, and Colonialism in Latin America, 1492 to 1820
Units: 4, 2 years Terms Offered: Sp Seminar overview of the historical literature on women, gender, and sexuality in colonial Latin America. Instruction Mode: Lecture Grading Option: Letter

HIST 478 The United States, 1789–1850
Units: 4 Terms Offered: Irregular The nation during the first six decades; development of American institutions; constitutional growth, expansion, sectionalism, and the Mexican War; the Compromise of 1850. Instruction Mode: Lecture Grading Option: Letter

HIST 480 Seminar in Middle East History
Units: 4 A readings and research seminar dealing with one topic in the history of the Middle East. Topics will change each time the course is offered. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-480

HIST 481 Producing Film Histories
Units: 4 Terms Offered: Sp History of film form and its institutions. Students will produce an original written or multimedia research project. Instruction Mode: Lecture Grading Option: Letter

HIST 482 Jesus in American History and Culture
Units: 4 Terms Offered: Sp The place of Jesus Christ in diverse American cultures from colonial times to the present: Jesus as cultural icon, secular inspiration, Christian Son of God. Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL-482

HIST 484 The United States, 1919–1939
Units: 4 Terms Offered: Irregular Postwar reaction and the Twenties; the Great Depression and the New Deal; diplomacy between the wars. Instruction Mode: Lecture Grading Option: Letter

HIST 487 The United States since 1939
Units: 4 Terms Offered: Irregular A survey of the accelerating changes that transformed the nation's domestic life and revolutionized America's role in world affairs. Instruction Mode: Lecture Grading Option: Letter

HIST 488 Teaching History in the Secondary Schools
Units: 4 Terms Offered: Fa Seminar in research methods, textbook and online research and teaching materials, and instructional approaches for teaching history in secondary schools. Instruction Mode: Lecture Grading Option: Letter

HIST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

HIST 492 Honors Thesis
Units: 4 Terms Offered: Sp Writing of the honors thesis; for students in the History Honors Program. Instruction Mode: Lecture Grading Option: Letter

HIST 494 Seminar in New Historical Writing
Units: 4, 2 years Terms Offered: Fa Historical writing experiments combining historical specificity with more fluid approaches to time, characterization and objectivity associated with 20th century artists. Instruction Mode: Lecture Grading Option: Letter

HIST 495 American Lives: Biography and Autobiography in the United States Past
Units: 4 The history of the United States seen through the lives of individuals, including Thomas Jefferson, Jane Addams, Malcolm X, and Marilyn Monroe. Instruction Mode: Lecture Grading Option: Letter

HIST 496 Internship in Public History
Units: 4 Max Units: 8 Terms Offered: Sp The ideas and practices of public history explored through a seminar and an internship at a museum, historical society, or archive. Registration Restriction: Not open to Freshman students Instruction Mode: Lecture Grading Option: Letter

HIST 497 Senior Seminar in Early Modern Studies
Units: 4 Terms Offered: Sp (Enroll in ENGL 497)

HIST 498 Seminar on Selected Historical Topics
Units: 4 Max Units: 8.0 Terms Offered: FaSp Advanced study in historical analysis and writing on selected topics and themes. Seminar enrollment limited to 15 students. *Recommended Preparation:* HIST 201. Instruction Mode: Lecture Grading Option: Letter

HIST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Instruction Mode: Lecture Grading Option: Letter

HIST 500 Introduction to Graduate Historical Studies
Units: 4 Terms Offered: Fa Techniques, theories, and sub-disciplines of history. Instruction Mode: Lecture Grading Option: Letter

HIST 505 Studies in Early Medieval History
Units: 4 Terms Offered: Irregular Intensive study of subjects selected from the early Middle Ages, emphasizing source material, bibliography, and historiographic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 506 Studies in Later Medieval History
Units: 4 Terms Offered: Irregular Intensive study of subjects selected from the later Middle Ages, emphasizing source material, bibliography, and historiographic problems. Instruction Mode: Lecture Grading Option: Letter

HIST 508 Studies in the Renaissance
Units: 4 Europe in the Renaissance: sources;

secondary bibliography; and historiography. Instruction Mode: Lecture Grading Option: Letter

HIST 509 Studies in the Reformation
Units: 4 Readings, reports, and discussions of major problems, issues, and interpretations of the Reformation. Instruction Mode: Lecture Grading Option: Letter

HIST 510 Studies in Early Modern European History
Units: 4 Terms Offered: Irregular Readings of major interpretive studies on the 17th and 18th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 511 Studies in Early Modern British History
Units: 4 Readings of major interpretive and historiographical studies on 16th and 17th century British history. Instruction Mode: Lecture Grading Option: Letter

HIST 514 Studies in Modern European History, 1789–1914
Units: 4 Terms Offered: Fa Readings and current bibliography in the history of Europe from the French Revolution to the outbreak of World War I; emphasis on cultural history approaches. Instruction Mode: Lecture Grading Option: Letter

HIST 515 Studies in Modern European History: Europe's 20th Century
Units: 4 Terms Offered: Fa Readings in the history and historiography of Europe in the 20th century. Instruction Mode: Lecture Grading Option: Letter

HIST 517 Studies in Russian History
Units: 4 Terms Offered: Irregular Readings, discussions, and student papers in modern Russian history. Instruction Mode: Lecture Grading Option: Letter

HIST 520 Modernity and Its Visual Cultures
Units: 4 Terms Offered: Sp Western visual culture 1850–1930: historical background of changes in high and popular culture, technological reproducibility, display and spectacularization; recent literature and theoretical approaches. Instruction Mode: Lecture Grading Option: Letter

HIST 525 Studies in British History
Units: 4 Terms Offered: Irregular Selected topics in English and British Empire history with emphasis on the 19th and 20th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 534 Studies in Modern Japanese History
Units: 4 Selected topics and historiography of modern Japan. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EALC-536

HIST 535 Studies in Japanese History
Units: 4 Max Units: 8.0 Selected topics in historical problems dealing with Japan. Instruction Mode: Lecture Grading Option: Letter

HIST 536 Studies in Chinese History
Units: 2 or 4 Terms Offered: Irregular Selected topics in historical problems dealing with China. *Prerequisite:* HIST 340. Instruction Mode: Lecture Grading Option: Letter

HIST 540 Studies in Modern East Asian History
Units: 4 Max Units: 8.0 Terms Offered: Irregular Readings and analysis of a particular theme in modern Asian history, focusing on broad comparative issues like cultural identity, colonialism, nationalism, revolution, or interstate relations. Instruction Mode: Lecture Grading Option: Letter

HIST 544 Feminist Theory for Historians
Units: 4 Terms Offered: Fa Readings in contemporary feminist theory, focused especially on theories that address the construction, writing, and general practice of history. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-544

HIST 546 Comparative History of Women and Gender in the West to 1800
Units: 4 Terms Offered: Fa Topically-focused readings in the comparative history of women and gender in Europe and the Americas before 1800. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-546

HIST 550 Studies in the History of Women, Gender and Sexuality
Units: 4 Max Units: 8.0 Terms Offered: Irregular Readings and current bibliography in the history of women, gender and sexuality. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-551

HIST 554 Readings in Chicano/Latino History
Units: 4 Terms Offered: FaSp (Enroll in AMST 554)

HIST 555 Studies in the American West
Units: 4 Zones of contact — physical, economic, political, ecological, symbolic, cultural, metaphorical — between peoples "west" of the Eurasian land mass since the rise of capitalist global expansion. Instruction Mode: Lecture Grading Option: Letter

HIST 560 Transpacific History
Units: 4 Exploration of the connections and divergences in the Pacific region, 19th century to present. Topics include transnationalism, war, political economy, international relations, immigration, environmentalism, and race. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-522

HIST 561 Historiography of Colonial Mexico
Units: 4 Terms Offered: Fa Introduction to the historiography of Colonial Mexico from 1500 to 1821. Instruction Mode: Lecture Grading Option: Letter

HIST 565 Studies in American International History
Units: 4 Terms Offered: FaSm Readings and analyses of American policies, roles and principles in their interaction with peoples and nations of the world. Instruction Mode: Lecture Grading Option: Letter

HIST 566 Historical Scholarship on North America to 1800
Units: 4 Terms Offered: Fa Introduction to research in the fields of American Indian, colonial America, Atlantic world, and the early United States. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

HIST 567 Historical Scholarship on 19th Century America
Units: 4 Terms Offered: Sp Introduction to historiography and research in the political, economic, social, cultural, and intellectual history of the 19th century United States. Instruction Mode: Lecture Grading Option: Letter

HIST 568 Historical Scholarship on 20th and 21st Century America
Units: 4 Terms Offered: Sp Introduction to historiography and research in the political, economic, social, cultural, and intellectual history of the 20th and 21st century United States. Instruction Mode: Lecture Grading Option: Letter

HIST 575 Studies in 19th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Fa Intensive readings and bibliography in the Early National, Jacksonian, Civil War, and Post-Civil War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 583 Studies in Urban History
Units: 4 Readings and analyses in the rise of the city and the impact of urbanization from the colonial era to the present. Instruction Mode: Lecture Grading Option: Letter

HIST 584 Seminar in American Social History
Units: 4 Terms Offered: Irregular Creation of communities and societies; industrialization, urbanization, working class life; families, women, ethnicity; immigration; racism; mobility; reform and radicalism, leisure. Instruction Mode: Lecture Grading Option: Letter

HIST 585 Studies in 20th Century American History
Units: 4 Readings and analyses in social and political problems, movements, and issues. Instruction Mode: Lecture Grading Option: Letter

HIST 587 Studies in the Politics of American Popular Culture
Units: 4 Selected themes, theories, and key works in the politics of American popular culture. Instruction Mode: Lecture Grading Option: Letter

HIST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 591 Quantitative Historical Research
Units: 4 Terms Offered: Irregular Teaches

statistical concepts, methods, and tools for researching and interpreting the past. Instruction Mode: Lecture Grading Option: Letter

HIST 592 Historiography
Units: 4 Terms Offered: Sm Historical criticism; form and mechanics of presenting research; writers of history, their works and philosophies; theories of historical development. Instruction Mode: Lecture Grading Option: Letter

HIST 593 The Art of Historical Writing
Units: 4 Terms Offered: Sp An analysis of conventional forms of historical representation and the artistic and scientific challenges to them. Laboratory training in innovative forms of historical writing will be stressed. Instruction Mode: Lecture Grading Option: Letter

HIST 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 595x Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Basic principles of history pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first semester teaching assistants in history. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 602 Seminar in Ancient History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 605 Seminar in Medieval European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 608 Seminar on Premodern Europe
Units: 4 Max Units: 8.0 Directed research on topics from late antiquity to the 18th century. Students will work with both their faculty advisers and the course instructor. Instruction Mode: Lecture Grading Option: Letter

HIST 610 Seminar in Early Modern European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems concerning the 17th and 18th centuries. Instruction Mode: Lecture Grading Option: Letter

HIST 615 Seminar in Modern European History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems dealing with Europe since 1789. Instruction Mode: Lecture Grading Option: Letter

HIST 617 Seminar in Russian History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 620 Research Seminar on Modern Visual Culture
Units: 4 Terms Offered: Fa A research seminar focusing on Western visual culture since the mid-18th century. *Recommended Preparation:* HIST 520. Instruction Mode: Lecture Grading Option: Letter

HIST 630 Seminar in Japanese History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. Instruction Mode: Lecture Grading Option: Letter

HIST 635 Seminar in Chinese History
Units: 2 or 4 Max Units: 8.0 Terms Offered: Irregular Directed research in historical problems. *Prerequisite:* HIST 340. Instruction Mode: Lecture Grading Option: Letter

HIST 650 Seminar on Women's and Family History
Units: 4 Max Units: 8.0 Terms Offered: Sp Readings, discussions, and directed research on women's and family histories. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-650

HIST 655 Seminar in Western American History
Units: 2 or 4 Max Units: 8.0 Selected topics in the history of the American frontier and the West. Instruction Mode: Lecture Grading Option: Letter

HIST 660 Research Seminar on Transpacific Studies
Units: 4 Terms Offered: FaSp (Enroll in AMST 622)

HIST 670 Illness and Healing in the Modern World
Units: 4 Terms Offered: Sp Illness and healing in Europe and the Americas since 1492, especially the changing clinical and cultural definitions and responses to disease and ailments. Instruction Mode: Lecture Grading Option: Letter

HIST 673 Seminar in Early North American History
Units: 4 Max Units: 8.0 Primary research on issues related to the history of the colonial and early national periods with an emphasis on areas that became the United States. Instruction Mode: Lecture Grading Option: Letter

HIST 675 Seminar in 19th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Sp Research in historical problems of the Antebellum, Civil War, and Post-Civil War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 680 Seminar in 20th Century United States History
Units: 4 Max Units: 8.0 Terms Offered: Fa Directed research in historical problems of the Reform, World War I, interwar, World War II, and Post-War periods. Instruction Mode: Lecture Grading Option: Letter

HIST 700 Historical Explanation and Research Design
Units: 4 Designed for all doctoral candidates in their last year of course work, this practicum helps students define a dissertation topic and produce a prospectus. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

HIST 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

HIST 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Health Care Management

HMGT 510 The Dynamics of Health Care Leadership
Units: 4 A five-day residential provides an intensive, multi-faceted learning experience in leadership, communication, managed care, systems thinking, and the health care environment. Instruction Mode: Lecture Grading Option: Letter

HMGT 512 Information Technology and Patient Engagement
Units: 2 Terms Offered: FaSpSm Strategic management and utilization of healthcare information technology in the delivery of healthcare; patient engagement and the use of technology to facilitate participation in their own care. Registration Restriction: Open only to Executive Master of Health Administration students. Instruction Mode: Lecture Grading Option: Letter

HMGT 520 Leading People and Health Care Organizations
Units: 4 Terms Offered: Fa An exploration of contemporary work force issues and skills development in organizational design, performance measurement, teamwork,

conflict resolution, leadership, and change management. Instruction Mode: Lecture Grading Option: Letter

HMGT 525 Managed Care Operations
Units: 4 Focuses on managerial, operational, and organizational aspects of managed care for integrated delivery systems, health plans, and medical groups. Instruction Mode: Lecture Grading Option: Letter

HMGT 540 Health Economics, Financing and Reimbursement
Units: 2 Terms Offered: Fa Provides a framework for the economic analysis of health care issues and provides students with an opportunity to apply economic methods to a number of actual health care problems. Instruction Mode: Lecture Grading Option: Letter

HMGT 545 Systems Thinking and the Analysis of Data
Units: 4 Quality improvement and statistical tools for health managers. Covers analyzing processes; collecting and analyzing operational data; drawing valid conclusions from data. Instruction Mode: Lecture Grading Option: Letter

HMGT 550 Law, Regulation, and Ethics
Units: 4 An intensive introduction to business and health care law, ethics and regulation; gives executives practical knowledge regarding legal consideration in business transactions. Instruction Mode: Lecture Grading Option: Letter

HMGT 560 Customer-Focused Health Care Organization
Units: 2 Strategies for gaining and using customerderived data in planning, marketing and managing health care organizations. Instruction Mode: Lecture Grading Option: Letter

HMGT 565 Managing the Organization's Financial Health
Units: 4 Terms Offered: Fa Executives confront and solve problems requiring use of accounting, finance, and management control principles; provides core financial skills for non-finance professionals. Instruction Mode: Lecture Grading Option: Letter

HMGT 570 Strategic Management
Units: 4 Terms Offered: Sm Provides skill development and application in the integrative discipline of strategic management including assessment, strategy formulation, implementation and control. Instruction Mode: Lecture Grading Option: Letter

HMGT 575 Managing and Improving Health
Units: 4 Terms Offered: Sp Methods for monitoring and improving the health of populations. Topics include outcomes management, risk-adjustment, development and implementation of practice guidelines. Instruction Mode: Lecture Grading Option: Letter

HMGT 600 Managing Risk
Units: 2 Terms Offered: FaSp Overview of reimbursement models in clinical and institutional settings; legal, financial and clinical assumption of risk pursuant to new and evolving federal and state statutory and regulatory provisions. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 601 Operations Management for Accountability
Units: 4 Terms Offered: FaSp Hospital operations in the inpatient/outpatient setting; special emphasis on the growing requirement to more effectively manage across the continuum of care while assuming greater accountability in the delivery of care. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 602 Operational Efficiency Processes in Health Care Organizations
Units: 2 Terms Offered: FaSp Improving productivity and efficiency of health care organizations combining the application of key operational analysis principles to improve quality, speed and productivity in the delivery of health care. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

HMGT 603 Developing and Monitoring of Quality and Patient Safety Outcomes
Units: 2 Terms Offered: Sm Overview of contemporary methods used to develop and monitor patient quality and safety outcomes; develop skill in data collection and analysis of clinical care outcomes; focus on operationalizing outcomes that matter to payers, organizations, and clinicians. Registration Restriction: Open only to EMHA students. Instruction Mode: Lecture Grading Option: Letter

Health Promotion and Disease Prevention Studies

HP 101 Current Issues in Medical Education and Healthcare
Units: 2 Terms Offered: Sp Current critical issues in healthcare delivery; strategies to succeed in medical school and as physicians. Instruction Mode: Lecture Grading Option: Letter

HP 200 Introduction to Health Promotion and Disease Prevention
Units: 4 Terms Offered: Fa Introduction to strategiesfor promoting health and wellness. Includes self monitoring of health risk behavior, goal setting, and behavior changes. Instruction Mode: Lecture Grading Option: Letter

HP 230 Nutrition and Health
Units: 4 Terms Offered: FaSp Nutrition as it relates to health promotion across the lifespan and disease prevention. Discussion of nutrients, factors affecting food choices, food safety and global nutrition issues. Instruction Mode: Lecture Grading Option: Letter

HP 270 Introduction to Global Health
Units: 4 Terms Offered: Fa Introduction to concepts of global health and disease control. Issues of globalization, global governance, emerging diseases, infectious disease treatment, and outbreak challenges. Instruction Mode: Lecture Grading Option: Letter

HP 290 Introduction to Research Apprenticeship
Units: 2 Max Units: 8.0 Terms Offered: FaSp Individual research apprenticeship in health related fields under supervision of a departmental faculty member. Instruction Mode: Lecture Grading Option: Credit/No Credit

HP 300 Theoretical Principles of Health Behavior
Units: 4 Terms Offered: FaSp Overview and analysis of predictors and consequences of health-related behaviors; theoretical viewpoints and strategies for behavior change. *Prerequisite:* PSYC 100. *Recommended Preparation:* HP 200; Instruction Mode: Lecture Grading Option: Letter

HP 320 Biological and Behavioral Basis of Disease
Units: 4 Terms Offered: FaSp Examination of the major systems of the human body; disease processes and behavioral risk factors. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

HP 340L Health Behavior Statistical Methods
Units: 4 Terms Offered: FaSp Intermediate statistics for health behavior studies; topics include descriptive statistics, hypothesis testing, correlation and regression, and use of computer software in data analysis. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

HP 345 Health Issues in Entertainment Media
Units: 4 Terms Offered: FaSpSm Study of major chronic illnesses and their risk factors as a foundation for discussions about the portrayal of health and illness in entertainment media. Duplicates Credit in the former CNTV 345. Instruction Mode: Lecture Grading Option: Letter

HP 350L Health Behavior Research Methods
Units: 4 Terms Offered: FaSp Introduction to the design, conduct and evaluation of health behavior research studies; quantitative and qualitative approaches to research and analysis. *Recommended Preparation:* HP 340. Instruction Mode: Lecture, Lab Required Grading Option: Letter

HP 365gmw Culture, Lifestyle, and Health
Units: 4 Terms Offered: FaSp Comparison of national and international differences in health status as influenced by cultural practices and lifestyles within geographic, economic, and political environments. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in HP 400m Instruction Mode: Lecture Grading Option: Letter

HP 370g Introduction to Epidemiology: Methods and Applications
Units: 4 Examines the primary goals and methods of epidemiology, the study of factors that influence health and disease

in individuals and populations. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

HP 401 Cultural Competence in Medicine
Units: 4 Terms Offered: Fa Systematic development of specific professional skills for providing effective, culturally sensitive health services to diverse populations. *Recommended Preparation:* ANTH 101. Instruction Mode: Lecture Grading Option: Letter

HP 402 Maternal and Child Health
Units: 4 Terms Offered: Sp Health issues of women of childbearing age from pre-pregnancy through the postpartum period, and of children from their development in utero through early adolescence. *Recommended Preparation:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 403 Behavioral Medicine
Units: 4 Terms Offered: Sp Examines behavioral risk factors for illness, health-enhancing and health-compromising behaviors, stress/coping in promoting health and preventing illness, and behavioral management of chronic illness. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 404 Religion and Health
Units: 4 Terms Offered: Fa Differential relationships of religiosity and spirituality with health and risk behaviors, physical and mental health outcomes, coping skills and well-being across cultures and religions. Instruction Mode: Lecture Grading Option: Letter

HP 405 Sexually Transmitted Diseases: A Global Public Health Priority
Units: 4 An overview of the magnitude and impact of STDs including prevention, diagnosis, and treatment of common STDs, STD/HIV interrelationship, global burden, trends, public health challenges, and STD/HIV prevention and control strategies and programs worldwide. Instruction Mode: Lecture Grading Option: Letter

HP 408 Environmental Health in the Community
Units: 4 Survey of occupational and environmental health. Introduction to epidemiology, exposure assessment, toxicology, policy development, risk assessment, and effects of urban development on health. Instruction Mode: Lecture Grading Option: Letter

HP 409 Environmental Impacts on the Brain
Units: 4 An examination of the physical and chemical factors in the environment that contribute to neurodevelopmental disorders, cognitive function and neurodegeneration. Instruction Mode: Lecture Grading Option: Letter

HP 410 Issues in Prevention and Cessation of Drug Abuse
Units: 4 Terms Offered: Sp Examination of factors related to drug abuse behaviors; overview and assessment of drug abuse prevention and cessation programs; relapse prevention programs. *Recommended Preparation:* HP 300. Instruction Mode: Lecture Grading Option: Letter

HP 411 Drug Intervention Program Design and Evaluation
Units: 4 Terms Offered: Sp Strategies for drug abuse prevention and intervention; introduction to techniques and research methods used in designing, conducting, and evaluating drug abuse prevention programs. *Recommended Preparation:* HP 410. Instruction Mode: Lecture Grading Option: Letter

HP 412 Health Promotion and Prevention Policy
Units: 4 Terms Offered: Sp Overview of health promotion and drug prevention policy at local, state, and federal levels; methods for evaluating policy effectiveness and cost effectiveness. Instruction Mode: Lecture Grading Option: Letter

HP 420m Gender and Minority Health Issues
Units: 4 Terms Offered: Fa Examines the nature and roots of health disparities among women, men, and different ethnic and age groups; methods for reducing such disparities; strategies for prevention services. Instruction Mode: Lecture Grading Option: Letter

HP 421 Violence as a Public Health Issue
Units: 4 Terms Offered: Fa Patterns and prevalence of violence; psychosocial, environmental, and biological influences on violent behavior; youth gangs; drugs and violence; family violence; and prevention and intervention strategies. Instruction Mode: Lecture Grading Option: Letter

HP 422 AIDS in Society
Units: 4 Terms Offered: Sp Provides a broad examination of issues in HIV/AIDS, including behavioral, social, biological, clinical and ethical dimensions of the pandemic in the U.S. and elsewhere. Instruction Mode: Lecture Grading Option: Letter

HP 430 Obesity and Health
Units: 4 Terms Offered: Fa Examination of causes and consequences of obesity, with emphasis on health risks of type II diabetes and cardiovascular disease. *Recommended Preparation:* HP 230. Instruction Mode: Lecture Grading Option: Letter

HP 431 Behavior and Education Strategies for Nutrition and Fitness
Units: 4 Terms Offered: Sp Examination of dietary intake and exercise behaviors as they relate to health and illness; methods for measuring diet and exercise. *Recommended Preparation:* HP 430. Instruction Mode: Lecture Grading Option: Letter

HP 432 Clinical Nutrition
Units: 4 Terms Offered: Irregular Metabolism of carbohydrates, fats and protein; introduction to vitamins, minerals and dietary modifications in various pathological conditions. *Prerequisite:* CHEM 105a; *Recommended Preparation:* HP 230. Instruction Mode: Lecture Grading Option: Letter

HP 433 Advanced Topics in Nutrition
Units: 4 Terms Offered: Sp In-depth discussion of vitamins and minerals and their role in human nutrition; introduction to the role of vitamins and minerals in selected pathological conditions. *Prerequisite:* HP 432. Instruction Mode: Lecture Grading Option: Letter

HP 434 Physical Activity and Health
Units: 4 Terms Offered: FaSpSm Examination of the health impacts of physical inactivity; participation rates across subgroups; physical activity determinants; and interventions, programs, and policies to promote physical activity. *Recommended Preparation:* HP 200. Instruction Mode: Lecture Grading Option: Letter

HP 440 Happiness, Well-Being, and Health
Units: 4 Terms Offered: Sp Explores human strengths that promote happiness/well-being and whether they influence physical health; mind-body relationships; and strategies for promoting hope, resilience, and quality of life. *Recommended Preparation:* HP 200, PSYC 100. Instruction Mode: Lecture Grading Option: Letter

HP 441 Health Promotion in the Workplace
Units: 4 Terms Offered: Fa Covers phases of worksite health promotion; research, design, implementation and evaluation; concerns regarding escalating medical costs and the role of health promotion in offering solutions. Instruction Mode: Lecture Grading Option: Letter

HP 442 Chronic Disease Epidemiology
Units: 4 Terms Offered: Sp Overview of causative factors and demographic distributions of the major chronic diseases in the western world; epidemiologic concepts and research designs. *Recommended Preparation:* HP 320. Instruction Mode: Lecture Grading Option: Letter

HP 443 Communicating Health Messages and Medical Issues
Units: 4 (Enroll in COMM 443)

HP 446 Poisons, People, and Politics
Units: 4 Terms Offered: Fa Case studies of toxic exposures and investigation of the role of government, scientists, labor and industry in protecting against health threats caused by toxic exposures. Instruction Mode: Lecture Grading Option: Letter

HP 448 Global Environmental Changes and Health
Units: 4 Terms Offered: FaSpSm Discussion of global environmental changes, including climate change, air pollution, water pollution, radiation, and their impacts on human health. Instruction Mode: Lecture Grading Option: Letter

HP 450 Traditional Eastern Medicine and Modern Health
Units: 4 Terms Offered: Fa Overview of traditional Eastern approaches toward health and disease; relevance to modern health issues, emphasizing a comparison between traditional Chinese and modern Western medicine. *Recommended Preparation:* fundamentals of medicine. Instruction Mode: Lecture Grading Option: Letter

HP 460 Adolescent Health

Units: 4 Terms Offered: Fa Survey of the development of healthy and the prevention of health-risk behaviors during adolescence. Prevention and promotion techniques will be explored emphasizing cultural differences. Instruction Mode: Lecture Grading Option: Letter

HP 465 Health Status of Indigenous Peoples of America
Units: 4 Terms Offered: FaSpSm Survey of indigenous people's health, including health conditions, special cultural and ethical considerations, the Indian health system, and the politics of indigenous health. Instruction Mode: Lecture Grading Option: Letter

HP 470 Case Studies in Global Health
Units: 4 Terms Offered: Sp Case study examination of programs and organizational structure underlying current international efforts addressing problems related to infection disease, chronic disease, global environmental change, emergencies and emerging disease epidemics. *Prerequisite:* HP 270. Instruction Mode: Lecture Grading Option: Letter

HP 480 Internship in Health Promotion and Disease Prevention
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Field placement in a community agency such as a county health services agency, a not for profit voluntary agency or a health care setting. *Prerequisite:* completion or concurrent registration in required core courses. Instruction Mode: Lecture Grading Option: Credit/No Credit

HP 483 Global Health and Aging
Units: 4 Terms Offered: Fa (Enroll in GERO 483)

HP 485 Global Health: Obesity and Nutrition
Units: 4 Terms Offered: FaSpSm Overview of the epidemiology of obesity and related diseases and the etiology of obesity, including genetic, biological, behavioral, environmental and sociocultural correlations. Instruction Mode: Lecture Grading Option: Letter

HP 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. *Recommended Preparation:* HP 350. *Corequisite:* HP 340; Instruction Mode: Lecture Grading Option: Letter

HP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lecture and discussion focused on specific topics within health promotion and disease prevention. Course topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Human Resource Management

HRM 500 Human Resource Strategy
Units: 2 Terms Offered: FaSpSm Explores the strategic role that human resources management plays in providing organizations with sustained competitive advantages by unlocking the productive potential of employees' human and social capital. Registration Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 505 Organizational Culture and Employee Outcomes
Units: 2 Terms Offered: FaSpSm Prepares students to create, foster, and manage organizations in which people thrive and perform at their best in order to retain talent and reduce costs in a sustainable way. Registration Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 510 Leadership in Human Resources
Units: 2 Terms Offered: FaSpSm Focuses on developing the critical social intelligence skills needed to lead people and change through increased self-awareness, understanding of interpersonal differences, and greater influence. Registration Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 515 Organization Design
Units: 2 Equips students with a deeper understanding of how to design and develop organizations to increase performance and effectiveness and includes sections on strategy, work, and management processes. Registration Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 520 Talent Management
Units: 2 Terms Offered: FaSpSm Examines talent management processes that impact employee experience and engagement and explores ways to improve data driven decision making processes including workforce and succession planning. Registration Restriction: Only open to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

HRM 525 Total Rewards
Units: 2 Terms Offered: FaSpSm Provides a comprehensive look at the employee rewards strategies that human resource practitioners promote and manage including compensation, performance management, benefits, and non-monetary rewards. Registration Restriction: Only open to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

HRM 530 Learning and Development
Units: 2 Terms Offered: FaSpSm Prepares students to identify, design, and implement effective learning and development interventions and strategies that drive results and enhance organizational competitiveness. Registration Restriction: Only open to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

HRM 535 Employee Relations
Units: 2 Terms Offered: FaSpSm Applies practical approaches to building positive employee and labor relations and solving related problems through increased employee motivation, effectiveness, and retention. Registration Restriction: Only open to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

HRM 540 Human Resources Analytics
Units: 2 Terms Offered: FaSpSm Examines and emphasizes strategies and techniques to enable improved organizational and human capital decisions by directing the organizational analytics for more actionable insights. Registration Restriction: Only open to USC Bovard College Students Credit Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 545 Management of Diverse and Global Human Resources
Units: 2 Terms Offered: FaSpSm Analyzes global diversity in today's environment, fostering a broad understanding of diversity and inclusion and the impact of diversity, inclusion, and inclusive behaviors on organizations. Registration Restriction: Only open to USC Bovard College Students Instruction Mode: Lecture Grading Option: Letter

HRM 550 Change Management and Organization Development
Units: 2 Terms Offered: FaSpSm Identifies the common challenges in organizational change management and explores the limitations and opportunities of different models of organizational change. *Prerequisite:* HRM 515 Registration Restriction: Only open to USC Bovard College Students Credit Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

HRM 555 Anticipating the Future of Human Resources
Units: 2 Terms Offered: FaSpSm Explores the forces and emerging trends that are reshaping work, the workforce and workplace – and how to address these transformational changes and be effective as a Human Resources leader. Registration Restriction: Only open to USC Bovard College students Credit Restriction: Only open to USC Bovard College students Instruction Mode: Lecture Grading Option: Letter

Integrated Design, Business and Technology

IDSN 505 Intensive
Units: 0.5, 1, 1.5, 2 Max Units: 6 Optional short-term, primarily residential, learning experience paired with an event/activity. Intensive experience aligns with and extends the cross-disciplinary nature of the program. *Recommended Preparation:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 510 Integrative Practices Residential
Units: 2 Terms Offered: FaSp One-week campus residential. Introduction to program themes, content, concepts, theories, and processes. Opportunity to build skills and meet cohort, with an emphasis on team building. Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Credit/No Credit

IDSN 515 Professional Practices Residential

Units: 2 Terms Offered: Sm One-week off-campus residential. Visit WIRED headquarters, cultural venues, and businesses. Applied, intensive workshop format focused on solutions for real-world problems with input from industry experts. *Recommended Preparation:* IDSN 510 , IDSN 520 , IDSN 525 , IDSN 540 , IDSN 540 Registration Restriction: Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 520 Design Essentials
Units: 3 Overview of design language, process and product. Build fluency in applying core visual principles and design-based problem-solving techniques. Explore historical and contemporary design issues. *Recommended Preparation:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 525 Business Essentials
Units: 3 Overview of general business and management concepts and techniques that builds theoretical and analytical fluency and identifies and examines leadership and managerial challenges. *Recommended Preparation:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 530 Technology Essentials
Units: 3 Overview of core information technology concepts, methods, and frameworks. Develop aptitude in using tools, applications and systems; learn basic programming languages and methodologies. *Recommended Preparation:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 540 Processes and Perspectives
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary, and shared approaches to products, services, projects, systems, organizational development. Topics include creative and user-focused perspectives, feasibility analytics, lean startup techniques. *Recommended Preparation:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 545 Integrative Project
Units: 2 Max Units: 6 Faculty-mentored project paired with a Core course. Demonstrate individual and simultaneous skills and competency across fields and within cross-functional, cross-disciplinary teams. *Recommended Preparation:* IDSN 510 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 550 Opportunity and Uncertainty
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary, and shared approaches to recognizing/analyzing opportunities, identifying/framing problems, and developing/iterating solutions. Techniques gleaned from entrepreneurship, creative practices, critical thinking methods, ethnography, systems theory. *Recommended Preparation:* IDSN 510 and IDSN 540 Registration Restriction: Open only to: Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 560 Narrative and Storytelling
Units: 4 Terms Offered: FaSpSm Discipline-specific, cross-disciplinary, and shared approaches to exploring visual, written, and spoken storytelling using digital modalities. Topics include communication theory, narrative structures and content creation. *Recommended Preparation:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 570 Decisions and Solutions
Units: 4 Terms Offered: FaSpSm Generate portfolio of solutions for a given "problem." Explore solutions and decisions, mechanisms for reducing uncertainty and risk. Includes quantitative and qualitative techniques. *Recommended Preparation:* IDSN 510 and IDSN 540 Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

IDSN 585 Capstone
Units: 3 Faculty-mentored, applied project with individual and team components. Implement a prototype solution to a problem. Deploy relevant tools, methods, and processes learned throughout the program. *Recommended Preparation:* All prior required courses (excluding concurrent courses) Registration Restriction: Open only to Integrated Design, Business and Technology majors Instruction Mode: Lecture Grading Option: Letter

Media Arts and Practice

Note: Instructor availability for a particular course or section cannot be guaranteed.

IML 104 Introduction to Digital Studies
Units: 2 Terms Offered: FaSpSm An introduction to the expressive range of screen languages in their cultural, historical, and technological contexts. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 140 Workshop in Multimedia Authoring
Units: 2 Terms Offered: FaSpSm Introduction to the expressive potential of multimedia as a critical and creative tool, supplementing traditional forms of academic work. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 201 The Languages of Digital Media
Units: 4 Terms Offered: FaSpSm An in-depth investigation of the close interrelationships among technology, culture and communication to form a solid foundation for digital authoring. Duplicates Credit in former IML 101. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 202 Media Arts and Practice Studio I
Units: 2 Terms Offered: Fa Intermediate laboratory exploring the foundations of visual culture through a series of critical design prompts. Emphasis on the creative process, project documentation and the development of a personal design methodology. *Prerequisite:* IML 201 Registration Restriction: Open only to Media Arts and Practice students Duplicates Credit in the former IML 102 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 203 Media Arts and Practice Studio II
Units: 2 Terms Offered: Sp Intermediate laboratory exploring computational systems through a series of critical design prompts. Emphasis on digital representation, time-based processes, abstract data and the relationship between humans and computers. *Prerequisite:* IML 202 Registration Restriction: Open only to Media Arts and Practice students Duplicates Credit in the former IML 103 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 230 Fundamentals of Media Design
Units: 2 Terms Offered: FaSp Introduction to the methods of visual design with respect to digital media authorship. Exploring the creative process through various conceptual workflows and hands-on techniques. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 288 Critical Thinking and Procedural Media
Units: 2 Terms Offered: FaSp Investigation of the potentials of computational media to define new aesthetics, modes of representation and structures of communication. Duplicates Credit in IML 388 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 295Lm Race, Class and Gender in Digital Culture
Units: 4 Terms Offered: FaSp Critical analysis of the categories of race, class and gender within the diverse digital spaces of contemporary culture, from video games to the digital divide. Instruction Mode: Lecture, Lab Required Grading Option: Letter

IML 300 Reading and Writing the Web
Units: 2 Terms Offered: FaSp An introduction to a broad range of technical and theoretical issues surrounding the production of web-based content. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 309 Integrative Design for Mobile Devices
Units: 4 Terms Offered: FaSp Hands-on investigation of opportunities and challenges offered by mobile interaction within both cultural and ideological contexts. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 310 Professionalism for Media Arts
Units: 2 Terms Offered: FaSpSm Development of documentation and archival strategies, with an emphasis on techniques of personal and professional representation. *Prerequisite:* IML 300 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 320 Designing and Writing for Transmedia Narratives
Units: 4 Terms Offered: FaSp Creating

a story that uses three or more digital platforms (video, social media, games, comics, et cetera) with strategies drawn from entertainment, art and activism. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 328 Sonic Media Art
Units: 2 Terms Offered: FaSp Survey of audio culture and sound technologies, focusing on developing sonic literacy and creating artwork using sound as a primary modality. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 335 Digital Narrative Design I
Units: 2 Terms Offered: FaSp An introduction to audio and video techniques for digital storytelling across various platforms. Students will create multiple short-form projects using contemporary tools and technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 340 Remixing the Archive
Units: 4 Max Units: 8 Terms Offered: FaSp An intermediate level course which approaches archived material from multiple perspectives, in order to develop new avenues of expression, education, and research. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 346 Methods in Digital Research
Units: 2 Terms Offered: FaSpSm Emphasizing rigorous multimedia research and authorship strategies, this course prepares students to undertake large-scale digital projects. *Prerequisite:* IML 104 or IML 201 Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture, Lab Grading Option: Letter

IML 354 Introduction to 3-D Modeling
Units: 2 Terms Offered: FaSp An introduction to the history, theory and critical context of 3-D spatial representation, as well as foundational authoring skills in modeling interactive 3-D spaces. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 365 Future Cinema
Units: 4 Terms Offered: FaSp Examination of the history of cinematic experimentation to provide a framework for understanding contemporary virtual reality, augmented reality, interactive installations and large-scale urban screens. Instruction Mode: Lecture Grading Option: Letter

IML 385 Design Fiction and Speculative Futures
Units: 4 Terms Offered: FaSp The history, theory and methods of design fiction, focusing on design videos and physical prototypes as tools for exploring contemporary social, political and ethical life. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 400 Creative Coding for the Web
Units: 4 Terms Offered: FaSp Analysis and development of scholarly media projects using diverse web authoring strategies, technologies and documentation. *Prerequisite:* IML 300. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 404 Tactical Media
Units: 4 Terms Offered: FaSp Examination of existing and emergent media technologies, focusing on creative and critical tactics for empowering users to explore the full potentials of software and hardware. *Prerequisite:* IML 288 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 420m New Media for Social Change
Units: 4 Max Units: 8.0 Terms Offered: FaSp Creating real social change through multimedia, working in collaboration with a local nonprofit organization. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 422 Information Visualization
Units: 4 Terms Offered: FaSp Visualizing information through diverse media platforms, with a focus on critical analysis and hands-on visualization. Duplicates Credit in the former IML 222 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 428 Exploring and Creating Sonic Environments
Units: 4 Terms Offered: FaSp Exploration of spatial sound practices, focusing on sound installation art, sonic visualization and audio storytelling techniques. *Prerequisite:* IML 328 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 435 Digital Narrative Design II
Units: 4 Terms Offered: FaSp Exploration of advanced techniques in digital audio and video storytelling. Emphasis on nonlinearity, computer graphics, sound design and networked media. *Prerequisite:* IML 335 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 436 Hypercinemas Studio
Units: 4 Terms Offered: FaSp A hands-on exploration of emerging cinematic technologies, situated within a historical context through both theoretical and practical analysis. *Prerequisite:* IML 335 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 440 Interdisciplinary Thesis
Units: 4 Terms Offered: FaSp Production of an interdisciplinary digital thesis project. Open to students in the Honors in Multimedia Scholarship Program only. *Prerequisite:* IML 346 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 441 Thesis Project I
Units: 2 Terms Offered: Fa Exploration of theoretical and practical concerns of advanced digital media authorship. *Prerequisite:* IML 346. Registration Restriction: Open only to Media Arts and Practice majors. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 444 Thesis Project II
Units: 2 Terms Offered: Sp Production of a digital thesis project. *Prerequisite:* IML 441. Registration Restriction: Open only to Media Arts and Practice majors. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 450 Critical Play and Documentary Games
Units: 4 Terms Offered: FaSp Investigation of the history and theory of games designed to prompt social change, with a hands-on component in the creation of documentary game projects. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 454 Advanced Techniques of Spatial Representation
Units: 4 Terms Offered: FaSp Studio class exploring spatial perception and advanced techniques of 3-D representation, stereoscopy, panorama, projection mapping, modeling for real-time environments, parametric modeling, and 3-D fabrication. *Prerequisite:* IML 354 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 456 Nature, Design and Media
Units: 2 Terms Offered: FaSp Investigation of the impact of natural patterns on digital media design. Explores the relationships among chaos, harmony, beauty, proportion, spirituality, holistic systems and shaped experience. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 458 The Embedded Story: Designing Digital Landscapes and Languages
Units: 2 Terms Offered: FaSp Exploration of the imagined territories where language and landscape originate, converge and are transformed. Students will collaborate to create media in cross-platform environments. *Prerequisite:* CTPR 457 or IML 456 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 466 Digital Studies Symposium
Units: 2 Terms Offered: FaSp Lectures, presentations, and readings introducing cutting-edge digital media innovations and applications. Analysis of the critical and creative challenges of contemporary digital media practices. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 475 Media Arts Research Lab
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm A hands-on mentored research lab experience within the context of media art and in association with a real-world project. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 477 Embodied Storytelling and Immersive Docu-Narratives
Units: 4 Terms Offered: FaSp Examination of art, media, and theatre, to create an immersive, installation-based intervention utilizing the embodied 360-degree docu-narrative form. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. *Prerequisite:* IML 104 or IML 201 Instruction Mode: Lecture Grading Option: Letter

IML 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in multimedia literacy. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 500 Digital Media Tools and Tactics
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Introduction to digital scholarship at the graduate level, with a focus on media research ecologies, online portfolios and distributed scholarly presence. Open only to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 501L Seminar in Contemporary

Digital Media
Units: 4 Terms Offered: FaSpSm An in-depth examination of the development of digital technologies in their cultural and historic contexts, with equal emphasis on digital analysis and production. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Required Grading Option: Letter

IML 502 Techniques of Information Visualization
Units: 4 Terms Offered: FaSp Critical and practical analysis of scholarly data visualization using diverse platforms. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 520 Non-Fiction Cinematic Practice I
Units: 2 Terms Offered: Fa An introduction to video in academic scholarship. Acquisition and editing of images and sound through a series of short, non-fiction media projects. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 521 Non-Fiction Cinematic Practice II
Units: 2 Terms Offered: Sp Deepening skills in audio/video storytelling methods through a semester-long, non-fiction media project. *Prerequisite:* IML 520 Instruction Mode: Lecture, Lab Grading Option: Letter

IML 535 Tangible Computing in the Humanities and Sciences
Units: 4 Terms Offered: FaSp Study and creation of scholarly multimedia projects integrating hardware, software and interactivity to consider new forms for scholarly expression within the realm of pervasive computing. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 543 Transdisciplinary Media Design Practicum
Units: 4 Max Units: 8 Terms Offered: FaSp Collaboration of artists and designers with non-art professionals to develop cross-disciplinary, media-based creative interventions. *Recommended Preparation:* CTIN 503 and CTIN 541. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 555 Digital Pedagogies
Units: 4 Terms Offered: FaSp An exploration of varied pedagogical approaches and strategies informed by critical engagement with digital media and networked technologies. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 575 Graduate Media Arts Research Lab
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm A hands-on mentored graduate research lab experience within the context of media art and in association with a real-world project. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 585 Creative Critical Writing Workshop
Units: 2 Max Units: 4 Terms Offered: FaSpSm A writing workshop to explore innovative forms for critical writing, media-rich writing and video that borrow from creative nonfiction, the lyric essay, poetic/vernacular criticism. Instruction Mode: Lecture Grading Option: Letter

IML 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 599 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Detailed investigation of new or emergent practices in digital media; special subjects offered by visiting faculty; experimental subjects. Instruction Mode: Lecture Grading Option: Letter

IML 600 Historical Approaches to Media Arts and Culture
Units: 4 Terms Offered: FaSp Introduction to the historical specificities of "old" media (painting, print, photography, film, video, television) and to consequences of the convergences produced by "new" media forms. Duplicates Credit in former CNTV 600. Instruction Mode: Lecture Grading Option: Letter

IML 601 Seminar in Media and Design Studies
Units: 4 Terms Offered: FaSp Creation of a work of digital culture, informed by cultural theory, and planned using current design methods and practices. Duplicates Credit in former CNTV 601. Instruction Mode: Lecture Grading Option: Letter

IML 602 Practice of Media Arts
Units: 4 Max Units: 8 Terms Offered: FaSp Introduction to a range of technologies and media types, while identifying and developing a specialization in one or more areas of practice. Duplicates Credit in former CNTV 602. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 603 Media Arts and Practice Colloquium/Professional Seminar
Units: 1 Max Units: 2 Terms Offered: FaSp Orientation to the profession, opportunities, presentation and analysis of recent developments and applications in Media Arts and Practice. Duplicates Credit in former CNTV 603. Instruction Mode: Lecture Grading Option: Credit/No Credit

IML 604 Theories of Media Arts and Practice
Units: 4 Terms Offered: FaSp Develops an anti-essentialist theory of technology adequate to the digital age that serves as a conceptual and critical framework for developing a contemporary technological imagination. Duplicates Credit in former CNTV 604. Instruction Mode: Lecture Grading Option: Letter

IML 605 Cinema to Post-Cinema and Beyond: History, Theory, Practice
Units: 4 Terms Offered: FaSp Introduction to contemporary media theory, with attention to posthumanism, networks, and the post-cinematic, and a demonstration of these concepts in media art. Instruction Mode: Lecture, Lab Grading Option: Letter

IML 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794a Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794b Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794c Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794d Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IML 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in CNTV 794z Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Interdisciplinary — Developmental Dentistry

INDD 501 Applied Growth and Development
Units: 1 Clinical relevance of chronological and biological assessment of maturation related primarily to diagnosis and prognosis. Instruction Mode: Lecture Grading Option: Letter

INDD 650a Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650b Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650c Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650d Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650e Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 650f Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INDD 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INDD 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lab Grading Option: Credit/No Credit

INDD 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INDD 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary Major Program

INDS 100 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Small group investigation from an interdisciplinary perspective. Instruction Mode: Lecture Grading Option: Letter

INDS 101 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp Research and study with L.A.S. Faculty Associates and other faculty. Instruction Mode: Lecture Grading Option: Letter

INDS 102 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp In-service experience in a variety of off-campus institutions under the supervision of an L.A.S. Faculty Associate. Instruction Mode: Lecture Grading Option: Letter

INDS 300 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp See INDS 100 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 301 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 101 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 302 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 102 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 400 Topical and Multidisciplinary Seminars
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp See INDS 100 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 401 Directed Research and Tutorials
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 101 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 402 Field Study
Units: 1, 2, 3, 4 Terms Offered: FaSp See INDS 102 for description. Instruction Mode: Lecture Grading Option: Letter

INDS 494 Senior Thesis
Units: 1, 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSp Writing the IDM senior thesis under the supervision of a faculty qualifying exam committee. Instruction Mode: Lecture Grading Option: Letter

Informatics

INF 250 Introduction to Data Informatics
Units: 4 Fundamentals of data informatics: representation of data and knowledge, role of a data scientist, data storage/processing/analytics, machine learning, big data, and data visualization. *Recommended Preparation:* A basic understanding of engineering and/or technology is recommended. *Corequisite:* ITP 115 Instruction Mode: Lecture Grading Option: Letter

INF 351 Foundations of Data Management
Units: 4 Data modeling, data storage, indexing, relational databases, key-value/document store, NoSQL, distributed file system, parallel computation and big-data analytics. *Prerequisite:* INF 250 and ITP 115 *Recommended Preparation:* Programming experience (e.g., Python or Java) Instruction Mode: Lecture Grading Option: Letter

INF 352 Applied Machine Learning and Data Mining
Units: 4 Foundational course focusing on the understanding, application, and evaluation of machine learning and data mining approaches in data intensive scenarios. *Prerequisite:* INF 250 and MATH 208x Instruction Mode: Lecture Grading Option: Letter

INF 429 Security and Privacy
Units: 4 Basic concepts in information security and privacy; implications of security and privacy breaches; security and privacy policies, threats, and protection mechanisms; security and privacy laws, regulations, and ethics. Instruction Mode: Lecture Grading Option: Letter

INF 454 Data Visualization and User Interface Design
Units: 4 Design of systems for data visualization; user interface design for exploring and interacting with data. *Prerequisite:* INF 250 Instruction Mode: Lecture Grading Option: Letter

INF 510 Principles of Programming for Informatics
Units: 4 Programming in Python for retrieving, searching, and analyzing data from the Web. Programming in Java. Learning to manipulate large data sets. Instruction Mode: Lecture, Lab Grading Option: Letter

INF 519 Foundations and Policy for Information Security
Units: 4 Threats to information systems; technical and procedural approaches to threat mitigation; policy specification and foundations of policy for secure systems; mechanisms for building secure security services; risk management. *Recommended Preparation:* Background in computer security preferred. Recommended previous

courses of study include computer science, electrical engineering, computer engineering, management information systems, and/or mathematics. Instruction Mode: Lecture Grading Option: Letter

INF 520 Foundations of Information Security
Units: 3 Threats to information systems; technical and procedural approaches to threat mitigation; secure system design and development; mechanisms for building secure security services; risk management. *Recommended Preparation:* Background in computer security preferred. Recommended previous courses of study include computer science, electrical engineering, computer engineering, management information systems, and/or mathematics. Instruction Mode: Lecture Grading Option: Letter

INF 521 Application of Cryptography to Information Security Problems
Units: 3 Application of cryptography and cryptanalysis for information assurance in secure information systems. Classical and modern cryptography. Developing management solutions. *Recommended Preparation:* Previous degree in computer science, mathematics, computer engineering, or informatics; understanding of number theory and programming background are helpful. Instruction Mode: Lecture Grading Option: Letter

INF 522 Policy: The Foundation for Successful Information Assurance
Units: 3 Policy as the basis for all successful information system protection measures. Historical foundations of policy and transition to the digital age. Detecting policy errors, omissions and flaws. *Recommended Preparation:* Background in computer security, or a strong willingness to learn. Recommended previous courses of study include degrees in computer science, electrical engineering, computer engineering, management information systems, and/or mathematics. Instruction Mode: Lecture Grading Option: Letter

INF 523 Computer Systems Assurance
Units: 4 Assurance that an information system will behave as expected; assurance approaches for fielding secure information systems; case studies *Prerequisite:* INF 519 *Recommended Preparation:* Prior degree in computer science, electrical engineering, computer engineering, management information systems, and/or mathematics. Some background in computer security preferred. Instruction Mode: Lecture, Discussion Grading Option: Letter

INF 524 Distributed Systems and Network Security
Units: 3 Fundamentals of information security in the context of distributed systems and networks. Threat examination and application of security measures, including firewalls and intrusion detection systems. *Prerequisite:* INF 521; *Recommended Preparation:* Prior degree in computer science, mathematics, computer engineering, or informatics. It is recommended that students have a working understanding of communication networks and computer architecture, and some programming facility. Instruction Mode: Lecture Grading Option: Letter

INF 525 Trusted System Design, Analysis and Development
Units: 4 Analysis of computer security and why systems are not secure. Concepts and techniques applicable to the design of hardware and software for Trusted Systems. *Prerequisite:* INF 519 Instruction Mode: Lecture Grading Option: Letter

INF 526 Secure Systems Administration
Units: 4 The administrator's role in information system testing, certification, accreditation, operation and defense from cyber attacks. Security assessment. Examination of system vulnerabilities. Policy development. *Prerequisite:* CSCI 530 *Recommended Preparation:* Previous degree in computer science, mathematics, computer engineering, informatics, and/or information security undergraduate program. Also, it is highly recommended that students have successfully completed course work involving policy and network security. Instruction Mode: Lecture, Lab Grading Option: Letter

INF 527 Secure Systems Engineering
Units: 3 The process of designing, developing and fielding secure information systems. Developing assurance evidence. Completion of a penetration analysis. Detecting architectural weaknesses. Case studies. *Prerequisite:* INF 525; *Recommended Preparation:* Previous degree in computer science, mathematics, computer engineering, or informatics; moderate to intermediate understanding of the fundamentals of information assurance, and distributed systems and network security. Knowledge and skill in programming. Instruction Mode: Lecture Grading Option: Letter

INF 528 Computer Forensics
Units: 4 Preservation, identification, extraction and documentation of computer evidence stored on a computer. Data recovery; File System Analysis; Investigative Techniques and Methodologies; Forensic Reports and Presentations. Instruction Mode: Lecture, Lab Grading Option: Letter

INF 529 Security and Privacy in Informatics
Units: 4 Covers societal implications of information privacy and how to design systems to best preserve privacy. *Recommended Preparation:* General familiarity with the use of common Internet and mobile applications. Instruction Mode: Lecture Grading Option: Letter

INF 549 Introduction to Computational Thinking and Data Science
Units: 4 Introduction to data analysis techniques and associated computing concepts for non-programmers. Topics include foundations for data analysis, visualization, parallel processing, metadata, provenance, and data stewardship. *Recommended Preparation:* Mathematics and logic undergraduate courses Instruction Mode: Lecture Grading Option: Letter

INF 550 Overview of Data Informatics in Large Data Environments
Units: 4 Fundamentals of big data informatics techniques. Data lifecycle; the data scientist; machine learning; data mining; NoSQL databases; tools for storage/processing/analytics of large data set on clusters; in-data techniques. *Recommended Preparation:* A basic understanding of engineering principles and programming language is desirable. Instruction Mode: Lecture Grading Option: Letter

INF 551 Foundations of Data Management
Units: 4 Terms Offered: FaSp Function and design of modern storage systems, including cloud; data management techniques; data modeling; network attached storage, clusters and data centers; relational databases; the map-reduce paradigm. *Recommended Preparation:* Understanding of networks and databases; experience with probability, statistics, and programming Duplicates Credit in INF 559 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 537

INF 552 Machine Learning for Data Informatics
Units: 4 Terms Offered: FaSp Practical applications of machine learning techniques to real-world problems. Uses in data mining and recommendation systems and for building adaptive user interfaces. Instruction Mode: Lecture Grading Option: Letter

INF 553 Foundations and Applications of Data Mining
Units: 4 Data mining and machine learning algorithms for analyzing very large data sets. Emphasis on Map Reduce. Case studies. *Recommended Preparation:* INF 551 and INF 552. Probability, linear algebra, basic programming, and machine learning Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 541

INF 554 Information Visualization
Units: 4 Terms Offered: Fa Graphical depictions of data for communication, analysis, and decision support. Cognitive processing and perception of visual data and visualizations. Designing effective visualizations. Implementing interactive visualizations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 560

INF 555 User Interface Design, Implementation, and Testing
Units: 4 Terms Offered: Sp Understand and apply user interface theory and techniques to design, build and test responsive applications that run on mobile devices and/or desktops. *Recommended Preparation:* Knowledge of data management, machine learning, data mining, and data visualization. Instruction Mode: Lecture Grading Option: Letter

INF 556 User Experience Design and Strategy
Units: 4 Terms Offered: FaSp The practice of User Experience Design and Strategy principles for the creation of unique and compelling digital products and services. *Recommended Preparation:* Basic familiarity with web development and/or graphic design using a digital layout tool Instruction Mode:

Lecture, Discussion Grading Option: Letter

INF 557 Foresight for Engineers
Units: 3 Terms Offered: FaSp Applying specialized engineering skillsets to exploring/conceiving of solutions to future challenges; use of techniques for systematically imagining/analyzing diverse possible future paths for engineering products. *Recommended Preparation:* Interest in technology innovation, technology policy/strategy and management, or entrepreneurship. Instruction Mode: Lecture Grading Option: Letter

INF 558 Building Knowledge Graphs
Units: 4 Terms Offered: Fa Foundations, techniques, and algorithms for building knowledge graphs and doing so at scale. Topics include information extraction, data alignment, entity linking, and the Semantic Web. *Prerequisite:* (INF 551 or CSCI 585) and INF 552 or CSCI 567) *Recommended Preparation:* INF 553 and Experience programming in Python Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 563

INF 559 Introduction to Data Management
Units: 3 Function, design, and use of modern data management systems, including cloud; data management techniques; data modeling; network attached storage, clusters and data centers; relational databases; the map-reduce paradigm. *Recommended Preparation:* Understanding of engineering principles, basic programming skills, familiarity with Python Duplicates Credit in INF 551 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 559

INF 560 Data Informatics Professional Practicum
Units: 4 Terms Offered: Sp Student teams working on external customer data analytic challenges; project/presentation based; real client data, and implementable solutions for delivery to actual stakeholders; capstone to degree. *Recommended Preparation:* Knowledge of data management, machine learning, data mining, and data visualization Instruction Mode: Lecture Grading Option: Letter

INF 561 Engineering Data Analytics
Units: 3 Terms Offered: FaSp (Enroll in ISE 529)

INF 562 Integration of Medical Imaging Systems
Units: 3 (Enroll in BME 527)

INF 563 Medical Diagnostics, Therapeutics and Informatics Application
Units: 3 Terms Offered: Sp (Enroll in BME 528)

INF 570 Foundations of Communication Informatics
Units: 3 Modeling behavior and understanding network structures using graph theory and game theory. Using massive data to analyze group behavior. *Recommended Preparation:* Minimum one year of calculus and background in matrix operations. Instruction Mode: Lecture Grading Option: Letter

INF 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree; maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

INF 599 Special Topics
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8 Max Units: 8 Course content to be selected each semester from recent developments in informatics. Instruction Mode: Lecture Grading Option: Letter

Interdisciplinary — Basic Science

INTB 504 Human Craniofacial Development and Genetics
Units: 3 Principles of human embryology and genetics; craniofacial developmental biology; molecular genetics, cytogenetics, clinical orofacial genetics, genetic counseling; bioethics. Instruction Mode: Lecture Grading Option: Letter

INTB 521 Basic and Medical Microbiology
Units: 2 Fundamentals of microbial structure, growth and physiology; major bacterial, viral and fungal diseases, symptoms, course, control and treatment; emphasis on diseases related to dental management. Instruction Mode: Lecture Grading Option: Letter

INTB 601 Advances in Oral Biology
Units: 2 Review of basics of scientific methodology; comparison between and indications for scientific studies and case reports; critical review of current dental literature. Instruction Mode: Lecture Grading Option: Letter

INTB 603 Systematic Approach to Scientific Writing
Units: 2 Study of dental research publication and review of writing principles; focus on logical arrangement of information, avoidance of common writing flaws, attainment of syntactical fluency. Instruction Mode: Lecture Grading Option: Letter

INTB 604 Clinics in Craniofacial Malformations
Units: 2 Diagnosis, treatment, and rehabilitation of craniofacial malformations; principles of health care of craniofacial malformation patients. Includes hospital clinical observation. Instruction Mode: Lecture Grading Option: Letter

INTB 650a Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650b Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650c Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650d Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650e Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 650f Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 each Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTB 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTB 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean, Academic Affairs. Instruction Mode: Lab Grading Option: Credit/No Credit

INTB 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading

Option: Credit/No Credit

INTB 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTB 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdepartmental Medicine

INTD 500 Ethics and Accountability in Biomedical Research
Units: 1 Terms Offered: Sm The purpose of this course is to engage current (and potential) research trainees in discussions about the responsible conduct of science. The course is designed as an option for meeting current federal regulations which require that all predoctoral and postdoctoral fellows paid from federal contracts and grants have a component of ethical training. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 501 Recent Advances in Vision Science
Units: 1 Max Units: 4.0 Terms Offered: FaSp Recent advances in the understanding of the ocular surface are reported and discussed; students will learn how to read papers critically, develop speaking skills to explain a research paper and attend a three-day workshop on NIH proposal development and scientific manuscript preparation. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 504 Molecular Biology of Cancer
Units: 4, 2 years Terms Offered: Sp Epidemiology, pathobiology, carcinogenesis, tumor biology and heterogeneity; retroviruses, oncogenes, cell cycle control, genetics of cancer, tumor immunology; treatment strategies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC 504, CBG 504, MICB 504

INTD 522 Infection and Host Responses
Units: 4 Terms Offered: Sp Overview of microbes, their life cycles and the host response they elicit, evade or exploit, including the manipulation and the malfunction of the immune system. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MICB-522

INTD 531 Cell Biology
Units: 4 Terms Offered: Fa Current perspectives on major research areas in cell biology. Emphasis will be on in-depth examination of cellular structures, regulatory processes, intra-cellular routing and targeting, and cell/environmental interactions. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-531, CNB-531, MICB-531, MPTX-531, PATH-531, PHBI-531, PSCI-531

INTD 535 Continuing Introduction to Clinical Medicine for MD/PhD Students
Units: 1 Terms Offered: FaSp Course for MD/PhD students in PhD years designed to allow maintenance and improvement of clinical skills prior to re-entry in clinical rotations in the Year III medical curriculum. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 537 The Structure of Scientific Revolutions in Molecular Biology
Units: 1 Terms Offered: Irregular A course in how scientists make breakthrough discoveries and whether there are predictable ingredients for significant changes in perception of the living system. *Recommended Preparation:* one year in cell and molecular biology. Registration Restriction: Open only to graduate-level students in any of the biological sciences. Instruction Mode: Lecture Grading Option: Letter

INTD 549 Protein Chemistry — Structure and Function
Units: 4 Terms Offered: Sp Chemistry of peptides and proteins; protein structure and folding; molecular basis of protein action. *Recommended Preparation:* general biochemistry. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-549

INTD 550 Introduction to Pathology
Units: 4 Terms Offered: Fa Normal histology and introduction to basic pathological concepts. Provides a solid and basic understanding of normal structures and how they relate to function. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-550

INTD 551 Pathobiology of Disease
Units: 4 Terms Offered: Sp Relationship between histopathological and clinical manifestations of disease and their underlying molecular mechanisms. Topics include inflammatory, developmental, environmental, degenerative, and neoplastic disease processes. *Prerequisite:* INTD 550. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-551

INTD 555 Biochemical and Molecular Bases of Disease
Units: 4 Biochemical and molecular abnormalities in disease states. *Prerequisite:* general biochemistry. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-555, PATH-555

INTD 561 Molecular Biology
Units: 4 Terms Offered: Fa Biochemistry and molecular biology of replication, transcription, RNA processing, translation, and regulation of gene expression with emphasis on multicellular eukaryotic organisms and comparisons to prokaryotes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-561, CBY-561, CNB-561, MICB-561, MPTX-561, PATH-561, PHBI-561, PSCI-561

INTD 567 Molecular and Cellular Neurobiology
Units: 4 (Enroll in NSCI 531)

INTD 571 Biochemistry
Units: 4 Terms Offered: Sp Physical-chemical basis of life processes: protein structure and enzyme function; synthesis and metabolism of carbohydrates, lipids, amino acids, and nucleotides. *Prerequisite:* open to qualified students. Duplicates Credit in former BIOC 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-571, CBY-571, CNB-571, MICB-571, MPTX-571, PATH-571, PHBI-571, PSCI-571

INTD 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa Mammalian organ systems operation during health, and pathophysiologic analysis of related diseases with focus on muscle, respiratory, cardiovascular and renal systems. Faculty from basic and clinical sciences. Open to graduate students in biomedical science only. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-572, CNB-572, MICB-572, MPHY-572, MPTX-572, PATH-572, PHBI-572, PM-572

INTD 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp Mammalian organ systems operation during health, and pathophysiologic analysis of related diseases with focus on neuroscience, immunology, metabolism, endocrine, reproduction, GI and liver. Faculty from basic and clinical sciences. Open to graduate students in biomedical science only. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-574, CNB-573, MPHY-573, MPTX-573, PATH-573, PHBI-573, PM-573

INTD 574 Systems Biology and Disease Seminar
Units: 1 Max Units: 16.0 Terms Offered: FaSp Selected topics in systems biology and disease. Registration Restriction: Open only to Systems Biology and Disease Ph.D. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 575 Interdisciplinary Research Presentations
Units: 1 Max Units: 12.0 Terms Offered: FaSp Broad Topics on Biomedical Research, Human Diseases and Career Development. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option:

Letter

INTD 577 Writing in the Biomedical and Biological Sciences
Units: 1 Terms Offered: Sp Writing instruction for graduate students focusing on grant proposals and scientific papers. Includes both writing and providing critiques of classmates' work. Lectures and discussion. Open only to doctoral students in the school of Medicine. Registration Restriction: Open only to doctoral students in the school of Medicine. Instruction Mode: Lecture Grading Option: Letter

INTD 600 Student Research Presentation
Units: 1 Max Units: 12.0 Terms Offered: FaSp Students prepare and present their own research to an audience of faculty and peers. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 620 Medical Students Elective Program
Units: 0 Opportunities for medical students as preceptors in research laboratories or in field medical service under guidance of sponsors approved by faculty committees. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 621a Introduction to Clinical Medicine (ICM) for THE
Units: 3 Terms Offered: FaSp A strongly patient centered course in which both PhD engineering and MD students experience how doctors handle communications, basic diagnostic thinking and engineering perspectives. Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 621b Introduction to Clinical Medicine (ICM) for THE
Units: 3 Terms Offered: FaSp A strongly patient centered course in which both PhD engineering and MD students experience how doctors handle communications, basic diagnostic thinking and engineering perspectives. Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 622L Pre-clinical System Block for Health, Technology and Engineering
Units: 3, 4, 5, 6, 7, 8, 9 Terms Offered: FaSp A three to- nine week block of lectures and laboratories focused on particular body system (e.g., cardiovascular, renal, etc.). Open only to Health, Technology and Engineering students. Registration Restriction: Open only to Health, Technology and Engineering students. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTD 630 Viral Oncology
Units: 2 Terms Offered: Fa Broad aspects of RNA and DNA viral oncology from epidemiology to molecular genetics. Duplicates Credit in former PATH 630. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-631

INTD 650 Stem Cell Biology and Medicine
Units: 4 Terms Offered: FaSpSm Basic principles, available embryonic and adult stem cells, principles of organogenesis and regeneration, animal models, delivery of engineered tissues to patients, promise and limitations of stem cells. Open to master's and PhD students on the Health Sciences Campus and to medical and post-doctoral fellow trainees only. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PATH-650

INTD 685 Bioinformatics in Genome Analysis
Units: 4 Terms Offered: Sm Basic programming concepts for computational genomic analysis. Instruction Mode: Lecture Grading Option: Letter

INTD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Open only to doctoral students. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Practice Dynamics

INTP 501 Behavioral Strategies in Dentistry
Units: 2 Improvement of time and stress management and effectiveness in working with others; establishment of goals in dentistry; effective presentation of ideas. For Advanced Standing Program for International Dentists. Instruction Mode: Lecture Grading Option: Letter

INTP 502a Human Relations in Dental Practice
Units: 2 Introduction to behavioral concepts related to pain, fear, sedation; interviewing, treatment planning; care of geriatric and handicapped patients; patient education; includes principles of clinical application. Instruction Mode: Lecture Grading Option: Letter

INTP 502b Human Relations in Dental Practice
Units: 2 Introduction to behavioral concepts related to pain, fear, sedation; interviewing, treatment planning; care of geriatric and handicapped patients; patient education; includes principles of clinical application. Instruction Mode: Lecture Grading Option: Letter

INTP 503a Evaluation of Scientific Information in Clinical Practice
Units: 0, 1 Practical guidelines for critically appraising scientific information applicable to the clinical practice of dentistry. Seminars will complement lectures with examples. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTP 503b Evaluation of Scientific Information in Clinical Practice
Units: 0, 1 Practical guidelines for critically appraising scientific information applicable to the clinical practice of dentistry. Seminars will complement lectures with examples. Instruction Mode: Lecture Grading Option: Letter

INTP 650 Dental Research Participation
Units: 1, 2, 3, 4, 5, 6 Assist in research in basic science, biomedical, or clinical dental areas. Experience in research strategy, design and methods using practical scientific problem solving. Instruction Mode: Lecture Grading Option: Letter

INTP 651 Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTP 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTP 690 Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Restorative Dentistry

INTR 503 Preclinical Diagnosis and Treatment Planning
Units: 2 Interdisciplinary course focusing on diagnosis and treatment planning through didactic course work and workshops which will include data collection/assessment, diagnosis and treatment planning methodologies, and specialty considerations. Instruction Mode: Lecture Grading Option: Letter

INTR 524a Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524b Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524c Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524d Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524e Clinical Practice
Units: 0 Terms Offered: FaSpSm The clinical

component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 524f Clinical Practice
Units: 3 Terms Offered: FaSpSm The clinical component of existing didactic courses in Practice Management and Human Behavior. Instruction Mode: Lecture Grading Option: Letter

INTR 550a Introduction to Clinical Dentistry
Units: 0, 1 Clinical operatory preparation; asepsis and sterilization; preventive dentistry; introduction to physical evaluation, extra- and intra-oral examinations, treatment sequencing, dental specialty areas; includes clinical assisting. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 550b Introduction to Clinical Dentistry
Units: 0, 1 Clinical operatory preparation; asepsis and sterilization; preventive dentistry; introduction to physical evaluation, extra- and intra-oral examinations, treatment sequencing, dental specialty areas; includes clinical assisting. Instruction Mode: Lecture Grading Option: Letter

INTR 551a Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551b Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551c Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551d Clinical Diagnosis and Treatment Planning
Units: 0 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 551e Clinical Diagnosis and Treatment Planning
Units: 1 Large and small group seminars focusing on diagnosis and treatment planning involving multiple specialty case presentations; integrated therapy, contingency plans and case presentations will be included. Instruction Mode: Lecture Grading Option: Letter

INTR 553a Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553b Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553c Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553d Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553e Clinic: Diagnosis and Treatment Planning
Units: 0 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

INTR 553f Clinic: Diagnosis and Treatment Planning
Units: 2 Clinical experience in diagnostic procedures and treatment planning in care of dental patients. Includes student preparation of documentation of patient care and seminar. Instruction Mode: Lecture Grading Option: Letter

INTR 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTR 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Surgical Sciences

INTS 651a Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651b Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651c Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 651d Experience in Dental Teaching
Units: 1, 2, 3 Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTS 652 Externship
Units: 1, 2, 3, 4, 5, 6 Dental experience at an off-site location — not limited to clinical experience. Student participation must be approved by Associate Dean for Student and Academic Life. Instruction Mode: Lab Grading Option: Credit/No Credit

INTS 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTS 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

Interdisciplinary — Diagnostic Sciences

INTX 501a Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501b Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501c Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501d Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501e Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501f Integrated Basic and Applied Science I
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 501h Integrated Basic and Applied Science I
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on cell and connective tissue biology, neuromuscular, blood, endocrine and cardiovascular systems. Instruction Mode: Lecture Grading Option: Letter

INTX 502a Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502b Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502c Integrated Basic and Applied Science II
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502d Integrated Basic and Applied Science II
Units: 3 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502e Integrated Basic and Applied Science II
Units: 1 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 502f Integrated Basic and Applied Science II
Units: 2 Principles of anatomy, histology, physiology, pathology applied to patient evaluation and management. Focuses on respiratory, genito-urinary, gastrointestinal, hepato-biliary systems, oral biology, nutrition and hospital dentistry. Instruction Mode: Lecture Grading Option: Letter

INTX 651a Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651b Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651c Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 651d Experience in Dental Teaching
Units: 1, 2, 3, 4, 5, 6 each Max Units: 6.0 Practical teaching experience in dental laboratory and clinic settings under faculty supervision. Includes instruction in effective methods. Instruction Mode: Lecture Grading Option: Letter

INTX 690a Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690b Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690c Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research

under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690d Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690e Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

INTX 690f Directed Dental Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 each Dental clinical and/or basic science research under faculty guidance; proposal developed, research conducted, conclusion drawn, paper written. Units determined by extent of research. Instruction Mode: Lecture Grading Option: Credit/No Credit

International Relations

IR 100gx The United States and World Affairs
Units: 4 The changing character of contemporary international political issues from the Cold War to the future and U.S. foreign policy options for the future; exploration of competing perspectives. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

IR 101gxw International Relations
Units: 4 Basic concepts of world affairs for non-majors. Development of competency to understand and critically evaluate global relations and international events, stressing empirical approaches. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 210gw International Relations: Introductory Analysis
Units: 4 Terms Offered: FaSp Comprehensive introduction to contending theoretical and analytical approaches; development of critical, evaluative, cognitive, and analytical competencies regarding historical and contemporary issues. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 211g International Relations: Approaches to Research
Units: 4 Terms Offered: FaSpSm Introduction to theoretically oriented research approaches and designs; emphasis on the logic of argumentation. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 212 Historical Approaches to International Relations
Units: 4 Terms Offered: FaSp Introduction to historical research methods, with an emphasis on historical texts and modes of discourse. Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 213 The Global Economy
Units: 4 Terms Offered: FaSp Economic and political concepts necessary to the understanding of the modern global economy. Topics include international trade, foreign investment and migration. Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 302 International Relations of the Great Powers in the Late 19th and 20th Centuries
Units: 4 Introductory analysis of the interactions of the great powers during the period; initial focus on Europe, with expansion to include global relations. Instruction Mode: Lecture Grading Option: Letter

IR 303 Leadership and Diplomacy
Units: 4 The role of leaders, diplomatic leadership and creativity in statecraft, providing a deep understanding of the theoretical and practical dimensions of diplomacy. Instruction Mode: Lecture Grading Option: Letter

IR 304 Espionage and Intelligence
Units: 4 The role and evolution of espionage and intelligence as tools of statecraft are examined. Open, covert, clandestine, counterintelligence programs and oversight processes are considered. Instruction Mode: Lecture Grading Option: Letter

IR 305w Managing New Global Problems
Units: 4 Examines strategies for managing global issues in the post Cold War period. Explores ways that international institutions, national governments and non-state actors work separately and together to provide order and control over complex international issues areas. Issues that will receive attention could include financial and monetary relations, trade and foreign investment, preservation of the environment, the spread of weapons of mass destruction, population and migration, terrorism and ethnic strife. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 306 International Organizations
Units: 4 The emergence of international organizations as a permanent feature in world politics; role of the United Nations organization as well as regional international organizations. Instruction Mode: Lecture Grading Option: Letter

IR 307 Contemporary International Politics
Units: 4 Max Units: 8.0 Analysis of recent events, forces, and conditions in the international political system. Instruction Mode: Lecture Grading Option: Letter

IR 308w Economic Globalization
Units: 4 Globalization makes national borders and regulations increasingly obsolete. Analyzes the economic foundation of globalization, its consequences and efforts to manage it. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 309 Global Governance
Units: 4 Introduction to global governance structure and institutions. Exploration of the appropriate role for states, international organizations, civil society and individuals within the global governance structure. Instruction Mode: Lecture Grading Option: Letter

IR 310 Peace and Conflict Studies
Units: 4 Interdisciplinary study of the pursuit of peace, including causes of wars, arms races, conflict resolution, peace movements, nonviolent resistance, and peace with justice. Instruction Mode: Lecture Grading Option: Letter

IR 311 Research Design and Methods
Units: 4 Exploration of critical scholarship on research design, including case selection, hypothesis testing, and field research techniques. Instruction Mode: Lecture Grading Option: Letter

IR 312 Introduction to Data Analysis
Units: 4 Introduction to statistical analysis with R, with applications to the study of International Relations: data manipulation, hypothesis testing, regression, causality, text analysis, visualization, and network analysis. *Recommended Preparation:* IR 211g andIR 212 plus a course in research design such asIR 311 Instruction Mode: Lecture Grading Option: Letter

IR 313 Religions and Political Violence
Units: 4 An introduction to debates about the intersection of religion and conflict in politics and international affairs; theoretical, classical, and contemporary issues. Instruction Mode: Lecture Grading Option: Letter

IR 315 Ethnicity and Nationalism in World Politics
Units: 4 Ethnic identity and nation formation in the global society of states; nation-states; conflict or political accommodation within multinational states; impact of dispersed nations on interstate relations. Instruction Mode: Lecture Grading Option: Letter

IR 316 Gender and Global Issues
Units: 4 An examination of the role women have played in world politics focusing on issues of war and peace, the environment and the global economy. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-316

IR 317 The Political Economy of Africa
Units: 4 Africa remains the world's poorest region. Why? Since when? Will it remain so? This course discusses tentative answers drawn from a number of disciplines. Instruction Mode: Lecture Grading Option: Letter

IR 318 Violent Conflict
Units: 4 Origins and evolution of violent conflict among humans; modern efforts to end conflict; recent research in archaeology,

anthropology, biology, economics, political science and psychology. Instruction Mode: Lecture Grading Option: Letter

IR 319 Human Security and Humanitarian Intervention
Units: 4 Explore causes of human security threats, challenges to state sovereignty, and actions to address failed states, conflicts and protect people through humanitarian intervention. Instruction Mode: Lecture Grading Option: Letter

IR 323 Politics of Global Environment
Units: 4 Examines the politics of managing the global environment. The nature of ecosystems, common problems, population and resource utilization problems along with biodiversity and global governance are emphasized. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-323

IR 324 Multinational Enterprises and World Politics
Units: 4 Political implications of interactions between different types of multinational enterprises and all levels of U.S. government, other industrial nations, and less-developed countries. Instruction Mode: Lecture Grading Option: Letter

IR 325 North-South Relations in the Global Economy
Units: 4 Analysis of inequality in relations between developed and developing states; contending views on the causes and legacies of imperialism; development strategies and aid. Instruction Mode: Lecture Grading Option: Letter

IR 326 U.S. Foreign Economic Policy
Units: 4 The U.S. economy and political-economic institutions in comparative perspective; economic diplomacy and policy; role of trade barriers, exchange rates, foreign aid, energy, foreign investment. Instruction Mode: Lecture Grading Option: Letter

IR 327 International Negotiation
Units: 4 Practicum in negotiation skills. Diagnosis of situations and identification of strategies through case studies and personal exercises. Instruction Mode: Lecture Grading Option: Letter

IR 328 The Evolving Global Economic Architecture-Capital Mobility
Units: 4 Exploration of the evolving global economic architecture of the past seventy years; overview of the possible future contours of economic and political globalization. Recommended preparation: Macro- and Micro-economics. Instruction Mode: Lecture Grading Option: Letter

IR 329 The Global Finance and Monetary Regime
Units: 4 The international financial and monetary regime, its evolution and the problems facing it today. Instruction Mode: Lecture Grading Option: Letter

IR 330 Politics of the World Economy
Units: 4 Exploration of questions and concepts in international economics and politics, especially as they relate to flows of trade, capital, people, and problems across borders. Instruction Mode: Lecture Grading Option: Letter

IR 331 The Global Economy 2030
Units: 4 Terms Offered: Fa Examination of key ideas from economics, demography and technology. Guest lecturers illuminate possible conditions of the global economy in 2030. Instruction Mode: Lecture Grading Option: Letter

IR 333 China in International Affairs
Units: 4 Economic reform, the open door, and China's changing role in the international system. Relations with the United States, Japan, and other key powers in Asia. Tensions between the interests of American business and the human rights community over China policy. Instruction Mode: Lecture Grading Option: Letter

IR 337 The Impact of Remittances on Development in Mexico
Units: 4 Examines the nature of remittances and their effects. Can remittances promote development? Explores policy making focused on improving the quality of remittance expenditures in Mexico. *Recommended Preparation:* working ability with Spanish. Instruction Mode: Lecture Grading Option: Letter

IR 339 Public Health and International Relations
Units: 4 Examination of threats to global security, state sovereignty and population health posed by infectious diseases, natural disasters, war and civil conflict. Instruction Mode: Lecture Grading Option: Letter

IR 340 The Political Economy of China
Units: 4 Sources, consequences, challenges to China's economic growth, including rural and urban economies, entrepreneurship, central and local governments, inequality, trade, investment, finance, demographics, and the environment. Instruction Mode: Lecture Grading Option: Letter

IR 341 Foreign Policy Analysis
Units: 4 Basic concepts and analytical approaches in the study of decision-making at the international level. This is a case-based class, requiring participation of students in interactive discussions of decision forcing and retrospective foreign policy cases. Instruction Mode: Lecture Grading Option: Letter

IR 342 The Politics and Strategy of Weapons of Mass Destruction
Units: 4 Causes and effects of use and spread of nuclear, biological and chemical weapons; responses to WMD, including deterrence, preventive war, and non-proliferation policies and negotiations. Instruction Mode: Lecture Grading Option: Letter

IR 343 U.S. Foreign Policy since World War II
Units: 4 Analysis of U.S. foreign policy since 1945 as a basis for understanding significant new trends. Explanation of contemporary issues in U.S. relations with other nations. Instruction Mode: Lecture Grading Option: Letter

IR 344 Developing Countries in World Politics
Units: 4 Origin, concepts, realities, and ideals of the nonaligned movement, focusing on the United States' role in the developing world. Instruction Mode: Lecture Grading Option: Letter

IR 345 Russian and Post-Soviet Foreign Policy
Units: 4 Overview of Tsarist and Soviet experience as background to detailed examination of the political, economic and ideological forces behind contemporary Russian foreign policy. Instruction Mode: Lecture Grading Option: Letter

IR 346 Communism and Post-Communism: Eastern Europe and the Balkans
Units: 4 Analysis of communism and post-communism in East-Central Europe, including economic transitions, nationalism, inter-and intra-state conflict, NATO and EU enlargement. Instruction Mode: Lecture Grading Option: Letter

IR 349 International Law and Politics
Units: 4 Exploration of international law and international politics, including sovereignty, war, international tribunals, the environment, and human rights. Instruction Mode: Lecture Grading Option: Letter

IR 350 Perspectives on US Foreign Policy in the Middle East
Units: 4 (Enroll in MDES 340)

IR 358 The Asia Pacific in World Affairs
Units: 4 The cultural, political, economic, and social aspects of the Asia Pacific's rise to prominence in world affairs. Reasons for the "successes" of many Asian economies and the environmental and social problems accompanying their rapid transformation. The difficulties of interaction in complex cultural situations illustrated by participation in a computer-assisted simulation. Instruction Mode: Lecture Grading Option: Letter

IR 360 International Relations of the Pacific Rim
Units: 4 Political, economic and security relations among the countries in East Asia and the Pacific with the emphasis on the role of the United States, China and Japan. Instruction Mode: Lecture Grading Option: Letter

IR 361 South and Southeast Asia in International Affairs
Units: 4 The historical, cultural, and political reasons for Asia's dramatic transformation into a powerful engine of world economic growth. The secondary consequences of economic growth for environmental protection, gender relations, ethnicity, and military tension. Instruction Mode: Lecture Grading Option: Letter

IR 362 The International Relations of the Contemporary Middle East
Units: 4 Introduction to problems and issues in the Middle East today: religio-ethnic rivalries, conflicting nationalisms and ideologies, the Arab- Israeli conflict, Middle East oil. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-362

IR 363 Middle East Political Economy
Units: 4 Examination of general economic development issues: population, agriculture, industrialization, trade, oil, etc. Several Mideast case study countries are then explored in depth. Instruction Mode: Lecture

Grading Option: Letter Crosslisted as MDES-363

IR 364 The Political Economy of Latin American Development
Units: 4 The main economic development themes and strategies in Latin America over the past century. The interplay between domestic and international variables, and the resulting dynamic changes. Instruction Mode: Lecture Grading Option: Letter

IR 365 Politics and Democracy in Latin America
Units: 4 Examines Latin America's experience with democracy emphasizing events since the 1980s. Analyzes the roles of interest groups, ideology, domestic politics, bureaucratic processes, perceptions and analogical reasoning. Instruction Mode: Lecture Grading Option: Letter

IR 366 Mexico and its Relations with the United States
Units: 4 Analysis of Mexico and U.S.-Mexico relations, both historically and in the present day, to understand better the challenges in this key bilateral relationship. Instruction Mode: Lecture Grading Option: Letter

IR 367 Africa in International Affairs
Units: 4 General overview of main historical, political, and economic issues as they affect Africa, focusing on nationalism, development, and superpower competition in Africa. Instruction Mode: Lecture Grading Option: Letter

IR 368 French Foreign Policy: 1945 to the Present
Units: 4 Terms Offered: FaSpSm Introduction to historical, thematic perspectives of French foreign policy since 1945 including review of external and internal constraints influencing foreign policy. (Paris semester only). Instruction Mode: Lecture Grading Option: Letter

IR 369 Post-War European Relations
Units: 4 European interstate conflict and cooperation since 1945; history of Western European integration during the Cold War; the European Union in post-Cold War Europe. Instruction Mode: Lecture Grading Option: Letter

IR 371 Global Civil Society: Non-State Actors in World Politics
Units: 4 Examination of diplomatic and moral relationships between sovereign states and transnational non-state actors, both benevolent (humanitarian groups and philanthropies) and malevolent (mercenaries, pirates and terrorists). Instruction Mode: Lecture Grading Option: Letter

IR 376 U.S.-Japan Encounters: War, Trade, and Culture
Units: 4 The significance of U.S.-Japan relations is addressed through historical and policy analysis of America, Japan, and the Asia-Pacific region. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-376

IR 381 Introduction to International Security
Units: 4 Key concepts in international security studies; historical evolution of international warfare and diplomacy; contemporary international security issues. Instruction Mode: Lecture Grading Option: Letter

IR 382w Order and Disorder in Global Affairs
Units: 4 Modern and post-modern perspectives on changes in the inter-state system, relations among cultures and civilizations, the conditions of ecologically sustainable human development. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture, Discussion Grading Option: Letter

IR 383 Third World Negotiations
Units: 4 Origins, intensity, management and/or resolution of regional conflicts in developing countries and the role and intervention of great powers. Instruction Mode: Lecture Grading Option: Letter

IR 384 Asian Security Issues
Units: 4 Introduction to key security trends in the Asia-Pacific region, emphasizing strategic competition between U.S., Russia, and China; regional military capabilities; rise of neutrality politics. Instruction Mode: Lecture Grading Option: Letter

IR 385 European Foreign Policy and Security Issues
Units: 4 In-depth analysis of foreign policy events and cases in Europe in the 20th century; focus on security issues. Instruction Mode: Lecture Grading Option: Letter

IR 386 Terrorism and Counterterrorism
Units: 4 Terms Offered: FaSpSm Examination of terrorism and responses to terrorism, including how societies understand and deal with terrorism; focus on ethical and normative issues. Instruction Mode: Lecture Grading Option: Letter

IR 387 Strategic Studies
Units: 4 Strategic theory and its application to national security and warfare from Western and non-Western perspectives. Topics include strategic culture, political decision-making, cyber operations, and non-state challenges. Instruction Mode: Lecture Grading Option: Letter

IR 389 Islam in France
Units: 4 (Paris Semester only) Historical overview of interactions between Muslims and Europeans. Islam: origins, history and circumstances that led to its revival. France's immigration policy. Instruction Mode: Lecture Grading Option: Letter

IR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

IR 391 Directed International Relations Field Study
Units: 2, 4 Max Units: 8.0 Intensive internship experience in international relations professional areas with academic research component (may be repeated for credit different semesters). Instruction Mode: Lecture Grading Option: Letter

IR 392 Supervised Undergraduate Research Experience
Units: 2 Max Units: 4 Collaborative research projects under faculty supervision. Regular skills training and professionalization workshops. Instruction Mode: Lecture Grading Option: Letter

IR 401 The United Nations and World Order
Units: 4 The contribution of the United Nations to world order, focusing on its history, principal organs, relationships with global actors, and prospects for reform. Instruction Mode: Lecture Grading Option: Letter

IR 402 Theories of War
Units: 4 Causes of war; means of prevention and consequences of war. Instruction Mode: Lecture Grading Option: Letter

IR 403 Transnational Diplomacy and Global Security
Units: 4 Explores emerging "diplomatic" relations between nation-states and transnational (non-state) entities, such as non-governmental organizations (NGOs), in the development of global peace and security policies. *Recommended Preparation:* IR 303. Instruction Mode: Lecture Grading Option: Letter

IR 404 International Relations Policy Task Force
Units: 4 Addresses unfinished question of public policy. Provides experience in interviewing and field research, oral presentation and collective discussion and deliberation. Open to juniors and seniors only. Instruction Mode: Lecture Grading Option: Letter

IR 405 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402) Instruction Mode: Lecture Grading Option: Letter

IR 406 Ethics and World Politics
Units: 4 Exploration of the relationship between ethics and politics. Special focus on religion, violence and human rights in international relations Instruction Mode: Lecture Grading Option: Letter

IR 407 Chinese Foreign Policy
Units: 4 The domestic and international sources of Chinese foreign policy; political, military, and economic issues in China's relations with its neighbors. Instruction Mode: Lecture Grading Option: Letter

IR 408 Global Democratization
Units: 4 Exploration of the global experience with democracy. Meaning of the term "democracy," explanations of the rise and fall of democracy, its current trends and future challenges. Instruction Mode: Lecture Grading Option: Letter

IR 410 The History of Modern International Relations
Units: 4 Explores modern international relations history, focusing on the role of the U.S. in the global politics. Provides training in historical research methods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-422

IR 412 Applied Data Science for International Relations 1
Units: 2 Terms Offered: Fa Introduction to statistical computing and data visualization in R. Focus on visualization of descriptive statistics; create publication-ready figures for actual faculty research projects. *Prerequisite:* IR 210 and IR 211 Instruction Mode: Lecture Grading Option: Letter

IR 413 Applied Data Science for International Relations 2
Units: 2 Terms Offered: Sp Intermediate statistical computing and data visualization in R. Focus the on graphical presentation of complex statistical relationships. Students create publication-ready figures for actual faculty research projects. *Prerequisite:* IR 210 and IR 211 and (IR 412 or IR 307) Instruction Mode: Lecture Grading Option: Letter

IR 422 Ecological Security and Global Politics
Units: 4 Should environmental issues be treated as threats to security? Survey of recent literature explores global environmental politics using a security framework. *Recommended Preparation:* environmental studies course work. Instruction Mode: Lecture Grading Option: Letter

IR 424w Citizenship and Migration in International Politics
Units: 4 Changing notions of citizenship in the context of history, and of economic, political and sociological theories of international migration; diaspora and migration case studies. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 425 The New Triangle: China, the U.S. and Latin America
Units: 4 China's rise in the international political economy raises policy research questions, including an analysis of how this trend relates to U.S and Latin American relations. *Recommended Preparation:* micro and macro economics. Instruction Mode: Lecture Grading Option: Letter

IR 426 Trade Politics in the Western Hemisphere
Units: 4 Focus on the dynamic process of trade integration that has occurred since the mid-1980s in the Western Hemisphere. Instruction Mode: Lecture Grading Option: Letter

IR 427 Seminar on Economics and Security
Units: 4 Introduction to important economic issue areas that are understood as security-related in the contemporary world: food, trade, debt, etc. Instruction Mode: Lecture Grading Option: Letter

IR 428 China's Political Economy
Units: 4 Critical issues surrounding China's economic rise and the implications for international relations; the unique strengths and vulnerabilities of China's political-economic model; prospects for change. *Recommended Preparation:* IR 210 and a course from International Relations, Political Science, or History with a strong China component. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ECON-451

IR 430 The Politics of International Trade
Units: 4 Economic approaches and political processes are used to explain observed international trade policy choices. Topics covered include globalization, regionalism, labor standards, the environment and sanctions. *Recommended Preparation:* micro and macro economics. Instruction Mode: Lecture Grading Option: Letter

IR 431 Commercial and Financial Globalization-Trends, Challenges
Units: 4 Factors determining the feasibility, desirability and limits of economic globalization; the dynamics triggered by the Global Financial Crisis and the backlash against Globalization. Instruction Mode: Lecture Grading Option: Letter

IR 437 Comparative Genocide
Units: 4 An interdisciplinary treatment of the tragic phenomenon of genocide. Subject matter includes historical cases and analysis of contemporary global efforts toward prevention. Instruction Mode: Lecture Grading Option: Letter

IR 438 Nationalism and Ethnic Conflict after Communism
Units: 4 Explores origins and nature of ethnic strife among post-socialist states (ethnicity and national revival, modern histories of East-Central Europe and Russia, problems and conflict resolution). Instruction Mode: Lecture Grading Option: Letter

IR 439 Political Economy of Russia and Eurasia
Units: 4 Interaction of politics and economics in the former Soviet Union and its component republics; the historical planned economy, the politics of reform and the political economy of former Soviet foreign relations. Instruction Mode: Lecture Grading Option: Letter

IR 440 America's Pacific Century: Dialogues between the U.S. and Asia
Units: 4 Terms Offered: Sp A hands-on analysis of the contemporary U.S. foreign policy towards East Asia through lectures, interviews, and policy paper writing, including an exchange visit to Singapore. Instruction Mode: Lecture Grading Option: Letter

IR 441 Comparative Analysis of Foreign Policy
Units: 4 Comparative analysis of foreign policy determinants and decision-making; empirical emphasis. Instruction Mode: Lecture Grading Option: Letter

IR 442 Japanese Foreign Policy
Units: 4 Economic, political, territorial, and security issues; foreign policy decision-making; relations with major powers and neighboring states. Instruction Mode: Lecture Grading Option: Letter

IR 443 Formulation of U.S. Foreign Policy
Units: 4 Critical discussion of alternative approaches explaining the formulation and implementation of U.S. foreign policy: domestic politics, organizational processes, group dynamics, individual personality and perception. Instruction Mode: Lecture Grading Option: Letter

IR 444w Theories of Global Society
Units: 4 Why the world is organized into sovereign nation-states. The challenges to nation-states in the 21st century from globalization, democratization, revolution, technology, and new forms of cultural identity. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

IR 445 U.S. Defense and Foreign Policy: Nonproliferation and Weapons of Mass Destruction
Units: 4 Policies and programs aimed at stopping the spread of weapons of mass destruction. Presentations by executive/legislative officials involved in formulation and implementation of non-proliferation. Instruction Mode: Lecture Grading Option: Letter

IR 446 The Role of Norms and International Security
Units: 4 The role of ideas, beliefs and norms in understanding state behavior and US foreign policy, from traditional security concepts to modern soft power. Instruction Mode: Lecture Grading Option: Letter

IR 449 International Courts and the Globalization of Law
Units: 4 Research-based analysis of dramatic development of international courts, exploring causes for their development, autonomy and political relations with states, compliance, effects on international relations. Instruction Mode: Lecture Grading Option: Letter

IR 454 The International Political Economy of Development
Units: 4 Provides a critical introduction to scholarship on international political economy (IPE), the interaction of states and markets in a global context. Instruction Mode: Lecture Grading Option: Letter

IR 455 The Political Economy of Autocracy
Units: 4 Survey of autocracy, the world's most common form of government: its political economy, the role of elections, parties, repression, propaganda and civil resistance. Instruction Mode: Lecture Grading Option: Letter

IR 463 Islam and Arab Nationalism
Units: 4 Historical, sociological and political processes that have shaped the emergence of and relationship between Arab nationalism and political Islam since the early 20th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as MDES-463

IR 464 US-Middle East Foreign Policy Issues
Units: 4 U.S. and Middle East perspectives on Middle Eastern affairs after the creation of the state of Israel. Instruction Mode: Lecture Grading Option: Letter

IR 465 Contemporary Issues in United States-Latin America Relations
Units: 4 Examines major issues in the relationship between the United States

and the countries of Latin America and the Caribbean, including trade and financial questions, security, immigration, the environment, narcotics, etc. Major bilateral relations (especially with Mexico, Brazil, and the Caribbean Basin countries) are emphasized, as are regional and multilateral relationships. Instruction Mode: Lecture Grading Option: Letter

IR 466 Contemporary Issues in Latin American Politics
Units: 4 Focus on current politics in Latin America. Address a range of themes: electoral democracy, citizenship, political inclusion, human rights, corruption, economic inequality. Instruction Mode: Lecture Grading Option: Letter

IR 468 European Integration
Units: 4 Research on the European Union's role in European international relations; internal EU developments since 1985 as an actor in the world economy. Instruction Mode: Lecture Grading Option: Letter

IR 470 Comparative Regionalism
Units: 4 Analysis of the factors that provide different forms of regional arrangements in different parts of the world (e.g, NAFTA, FU, ASEAN). *Prerequisite:* IR 210. Instruction Mode: Lecture Grading Option: Letter

IR 483 War and Diplomacy: The U.S. in World Affairs
Units: 4 Perspective on recent American foreign policy; a case study of conflicting literature on the origins, development and legacy of the Cold War. Instruction Mode: Lecture Grading Option: Letter

IR 484 American Religion, Foreign Policy and the News Media
Units: 4 (Enroll in JOUR 484)

IR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

IR 491x Field Study
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Local, national, and international internships. Instruction Mode: Lecture Grading Option: Letter

IR 494 Honors Thesis Seminar
Units: 4 Preparation and oral defense of senior honors thesis before supervising faculty and fellow honors students. *Recommended Preparation:* IR 311. Instruction Mode: Lecture Grading Option: Letter

IR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various special areas within international relations, which may vary from semester to semester or within semesters. Instruction Mode: Lecture Grading Option: Letter

IR 500 International Relations Theory
Units: 4 Development of organized knowledge of international relations. Main currents of thought and varieties of current literature. Instruction Mode: Lecture Grading Option: Letter

IR 502 Conflict and Cooperation
Units: 4 Terms Offered: Fa Against the background of 20th century history this course introduces the major literatures on the causes, strategy, practice, and future possibilities of war and peace. Instruction Mode: Lecture Grading Option: Letter

IR 503 Theories of Diplomacy
Units: 4 Investigation of international relations through the lens of diplomatic theories, considering the limits and potential of diplomacy and how thinking about diplomacy has evolved. Instruction Mode: Lecture Grading Option: Letter

IR 507 Gender and International Relations
Units: 4 An examination of gender and culture in world society. Feminist perspectives on and critiques of various approaches to international relations theories. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-507

IR 509 Culture, Gender, and Global Society
Units: 4 Cultural and gendered responses to economic globalization; topics include culture and security, identity politics, clashes of and accommodations among civilizations, modernity, post-modernity and world society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-509

IR 510 Gender, War and Peace
Units: 2 Terms Offered: Sp Examination of the extent to which conflict and its resolution have depended on stereotypically gendered associations of men with war and women with peace. Instruction Mode: Lecture Grading Option: Letter

IR 512 Linkage Politics
Units: 4 (Enroll in POSC 512)

IR 513 Social Science and Historical Research Methods: Introduction to Research Design
Units: 2 or 4 Introduction to problems in philosophy of science, epistemology, historical and historiographical inquiry, leading to development of elementary research design capabilities. Instruction Mode: Lecture Grading Option: Letter

IR 514 Multivariate Analysis
Units: 4 Causal inference and modeling in international relations and political science; assumptions and problems of multivariate regression analysis in both cross-sectional and time series cases. Instruction Mode: Lecture Grading Option: Letter

IR 515 Qualitative Research Design
Units: 4 A practical seminar in which to develop a dissertation proposal. Covers casual inference and comparative case study designs; single-case designs; selecting cases; interviewing; combining quantitative and qualitative methods. *Recommended Preparation:* IR 513, one course in statistics, and enough substantive study to identify a likely dissertation topic.

IR 516 Advanced Research Methods: Text, Talk and Context
Units: 4 Text and discourse analysis methods and strategies. Themes include the roles of ideas, identities, policies and interests in various institutional contexts. *Prerequisite:* COMM 550, IR 494 , IR 513, POSC 500, PUBD 500 or PUBD 502. Instruction Mode: Lecture Grading Option: Letter

IR 517 International Policy Analysis
Units: 4 Game theory and other methodologies applied to the study of international relations. Topics include global and regional public goods, collective action, externalities, treaty information, market failures. Instruction Mode: Lecture Grading Option: Letter

IR 518 Historical Memory and Public Diplomacy
Units: 4 Analyzes the role of memory on national identity formation and justification of foreign policy goals, particularly its impact on international propaganda and persuasion efforts. Instruction Mode: Lecture Grading Option: Letter

IR 519 Field Research Methods in Comparative Politics and International Studies
Units: 4 Intended for graduate students planning social science research projects in a foreign country. Primary goal is to assist students to prepare the design for their dissertation research. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-519

IR 520 Formulating US Foreign Policy: How Washington Works
Units: 4 Analyzes U.S. foreign policy, with emphasis on numerous inputs to the decision-making process — from media to conceptions of the national interest to organizational processes. Instruction Mode: Lecture Grading Option: Letter

IR 521 Introduction to Foreign Policy Analysis
Units: 4 Survey of principal theoretical and empirical approaches to foreign policy analysis; bureaucratic politics, cybernetics, game theory and options analysis, comparison, design theory, simulation. Instruction Mode: Lecture Grading Option: Letter

IR 522 United States Diplomacy since 1945: Issues and Decisions
Units: 4 An analysis of United States foreign policy with emphasis on the origins and structure of the cold war, decision-making, the role of ideology, containment and imperialism, and issues of the post-bipolar era. Instruction Mode: Lecture Grading Option: Letter

IR 525 State and Society in International Relations
Units: 4 A readings seminar that assesses the challenges to nation-states and world order presented by trans-border cultural flows, new technologies, and changing patterns of political participation. Instruction Mode: Lecture Grading Option: Letter

IR 526 Migration and Diaspora in International Politics
Units: 4 Examines issues of migration, the relationship between citizen and state, economic factors triggering emigration/ immigration, transnationalism, and explores the phenomenon of diasporas. Instruction Mode: Lecture Grading Option: Letter

IR 531 Strategy and Arms Control

Units: 4 Impact of nuclear weapons on U.S. and U.S.S.R. postwar military policies and strategies; evolution of postwar deterrence postures; development of superpower arms control since 1945. Instruction Mode: Lecture Grading Option: Letter

IR 534 East Asian Security Issues
Units: 4 Security politics of China, Japan, ASEAN states, and Southwest Pacific nations; their strategic relations with the superpowers; regional security initiatives: nuclear-free zone politics, ZOPFAN, and indigenous military capacities. *Prerequisite:* IR 531. Instruction Mode: Lecture Grading Option: Letter

IR 539 Seminar in International Politics — Conflict Processes
Units: 4 Advanced seminar in international conflict, crisis and war. General perspectives on factors that bring about war and promote peace, with priority given to ethnopolitics. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

IR 540 Seminar in International Politics — Religion and Conflict
Units: 4 Advanced introduction to how religion has emerged as a powerful force in politics. Conflict resolution, fundamentalism, terrorism, war, American foreign policy and global civil society. Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

IR 541 Politics of the World Economy
Units: 4 Survey of approaches to international political economy. Intellectual roots; the management of collective goods; North-South relations are examined. Instruction Mode: Lecture Grading Option: Letter

IR 542 Foreign Economic Policies of Industrial Capitalist States
Units: 4 Seminar comparing policies of Britain, France, Germany, Japan, and the United States; evaluation of alternative research methods and theories; design and execution of an original project. Instruction Mode: Lecture Grading Option: Letter

IR 543 Politics of International Monetary and Trade Relations
Units: 4 Political analysis of international monetary and trade relations; emphasis on interactions among industrialized nations. Instruction Mode: Lecture Grading Option: Letter

IR 545 The International Political Economy of Development
Units: 4 The political aspects of economic growth, efficiency and distribution are explored for underdeveloped nations in an international relations context. Instruction Mode: Lecture Grading Option: Letter

IR 547 Political Economy of Global Space and Environment
Units: 4 Regimes in an anarchic world will be examined to assess ways oceans, atmosphere, outerspace, and other unowned spaces or resources are and can be used. Instruction Mode: Lecture Grading Option: Letter

IR 550 Economic Bargaining Theory and Practice
Units: 4 Development of analytical skills and strategies for negotiations over economic and political problems, through study of recent cases and participation in bilateral and multilateral exercises. Instruction Mode: Lecture Grading Option: Letter

IR 551 International Political Economy of the Pacific Rim
Units: 4 Introduces issues related to political economy of the Pacific Rim; trade, investment and development strategies of these countries. The role of Japan's increasing economic power and that of the changing U.S.–Japan relations and their implications to the rest of the Pacific Rim region. Instruction Mode: Lecture Grading Option: Letter

IR 553 Political Economy of Global Telecommunication and Information
Units: 4 (Enroll in COMM 553)

IR 555 Democracy and Democratization in Comparative Perspective
Units: 4 Seminar generates and tests theories of democratization. Readings will focus on Europe, Latin America, Soviet Eurasia emphasizing core theoretical and methodological aspects. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

IR 556 Latin America and U.S. Foreign Policy
Units: 4 Latin American challenges to U.S. policymakers; U.S. success in achieving its goals; alternative explanations of U.S. behavior. Instruction Mode: Lecture Grading Option: Letter

IR 557 Africa and U.S. Foreign Policy
Units: 4 Research problems on international issues arising from the emergence of Africa. Instruction Mode: Lecture Grading Option: Letter

IR 561 Japanese Foreign Policy and International Relations of East and Southeast Asia
Units: 4 Research problems in political, economic, and security issues in East and Southeast Asia, with special emphasis on the role of Japan. Instruction Mode: Lecture Grading Option: Letter

IR 563 Chinese Foreign Policy
Units: 4 Research problems in political, economic, military, and ideological issues. Instruction Mode: Lecture Grading Option: Letter

IR 581 International Relations of the Middle East
Units: 4 Salient issues in regional politics such as colonialism, nationalism, identity, religion, development, and war are examined. Instruction Mode: Lecture Grading Option: Letter

IR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

IR 591 Field Study
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Study of contemporary institutions in selected regions of the world. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

IR 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

IR 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IR 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IR 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

IR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Subjects specifically relevant to an international relations field, sometimes conducted as intensive short-courses. Instruction Mode: Lecture Grading Option: Letter

IR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

IR 791 Advanced Studies
Units: 2, 3, 4 Max Units: 12.0 Subjects specifically relevant to an international relations field; conducted for PhD students, sometimes conducted as intensive short courses. Instruction Mode: Lecture Grading Option: Letter

IR 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

IR 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

IR 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

IR 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

IR 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Grading Option: Graded IP/CR/NC.

Persian

IRAN 120 Persian I
Units: 4 Introduction to contemporary Persian (Farsi). Oral practice, listening and reading comprehension, grammar and vocabulary necessary for simple spoken and written expression. Duplicates Credit in former MDES 120. Instruction Mode: Lecture Grading Option: Letter

IRAN 150 Persian II
Units: 4 Continuation of Persian I.

Prerequisite: IRAN 120. Instruction Mode: Lecture Grading Option: Letter

IRAN 220 Persian III
Units: 4 Intermediate Persian (Farsi). Building conversational skills, listening and reading comprehension, grammar and vocabulary necessary for intermediate level spoken and written expression. *Prerequisite:* IRAN 150. Duplicates Credit in former MDES 220. Instruction Mode: Lecture Grading Option: Letter

IRAN 250 Persian IV
Units: 4 Continuing Intermediate Persian (Farsi). Building conversational skills, listening and reading comprehension, grammar and vocabulary necessary for intermediate level spoken and written expression. *Prerequisite:* IRAN 220 Duplicates Credit in former MDES 250 Instruction Mode: Lecture Grading Option: Letter

IRAN 320 Advanced Persian I
Units: 4 Terms Offered: FaSp Advanced verbal and written expression in Persian, including deeper understanding of Persian culture. *Prerequisite:* IRAN 250. Duplicates Credit in former MDES 320. Instruction Mode: Lecture Grading Option: Letter

IRAN 350 Advanced Persian II
Units: 4 Terms Offered: FaSp Continuation of Advanced Persian I. *Prerequisite:* IRAN 320. Duplicates Credit in former MDES 350. Instruction Mode: Lecture Grading Option: Letter

Industrial and Systems Engineering

ISE 105 Introduction to Industrial and Systems Engineering
Units: 2 Terms Offered: FaSp A combination of plant tours, laboratory experiences, and lecture are used to introduce the philosophy, subject matter, aims, goals, and techniques of industrial and systems engineering. Instruction Mode: Lecture Grading Option: Letter

ISE 220 Probability Concepts in Engineering
Units: 3 Terms Offered: FaSp Techniques for handling uncertainties in engineering design: discrete and continuous random variables; expectations, probability distributions and transformations of random variables; limit theorems; approximations and applications. *Prerequisite:* MATH 126. Instruction Mode: Lecture Grading Option: Letter

ISE 225 Engineering Statistics I
Units: 3 Terms Offered: Sp Sampling distributions; parameter estimation, hypothesis testing; analysis of variance; regression; nonparametric statistics. *Prerequisite:* ISE 220. Instruction Mode: Lecture Grading Option: Letter

ISE 232L Manufacturing Processes
Units: 3 Terms Offered: Fa Basic manufacturing processes including casting, machining, forming and welding; current trends in manufacturing processes including polymer, ceramic and composite material processing, and electronic device fabrication; introduction to numerical control and computer integrated manufacturing. *Recommended Preparation:* MASC 110 or CHEM 105a or CHEM 115a. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 310L Facilities and Logistics
Units: 4 Terms Offered: FaSp Facilities layout and design: material handling and transportation; site selection and sourcing; supply chain management. *Prerequisite:* ISE 330 and ISE 460. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 315L Engineering Project Management
Units: 3 Terms Offered: FaSp Techniques for planning, budgeting, scheduling, obtaining resources, monitoring and control of projects in a corporate environment. Use of software to evaluate performance and assess risks. *Prerequisite:* ISE 225 and ISE 330 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 327 Six Sigma and Lean Operations
Units: 3 Standardized methodology for problem solving, basic and advanced statistical tools for root cause identification and solution confirmation, key principles for quality management and organizational excellence. *Prerequisite:* ISE 225 Instruction Mode: Lecture Grading Option: Letter

ISE 330 Introduction to Operations Research: Deterministic Models
Units: 3 Terms Offered: Fa Introduction to linear programming; transportation and assignment problems; dynamic programming; integer programming; nonlinear programming. *Prerequisite:* MATH 225. Instruction Mode: Lecture Grading Option: Letter

ISE 331 Introduction to Operations Research: Stochastic Models
Units: 3 Terms Offered: Sp Stochastic processes; Markov chains; queueing theory and queueing decision models; probabilistic inventory models. *Prerequisite:* ISE 220; *Recommended Preparation:* ISE 330. Instruction Mode: Lecture Grading Option: Letter

ISE 335L Supply Chain Design
Units: 3 Terms Offered: FaSp Design of Supply Chains. Product, distribution, transportation and site selection. Analysis and optimization of supply chain networks. *Prerequisite:* ISE 330 and ISE 460 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 344 Engineering Team Management
Units: 3 Examine team formation and team dynamics including organizational behavior, group dynamics, psychology, and business management, all in the context of engineering development; decision-making and negotiation. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

ISE 350 Principles of Systems Engineering
Units: 3 Terms Offered: FaSp Systems as complex collaborative ensembles of interconnected components. Theory and practice of requirements, design, implementation, testing, deployment, operation, and disposal. Case studies from real projects. *Prerequisite:* ISE 225 Instruction Mode: Lecture, Lab Grading Option: Letter

ISE 370L Human Factors in Work Design
Units: 4 Terms Offered: Fa Physiological systems and psychological characteristics; ergonomics; anthropometry; effects of the physical environment on humans; occupational safety and health; work methods. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 375L Facilities Design
Units: 3 Terms Offered: FaSp Design of facilities for operations and distribution. Product, process flow, material handling, and facility location techniques that lead to making good decisions for facilities layouts. *Prerequisite:* ISE 331 and ISE 460 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 382 Database Systems: Concepts, Design and Implementation
Units: 4 Terms Offered: FaSp Data models for industry applications. Modeling and designing robust databases. Implementing and querying databases with SQL. Innovations in database applications. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ITP-383

ISE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

ISE 404 Business and Intellectual Property Law for Engineers
Units: 3 (Enroll in CE 404)

ISE 410 Planning and Scheduling
Units: 3 Terms Offered: FaSp Production planning, forecasting, scheduling, and inventory; computer integrated decision systems in analysis and control of production systems. *Prerequisite:* ISE 330. Instruction Mode: Lecture Grading Option: Letter

ISE 422L Configuring Enterprise Resource Planning Systems
Units: 3 Terms Offered: FaSp (Enroll in ITP 422)

ISE 426 Statistical Quality Control
Units: 3 Terms Offered: Fa Quantitative aspects of statistical quality control (process control, acceptance sampling by attribute and by variable, rectifying inspection), quality assurance and the management of QC/QA functions. *Prerequisite:* ISE 225. Instruction Mode: Lecture Grading Option: Letter

ISE 435 Discrete Systems Simulation
Units: 3 Terms Offered: FaSp Model design to simulate discrete event systems with basic inputand output analysis using high order languages, applied to industrial systems analysis and design problems. *Prerequisite:* CSCI 101 and ISE 225. Instruction Mode: Lecture, Lab Grading Option: Letter

ISE 440 Work, Technology, and Organization
Units: 3 Terms Offered: Sp Impact of technology on work and organizational

design; effects of automation; design of improvement programs; information infrastructures; teams; individual behavioral outcomes. Upper division standing. Instruction Mode: Lecture Grading Option: Letter

ISE 460 Engineering Economy
Units: 3 Terms Offered: FaSpSm Utilizing principles of economic analysis for choice of engineering alternatives and engineering systems. Pre-tax and after-tax economy studies. Upper division standing. Instruction Mode: Lecture, Discussion Grading Option: Letter

ISE 470 Human/Computer Interface Design
Units: 3 Terms Offered: Sp Essentials of human factors and computer interface for the design, development, implementation, and evaluation of integrated media systems. Instruction Mode: Lecture Grading Option: Letter

ISE 482 Engineering Database Applications
Units: 3 (Enroll in ITP 482)

ISE 487Lx Data Warehouses and Business Intelligence
Units: 3 (Enroll in ITP 487)

ISE 488x Managing Supply Chains with Advanced Planning and Optimization
Units: 3 (Enroll in ITP 488)

ISE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ISE 495ax Senior Design Project
Units: 2 Terms Offered: FaSp Preparation and development of the senior project proposal. Open only to industrial and systems engineering majors. *Prerequisite:* ISE 225 and ISE 460 and DSO 435 or ISE 382. Instruction Mode: Lecture Grading Option: Letter

ISE 495bx Senior Design Project
Units: 2 Terms Offered: FaSp Group work on an industrial engineering design problem in an organization. Open only to industrial and systems engineering majors. *Prerequisite:* ISE 435 and ISE 370 or ISE 470. Registration Restriction: Open only to Industrial and Systems Engineering majors. Instruction Mode: Lecture Grading Option: Letter

ISE 499 Special Topics
Units: 2, 3, 4 Course content to be selected each semester from recent developments in industrial and systems engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

ISE 500 Statistics for Engineering Managers
Units: 3 Terms Offered: FaSpSm Framing engineering management situations with statistical methods. Experiments, distributions, regression, ANOVA, hypothesis. Registration Restriction: Open only to fifth-year seniors and master's students Instruction Mode: Lecture Grading Option: Letter

ISE 502 Construction Accounting and Finance
Units: 3 (Enroll in CE 502)

ISE 506 Lean Operations
Units: 3 Terms Offered: FaSp Study of lean principles and practices as applied to various industries. Duplicates Credit in the former SAE 551 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SAE 551

ISE 507 Six-Sigma Methods and Applications
Units: 3 Terms Offered: FaSpSm Comprehensive study of Six Sigma and Lean metrics, methods, and systems with their applications to manufacturing, services, quality improvement and management. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-507

ISE 508 Health Care Operations Improvement
Units: 3 Terms Offered: Sp Improving operations, patient flow, quality and processes. Students will become familiar with methods for implementing change in health care settings such as hospitals or clinics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PPD-508

ISE 509 Practicum in Health Care Systems
Units: 2 Terms Offered: Fa Performance improvement projects within hospitals are undertaken by small teams collaborating with hospital staff. Study of tools to improve and optimize operations. *Prerequisite:* ISE 225 *Recommended Preparation:* Spreadsheet use and general familiarity with the healthcare industry Instruction Mode: Lecture Grading Option: Letter

ISE 510 Advanced Computational Design and Manufacturing
Units: 3 Study advanced concepts behind computational representations, algorithms, and mathematical foundations, and their applications in computeraided design and manufacturing. Develop hands-on computational skills in team projects. *Recommended Preparation:* bachelor's degree in industrial engineering; programming experience, C++ preferred. Instruction Mode: Lecture Grading Option: Letter

ISE 511L Mechatronic Systems Engineering
Units: 3 Terms Offered: Sp Use of mechanical, electrical, and computer engineering, math, and computer science to design of high performance and sophisticated products and processes and systems involving mechatronic. *Recommended Preparation:* bachelor's degree in engineering or physical sciences, and preliminary knowledge of programming in C. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ISE 512 Software Management and Economics
Units: 3 Terms Offered: Fa (Enroll in CSCI 510)

ISE 513 Inventory Systems
Units: 3 Terms Offered: Sp Deterministic and stochastic demand systems with static/dynamic models. Practice in inventory management, computerized procedures, materials requirements planning, just-intime production, Kanban systems. Instruction Mode: Lecture Grading Option: Letter

ISE 514 Advanced Production Planning and Scheduling
Units: 3 Terms Offered: FaSm Advanced concepts in production planning and scheduling including resource allocation, lot sizing, flow shop and job shop scheduling, workforce scheduling and assembly line balancing. *Recommended Preparation:* prior knowledge of operations research and probability theory. Instruction Mode: Lecture Grading Option: Letter

ISE 515 Engineering Project Management
Units: 3 Terms Offered: FaSpSm Applying industrial and systems engineering skills to problems drawn from industry, while working in teams of 3–4 students. Teach project management skills and provide direct experience in managing and executing a group project. Instruction Mode: Lecture Grading Option: Letter

ISE 517 Modern Enterprise Systems
Units: 3 Terms Offered: FaSp Managing the process design, interfaces and resources of service and manufacturing systems, based on the state of their processes. Instruction Mode: Lecture Grading Option: Letter

ISE 520 Optimization: Theory and Algorithms
Units: 3 Terms Offered: Fa Conditions for optimality. Nonlinear programming algorithms for constrained and unconstrained problems. Special problems such as quadratic, separable, fractional, geometric programming. *Prerequisite:* MATH 225 or EE 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-521

ISE 525 Design of Experiments
Units: 3 Terms Offered: FaSp Planning data collection to investigate relationships between product/process design choices (materials, temperatures, etc.) and performance, empirical modeling to predict performance, identification of the best design choices. *Recommended Preparation:* ISE 225. Instruction Mode: Lecture Grading Option: Letter

ISE 527 Quality Management for Engineers
Units: 3 Terms Offered: FaSp Principles of quality management, quality philosophies and frameworks, quality leadership and strategic planning, process management, and performance measurements. Instruction Mode: Lecture Grading Option: Letter

ISE 528 Advanced Statistical Aspects of Engineering Reliability
Units: 3 Advanced statistical methods applied to reliability engineering. Experimental design analysis and interpretation of multifactor reliability problems. Instruction Mode: Lecture Grading Option: Letter

ISE 529 Engineering Data Analytics
Units: 3 Terms Offered: FaSp Theory and methods of data analytics emphasizing engineering applications: multivariate statistics, supervised learning, classification,

smoothing and kernel methods, support vector machines, discrimination analysis, unsupervised learning. Instruction Mode: Lecture Grading Option: Letter Crosslisted as INF 561

ISE 530 Optimization Methods for Analytics
Units: 3 Terms Offered: FaSp Linear Programming, Integer Programming, quadratic and nonlinear programming. *Recommended Preparation:* Calculus III, Linear Algebra and Computer Programming Instruction Mode: Lecture Grading Option: Letter

ISE 532 Network Flows
Units: 3 Terms Offered: Sp Tree, path, flow problems, formulation and solution techniques. Methods for minimal cost flows. Applications. *Prerequisite:* ISE 330 or ISE 536. Instruction Mode: Lecture Grading Option: Letter

ISE 533 Integrative Analytics
Units: 3 Terms Offered: Sp The three pillars of analytics (predictive, prescriptive, and validation) together under one framework. Use of statistics, learning enabled optimization. Based on publicly available data sets. *Prerequisite:* ISE 529 and ISE 530 Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

ISE 536 Linear Programming and Extensions
Units: 3 Terms Offered: Fa Linear programming models for resource allocation; simplex and revised simplex methods; duality; sensitivity; transportation problems; selected extensions to large scale, multiobjective, and special structured models. *Prerequisite:* MATH 225 or EE 441. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-536

ISE 538 Markov Models for Performance Analysis
Units: 3 Terms Offered: Sp Random variables, stochastic processes, birth and death processes, continuous- and discrete-time Markov chains with finite and infinite number of states, renewal phenomena, and queuing systems. Instruction Mode: Lecture Grading Option: Letter

ISE 539 Stochastic Elements of Simulation
Units: 3 Terms Offered: Sp Simulation techniques combined with probabilistic analysis for solving problems in inventory theory, queuing theory, financial engineering, decision analysis, and other fields having a stochastic element. *Corequisite:* ISE 538. Instruction Mode: Lecture Grading Option: Letter

ISE 543 Case Studies in Systems Engineering
Units: 3 Terms Offered: FaSp (Enroll in SAE 543)

ISE 544 Management of Engineering Teams
Units: 3 Terms Offered: FaSp Design and management of engineering teams. Group decision-making, motivation, leadership, infrastructural requirements, performance measurement, team diversity, conflict, and integration. Instruction Mode: Lecture Grading Option: Letter

ISE 545 Technology Development and Implementation
Units: 3 Terms Offered: Fa Principles and practices of technology development and implementation, with application to products and systems in manufacturing and services. Instruction Mode: Lecture Grading Option: Letter

ISE 549 Systems Architecting
Units: 3 Terms Offered: FaSp (Enroll in SAE 549)

ISE 551 Foundations of Data Management
Units: 3 Terms Offered: FaSp (Enroll in INF 551)

ISE 554 Innovation and the Engineering Enterprise
Units: 3 Examination of innovation in engineering enterprises including human behavior and human resources, organizational development, engineering management, business structures, financing the enterprise and intellectual property. Instruction Mode: Lecture Grading Option: Letter

ISE 555 Invention and Technology Development
Units: 3 This project-oriented course elaborates on the process of engaging creative thought, tools and techniques for invention, and issues involved in bringing inventions to the production phase. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as ENGR-555

ISE 556 Stochastic Systems
Units: 3 Terms Offered: Sp (Enroll in EE 556)

ISE 560 Analysis of Algorithms
Units: 3 Terms Offered: FaSp (Enroll in CSCI 570)

ISE 560 Analysis of Algorithms
Units: 4 (Enroll in CSCI 570)

ISE 561 Economic Analysis of Engineering Projects
Units: 3 Terms Offered: FaSpSm Economic evaluations of engineering systems for both government and private industry; quantitative techniques for evaluating non-monetary consequences; formal treatment of risk and uncertainty. *Prerequisite:* ISE 500; *Recommended Preparation:* an undergraduate course in engineering economy. Instruction Mode: Lecture Grading Option: Letter

ISE 562 Value and Decision Theory
Units: 3 Terms Offered: Fa Decision making under risk conditions; utility theory; sufficient statistics; conjugate prior distributions; terminal and pre-posterior analysis; Bayesian statistics versus classical statistics. Instruction Mode: Lecture Grading Option: Letter

ISE 563 Financial Engineering
Units: 3 Terms Offered: Sp Concepts underlying the economic analysis of engineering projects; applications to call and put options; utility theory and mathematical optimizations models; and simulation. *Recommended Preparation:* ISE 220 or an equivalent course in probability. Instruction Mode: Lecture Grading Option: Letter

ISE 564 Performance Analysis
Units: 3 Measurement systems for performance analysis. Determination of performance metrics, analytical models, case studies. Cross-industry comparisons, measures for manufacturing and service systems, information and knowledge workers. Instruction Mode: Lecture Grading Option: Letter

ISE 565 Law and Finance for Engineering Innovation
Units: 3 Students will identify, formulate and resolve legal, financial and ethical issues affecting innovation in engineering organizations including legal structures, financing and intellectual property rights. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-580

ISE 566 Financial Accounting Analysis for Engineering
Units: 3 Terms Offered: Sp Identification, formulation, and solution of financial accounting problems in engineering enterprises. Legal context of financial decisions, process cost determination and allocation, financial reports, and reporting systems. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

ISE 567 Collaborative Engineering Principles and Practice
Units: 3 Terms Offered: Sp Scientific principles and industrial practices defining how a team of stakeholders should collaboratively work together to reach agreement on complex engineering tasks. Open only to graduate students in engineering. Registration Restriction: Open only to graduate students in engineering. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-567

ISE 568 Machine Learning
Units: 3 Terms Offered: Fa (Enroll in CSCI 567)

ISE 570 Human Factors in Engineering
Units: 3 Terms Offered: Fa Psychological and physiological characteristics of humans; how they limit engineering design of machines and human-machine systems. Instruction Mode: Lecture Grading Option: Letter

ISE 573 Work Physiology
Units: 3 Survey of metabolic processes in the performance of physical work, study of individual and environmental factors affecting these processes.

ISE 574 Probabilistic Reasoning
Units: 3 Terms Offered: Fa (Enroll in CSCI 573)

ISE 576 Industrial Ecology: Technology-Environment Interaction
Units: 3 Concepts and methods to analyze the environmental impacts of industrial systems, including lifecycle assessment, material flow analysis, design for environment and sustainable consumption. Instruction Mode:

Lecture Grading Option: Letter

ISE 580 Performance Modeling with Simulation
Units: 3 Terms Offered: FaSp Introduction to modeling and analysis of stochastic systems, with an emphasis on discrete-event simulation of non-Markovian systems. *Recommended Preparation:* Probability and statistics, including hypothesis testing, and introductory computer programming Instruction Mode: Lecture Grading Option: Letter

ISE 581 Negotiation For Engineering Management
Units: 3 Terms Offered: Sp Decision making techniques for the engineering manager including negotiation principles, contract negotiation, dispute resolution, auctions, bidding, voting and coalition formation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-581

ISE 582 Web Technology for Industrial Engineering
Units: 3 Terms Offered: Fa A fast-paced, project-based introduction to designing and implementing interactive Web applications. Emphasizes skills for building engineering and market research applications requiring information gathering, analysis, representation. *Prerequisite:* ISE 382. Instruction Mode: Lecture Grading Option: Letter

ISE 583 Enterprise Wide Information Systems
Units: 3 Terms Offered: FaSp The role of enterprise resource planning systems (ERPs) in an organization and the task of implementing and managing the IS function. Instruction Mode: Lecture Grading Option: Letter

ISE 585 Strategic Management of Technology
Units: 3 Terms Offered: FaSp Management skills and tools for technology intensive enterprises. Life cycle analysis of technology from planning through exploitation, obsolescence and renewal. Instruction Mode: Lecture Grading Option: Letter

ISE 587 Risk Analysis
Units: 4 (Enroll in PPD 587)

ISE 589 Port Engineering: Planning and Operations
Units: 3 Terms Offered: Fa (Enroll in CE 589)

ISE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree; maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Terms Offered: Fa Course content will be selected each semester to reflect current trends and developments in the field of industrial and systems engineering. Instruction Mode: Lecture Grading Option: Letter

ISE 610 Advance Design of Experiments and Quality Engineering
Units: 3 Terms Offered: Fa Advanced planning for data collection in order to investigate relationships between product/process design choices and performance; empirical modeling to predict performance; identification of the best design. *Recommended Preparation:* Undergraduate course in Engineering Statistic, including distributions, confidence intervals, ANOVA and Regression. Instruction Mode: Lecture Grading Option: Letter

ISE 620 Foundations of Stochastic Processes
Units: 3 Terms Offered: Sp An introductory PhD course on stochastic processes, covering such topics as conditional expectation, renewal processes, and discrete and continuous time Markov chains. *Recommended Preparation:* A course in probability. Some knowledge of real analysis. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

ISE 630 Foundations of Optimization
Units: 3 Terms Offered: Sp Convex sets, convex functions, structures of optimization problems, Lagrangian and conjugate duality. First and second order optimality conditions; applications in engineering and management. *Recommended Preparation:* Calculus III and Linear Algebra. Instruction Mode: Lecture Grading Option: Letter

ISE 631 Linear Programming
Units: 3 Terms Offered: Fa Doctoral course in optimization, the foundation for subsequent courses in mathematical programming. For first-year Ph.D. students and M.S. students who intend to pursue a Ph.D. *Recommended Preparation:* One year of calculus and one semester of linear and matrix algebra Instruction Mode: Lecture Grading Option: Letter

ISE 632 Network Flows and Combinatorial Optimization
Units: 3 Terms Offered: Sp Combinatorial optimization, particularly graph problems. Shortest paths, max flow, minimum cost flows, spanning trees, matroids, submodular functions. Bipartite and general matchings, polyhedral combinatorics, total unimodularity. *Prerequisite:* ISE 536; *Recommended Preparation:* familiarity with the theory of linear programming and with mathematical proofs; knowledge of linear algebra. Duplicates Credit in ISE 532. Instruction Mode: Lecture Grading Option: Letter

ISE 633 Large Scale Optimization and Machine Learning
Units: 3 Terms Offered: Fa Large scale optimization algorithms that arise in modern data science and machine learning applications. Stochastic Optimization, Accelerated Methods, Parallelization, Online Optimization, Randomized Linear Algebra *Recommended Preparation:* Linear Algebra and Probability Instruction Mode: Lecture Grading Option: Letter

ISE 637 Equilibrium Programming
Units: 3 Terms Offered: FaSp Built on the methodology of constrained optimization, a graduate level course on equilibrium programming cast in the framework of finite-dimensional variational inequality and complementarity problems. *Prerequisite:* ISE 520 and ISE 536. Instruction Mode: Lecture Grading Option: Letter

ISE 638 Stochastic Optimization
Units: 3 Terms Offered: FaSp Stochastic linear and integer programming, multi-stage stochastic programming, application, models and algorithms. *Recommended Preparation:* A first graduate course in optimization and the ability to program in a high level language are essential. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-638

ISE 645 Uncertainty Modeling and Stochastic Optimization
Units: 3 Terms Offered: Sp (Enroll in CE 645)

ISE 651 Seminar in Industrial and Systems Engineering
Units: 1 Max Units: 4.0 Terms Offered: FaSp Current research, guest speakers in the field; review papers; guidance in preparing research proposals and special projects. Open only to fifth-year seniors and master's students. Registration Restriction: Open only to Fifth Year Seniors and Master's Students. Duplicates Credit in the former ISE 650abc. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 670 Advanced Analysis of Algorithms
Units: 3 Terms Offered: Fa (Enroll in CSCI 670)

ISE 671 Randomized Algorithms
Units: 3 Terms Offered: Sp (Enroll in CSCI 671)

ISE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems by candidates for the degree Engineer in Industrial and Systems Engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ISE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794b Doctoral Dissertation

Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

ISE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Italian

ITAL 012x General ITAL 120 Tutorial
Units: 1 Terms Offered: FaSpSm Weekly tutorial for students registered in ITAL 120. Differentiated multi-sensory instructional approach with explicit phonetic and grammatical explanations in English. *Concurrent Enrollment:* ITAL 120 Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 020x Course in Reading Italian
Units: 2 For graduate students who wish help in meeting the Italian reading requirement for the PhD degree. Synoptic presentation of Italian grammar. Emphasis on development of reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 120 Italian I
Units: 4 Terms Offered: FaSpSm Introduction to current Italian. Oral practice, hearing and reading comprehension; grammar necessary for simple spoken and written expression. *Prerequisite:* Italian placement exam. Instruction Mode: Lecture Grading Option: Letter

ITAL 150 Italian II
Units: 4 Terms Offered: FaSpSm Continuation of Italian I. *Prerequisite:* ITAL 120 or Italian placement exam. Instruction Mode: Lecture Grading Option: Letter

ITAL 220 Italian III
Units: 4 Terms Offered: FaSpSm Continuation of Italian II. Review of structure of the language, drill in aural and reading comprehension, practice in oral expression. *Prerequisite:* ITAL 150 or Italian placement exam. Instruction Mode: Lecture Grading Option: Letter

ITAL 224 Italian Composition and Conversation
Units: 4 Terms Offered: FaSpSm Practice in composition and conversation; organized around a set of themes; develops close-reading techniques and discursive skills; reviews Italian grammar. *Prerequisite:* ITAL 220 or Italian placement exam. Instruction Mode: Lecture Grading Option: Letter

ITAL 235x Intermediate Conversational Italian
Units: 2 Terms Offered: FaSp Designed for students interested in maintaining and developing Italian language competency. Builds and reinforces vocabulary, idioms, communication skills and knowledge of Italian cultural aspects through discussion of contemporary topics. *Prerequisite:* ITAL 220. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 320 Critical Writing in Italian
Units: 4 Terms Offered: FaSpSm Advanced composition through critical reading of literary texts; comprehensive analysis of difficult grammatical structures and stylistics. *Prerequisite:* ITAL 224. Instruction Mode: Lecture Grading Option: Letter

ITAL 340g Italian and French Cinema and Society
Units: 4 Terms Offered: Fa Analysis of the global impact of cinema from the silent era to the 1990s; tracing the development of French and Italian cinematography and their effect on different cultures and periods; trends and genres such as commedia all'italiana, horror, spaghetti western, feminism and postcolonialism. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as FREN 340

ITAL 345 Contemporary Italy
Units: 4 Italian literature and arts in Italy following World War II. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 350g Italian Renaissance Literature in Translation
Units: 4 Readings of major texts of Italian literature of the 15th and 16th centuries, including works by Petrarch, the Humanists, Lorenzo de Medici, Ariosto, Machiavelli, Castiglione, and Tasso. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

ITAL 352 The Holocaust in Italian Fiction and Film
Units: 4 Terms Offered: FaSp The transformation of the Italian Jewish community before, during and after World War II, through an examination of modern novels, essays and films. Taught in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 360 Italian Cinema
Units: 4 Terms Offered: FaSp Survey of Italian cinema in its relation to social transformation, from the silent era to the present. Weekly screenings, lectures, and discussions. Conducted in English. Duplicates Credit in former ITAL 446. Instruction Mode: Lecture Grading Option: Letter

ITAL 380 Italian Women Writers
Units: 4 Selected poetry, prose, and drama by outstanding Italian women authors and their role in Italian society from the Middle Ages to 20th century. Taught in Italian. *Recommended Preparation:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 381 Storytelling in the Italian Tradition
Units: 4 Terms Offered: FaSp Reading and close textual scrutiny of major short stories from Boccaccio's Decameron to the present. Conducted in English. Duplicates Credit in former ITAL 462. Instruction Mode: Lecture Grading Option: Letter

ITAL 382g Dante
Units: 4 Terms Offered: FaSp Analysis of the Divina Commedia and other works. Conducted in English. (Duplicates credit in former ITAL 450) Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in former ITAL 450 Instruction Mode: Lecture Grading Option: Letter Crosslisted as COLT 449

ITAL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Instruction Mode: Lecture Grading Option: Letter

ITAL 392 Seminar in Literary and Cultural Studies
Units: 4 Terms Offered: FaSp Selected topics in Italian literature and culture. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 393 Seminar in Italian Thought
Units: 4 Terms Offered: FaSp Introduction to important trends in recent Italian philosophy, political and social theory, and media studies. Emphasis to be determined by the department. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

ITAL 401 Studies in Early Modernity
Units: 4 Max Units: 8 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the early modern period (pre-1800). Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 402 Studies in Modernity
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of representative works and major intellectual, cultural, and artistic trends from the modern period (post-1800). Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 403 Studies in Colonialism and Postcolonialism
Units: 4 Max Units: 8.0 Terms Offered: FaSp Study and analysis of colonialism and postcolonialism in Italian contexts. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 440 Futurism and Fascism in Italy
Units: 4 Literature, theatre, visual arts, and politics, from the Futurist Avant-Garde through the reign of Mussolini. *Recommended Preparation:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 461 Italian Theatre
Units: 4 Terms Offered: FaSp Italian dramatic literature from the earliest written documents to the present. Reading and close textual scrutiny of plays by major dramatists from the Renaissance to the present. Taught in Italian. *Prerequisite:* ITAL 320. Instruction Mode: Lecture Grading Option: Letter

ITAL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0

Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

ITAL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in Italian literature, culture, and society. Conducted in Italian. *Prerequisite:* ITAL 224. Instruction Mode: Lecture Grading Option: Letter

ITAL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

ITAL 592 Practicum in Teaching Italian
Units: 2 Terms Offered: Fa Introduction to the approaches and methods of teaching Italian as a second language. Instruction Mode: Lecture Grading Option: CR/NC

Information Technology Program

All ITP courses are open to non-engineering majors. The "x" designation indicates that engineering students require prior departmental approval to count 100-level and above ITP courses for major credit.

ITP 101 Introduction to Business Information Technologies
Units: 2 Business technologies. Operating systems. Networks. Application software. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 102 Introduction to Creative Information Technologies
Units: 2 Creative technologies. Computer Graphics. Internet and Web. Mobile Systems. Digital Audio and Video. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 104L Web Publishing
Units: 2 Terms Offered: FaSp Web publishing using HTML, CSS and other Web technologies. Concepts and theory of Web site creation, page layout and production. Introduction to advanced topics. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 109 Introduction to Java Programming
Units: 2 Terms Offered: FaSp Introduction to object-oriented software design for business problems. Creation of console applications, windowed applications, and interactive Web applets. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 115 Programming in Python
Units: 2 Terms Offered: FaSp Python's high level data structures and clear syntax make it an ideal first language with powerful applications to science, business, finance, math, and the web. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 125L From Hackers to CEOs: Introduction to Information Security
Units: 2 Terms Offered: FaSp Introductory course in computer security. Fundamentals of information security management. Threats to information integrity. Ethical hacking concerns and practice. Policies and Procedures. Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 140 Mobile Application Technologies
Units: 2 Terms Offered: FaSp Technologies, devices, operating systems, and tools of mobile applications, as well as the mobile industry. Students will use tools to create apps for different mobile devices. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 148 Introduction to Physical Computing
Units: 4 Design electronic devices that interact with the physical world by building circuits and developing software algorithms that run on a microcontroller. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 165 Introduction to C++ Programming
Units: 2 Terms Offered: FaSp Fundamentals of C++ syntax and semantics, including function prototypes, overloading, memory management, abstract data types, object creation, pointers to class members, and I/O streams. *Prerequisite:* any high-level programming language. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 168 Introduction to MATLAB
Units: 2 Terms Offered: FaSp Fundamentals of MATLAB: a high-performance numeric computation and visualization environment. Overview of linear algebra and matrix manipulation; using 2-D and 3-D plotting routines; programming in MATLAB; basic numerical analysis. *Recommended Preparation:* MATH 118 or MATH 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 190 Tools for Digital Graphics
Units: 2 Digital tools for image creation, editing, composition, layout, web page development, professional page layout, and printing with color accuracy. Duplicates Credit in former ITP 090 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 211 Power-Tools for Visual Communication
Units: 2 Fundamentals of visual communication; storyboarding, still and moving image creation and modification; special effects; use of standard software tools for effective visual communication. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 215L 3-D Modeling, Animation, and Special Effects
Units: 2 Terms Offered: FaSp Developing a 3-D animation from modeling to rendering: Basics of surfacing, lighting, animation and modeling techniques. Advanced topics: compositing, particle systems, and character animation. *Recommended Preparation:* knowledge of any 2D paint, drawing or CAD program Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 230x Video Game Quality Assurance
Units: 4 Terms Offered: FaSp Survey game software development through quality assurance and in-depth analysis of the development cycle with a focus on bug testing systems and methodologies. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 250x Database Systems for Analytics
Units: 2 Concepts in modeling data for analytic applications. Designing and implementing robust databases. Querying databases to extract business intelligence. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 251 Applied Statistics for Analytics
Units: 2 Core statistical methodologies that are critical for quantitative reasoning. Focus on concepts through practical applications and analyses of real data. Duplicates Credit in BUAD 310g. Instruction Mode: Lecture Grading Option: Letter

ITP 280 Video Game Production
Units: 4 Terms Offered: FaSp History of video games; overview of game genres; phases of video game development (concept, preproduction, production, post-production); roles of artists, programmers, designers, and producers. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-280

ITP 300 Database Web Development
Units: 3 Terms Offered: Fa Fundamental theory and technologies for creating dynamic, database-driven Websites: Structured Query Language. *Prerequisite:* ITP 301L Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 300x

ITP 301L Interactive Web Development
Units: 4 Terms Offered: Sp Design, programming techniques for creating interactive, dynamic Web pages. Web development technologies and techniques include scripting fundamentals, Javascript, dynamic HTML, Actionscript, and Flash. *Prerequisite:* ITP 104 Instruction Mode: Lecture, Lab Required Grading Option: Letter

ITP 302 Advanced Web Publishing
Units: 2 Advanced topics in Web Publishing including HTML5, CSS3, and jQuery. Concept and theory of responsive design. Miscellaneous Webmaster topics including analytics, podcasting and search engine optimization. *Prerequisite:* ITP 104 Instruction Mode: Lecture Grading Option: Letter

ITP 303 Full-Stack Web Development
Units: 4 Modern web development techniques and technologies used to create web applications from ground up. Topics include front-end, back-end, and web servers. *Prerequisite:* ITP 365 or CSCI 104L Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 305 Advanced 3D Modeling, Animation, and Special Effects
Units: 3 Terms Offered: Sp Advanced modeling, surfacing, and animation techniques as well as dynamics, scripting, and other advanced 3D automation procedures. *Prerequisite:* ARCH 207 or ITP 215 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 308 Computer-Aided Design for Bio-Mechanical Systems
Units: 3 Concepts of computer-aided design in 2-dimensions and 3-dimensions. Creating advanced parts using extrusions, surfaces, and equation driven sketches. Forming

assemblies, and sub-assemblies, for motion analysis *Recommended Preparation:* MATH 245, strength of materials knowledge Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as BME 308, ACAD 308

ITP 310 Design for User Experience
Units: 3 Fundamental concepts, techniques, practices, workflows, and tools associated with the practice of user experience and interaction design in web and mobile applications. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 311

ITP 315x 3D Character Animation
Units: 3 Advanced exploration of the process of bringing 3D characters to life from concept to model, and through production to finished performance. *Prerequisite:* ITP 215. Instruction Mode: Lecture Grading Option: Letter

ITP 320 Enterprise Wide Information Systems
Units: 4 Terms Offered: FaSp The role Information Systems play in an organization. Integration of Business Processes by using Enterprise Resource Planning Systems (ERP). Instruction Mode: Lecture Grading Option: Letter

ITP 322 Using GIS Technology for Social Impact
Units: 2 Terms Offered: FaSp Using geographic information systems to forward a social cause by compiling geographic data, creating and using maps, and analyzing the results; building a social impact technology product or business. Instruction Mode: Lecture Grading Option: Letter

ITP 325 Ethical Hacking and Systems Defense
Units: 3 Terms Offered: FaSp Hacking from a defense perspective. Hacker ethics and laws. Penetration testing. Vulnerability assessment. Securing workstations, servers, and networks. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 341 App Development for Phones and Tablets
Units: 3 Develop phone and tablet applications for opensource platforms such as Android that utilize the core functionality of mobile devices such as GPS, accelerometers, touch gestures. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture Grading Option: Letter

ITP 342 Mobile Application Development
Units: 3 Develop applications for mobile devices such as iPhones and iPads (iOS) and other smart phones (Android). Build a mobile application from start to finish. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 342

ITP 343 Mobile Development for Content and Media
Units: 1 Creating media-focused mobile applications. Topics include recording/playback, audio synthesis, stream mixing, and positional audio. *Corequisite:* ITP 342. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-343

ITP 344 Advanced Topics in Mobile App Development
Units: 3 Advanced topics in mobile app development such as using REST services, security, cloud integration, NFC (near field communication), wireless networking for mobile apps, monetizing apps, and the latest frameworks to create advanced apps. *Prerequisite:* ITP 342 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 344

ITP 345 Advanced App Development for Phones and Tablets
Units: 4 Develop sophisticated phone and tablet applications for Android-based hardware platforms using advanced functionality including background threading, broadcast receivers, sensors, and low-level interaction events. *Prerequisite:* ITP 341 Instruction Mode: Lecture Grading Option: Letter

ITP 350x Technologies and Practices for Analytics
Units: 4 Overview of the process of data analysis. Reporting, visualization and prediction. Practical applications of analytics through case studies. *Prerequisite:* ITP 250 and ITP 251. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 357 Enterprise Network Design
Units: 3 Network technologies. Strategies for managing thousands of systems. Routers and managed switches. Integrated operating systems (IOS). Windows and Linux networking. Subnets. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 360 3D Compositing and Visual Effects
Units: 3 Advanced techniques for 3D animation and visual effects development including 3D pre-visualization, match moving, dynamics, multi-pass rendering, and digital compositing. *Prerequisite:* ITP 215 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 365 Managing Data in C++
Units: 3 Overview of basic data structures and algorithms including linked lists, stacks, queues, binary trees, and hash tables. *Prerequisite:* ITP 109 or ITP 115 or ITP 165 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 365

ITP 367x Advanced Coding
Units: 4 Accelerated introduction to the C++ programming language. Advanced programming concepts including memory allocation, data structures, and the Standard Template Library. *Prerequisite:* ITP 214. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 367

ITP 368 Programming Graphical User Interfaces
Units: 3 Programming applications with dynamic graphical user interfaces. Topics include events, controls, resources, data bindings, styles, and user experience. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 368

ITP 370 Information Security Management
Units: 3 Terms Offered: Sp Management techniques for security projects. Security team management. Laws and regulations for information security. Disaster recovery. Security Audits. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 375 Digital Forensics
Units: 3 Terms Offered: Fa Forensic science techniques. Digital evidence preservation and presentation. Processes and methodologies for digital analysis. *Prerequisite:* ITP 125 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 380 Video Game Programming
Units: 4 Terms Offered: FaSp Underlying concepts and principles required for programming video games (topics include vectors, transformations, 3-D math, geometric primitives, matrices). *Prerequisite:* CSCI 104 or ITP 365. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-380

ITP 382 Mobile Game Programming
Units: 3 Concepts and techniques required to develop games for smartphones and tablets. Topics include sprites, collision detection, mobile input, artificial intelligence, and augmented reality games. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 382

ITP 383 Database Systems: Concepts, Design and Implementation
Units: 3 Terms Offered: Sp (Enroll in ISE 382) Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-387

ITP 387 Cloud Architecture and Applications
Units: 4 Survey of "Infrastructure as a Service" and online application development. Concepts include online storage, computation, virtualization, messaging, and monetization. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture Grading Option: Letter

ITP 391a Video Game Project Management
Units: 4 Project management basics for the video game industry, focusing on external development. Examine the role of the producer, managing development and coordinating with various stakeholders. *Prerequisite:* ITP 230x or ITP 280 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 391b Video Game Project Management
Units: 2 Project management for the video game industry, focusing on internal development. Creating ROIs, P&Ls, managing internal creative personnel, and coordinating with internal and external stakeholders. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 393 Video Game Design Documents
Units: 2 Creation of design documents, from treatment to Game Design Document (GDD). Structuring documents for ease of use by team members who will create the

game. *Prerequisite:* ITP 230x or ITP 280 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 404 Modern Technologies of Web Development
Units: 3 Terms Offered: Fa Provide students with the necessary skills to build web applications using modern techniques, frameworks, libraries, and tools that are used among developers within the industry. *Prerequisite:* ITP 301L or ACAD 275 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 404

ITP 405 Professional Applications and Frameworks in Web Development
Units: 3 Provide students with the necessary skills to build structured, maintainable, scalable, and testable web applications using frameworks, tools, and techniques common in the industry. *Prerequisite:* ITP 300 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ACAD 405

ITP 411 Multimedia and Video Production
Units: 3 Terms Offered: FaSp Visual communication and storytelling are essential skills, especially in the digital age. Overview of techniques and software to create, edit, and deliver compelling images and video. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 415 3-D Design and Prototyping
Units: 2 Explore the range of 3-D printing and prototyping technologies, and their application in modern industrial, design, and creative fields. *Prerequisite:* ITP 215L Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 421x Advanced Programming for Enterprise Information Systems
Units: 3 Object Oriented Programming for Enterprise information systems. Working with classes, objects, database tables, SQL. Designing reports and Graphical user interfaces. Leveraging service oriented architecture. *Prerequisite:* ITP 320; *Recommended Preparation:* object oriented programming. Instruction Mode: Lecture Grading Option: Letter

ITP 422L Configuring Enterprise Resource Planning Systems
Units: 3 Business process integration is the core advantage of using ERP systems. Analyze, configure, and test business processes for a company from the ground up. *Prerequisite:* ITP 320 or ISE 583. Duplicates Credit in former ITP 322. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ISE-422

ITP 425 Web Application Security
Units: 4 Web application security techniques. eCommerce vulnerabilities. Online fraud. Solutions to spam and identity theft. *Prerequisite:* ITP 301 or ITP 325 or ACAD 275 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 425

ITP 435 Professional C++
Units: 3 Terms Offered: Sp Applications of advanced concepts in C++ including lambda expressions, template metaprogramming, secure coding, parallel programming techniques, and the boost library. *Prerequisite:* CSCI 104 or ITP 365 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI 435

ITP 439 Compiler Development
Units: 3 Practical applications of techniques used to develop a programming language compiler. *Prerequisite:* ITP 435 Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI 439

ITP 442 Mobile App Project
Units: 4 Capstone course for Mobile App Development minor. Work in project teams to develop new mobile app from start to finish. Meet with client, create app design, develop, test, and demonstrate app to client. *Prerequisite:* ITP 140 Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 442

ITP 445 Macintosh, OSX, and iOS Forensics
Units: 3 Digital forensics. Digital evidence. Apple. Mac. Macintosh. OSX. iOS. iPhone. iPad. *Prerequisite:* ITP 375. Instruction Mode: Lecture Grading Option: Letter

ITP 446 Cyber Breach Investigations
Units: 3 Terms Offered: Fa Cyber breaches. Data theft. Enterprise data analysis. Network forensic analysis. Server forensics. *Prerequisite:* ITP 375. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 447 Mobile Device Security and Forensics
Units: 3 Terms Offered: Sp Mobile device security. Mobile device forensics. Android. Blackberry. Windows phone. Symbian. *Prerequisite:* ITP 375. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 448 Cyber Litigation Support
Units: 3 Terms Offered: Sp Civil Litigation. Digital and Electronic Evidence. Electronic Discovery. eDiscovery. Electronically Stored Information. *Prerequisite:* ITP 375. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 449x Data Mining: Descriptive and Predictive
Units: 4 Examine and compare practical methods in data mining - data preparation, classification, clustering. Knowledge discovery process is to find patterns and regularities from large datasets. *Prerequisite:* ITP 350x. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 450 Advanced 3D Texturing, Compositing, and Image Processing
Units: 3 Modern digital compositing, texturing, and image making techniques as they have evolved from legacy and analog media into state of the art digital formats. *Prerequisite:* ITP 360 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 454x Enterprise Resource Planning, Design, and Implementation
Units: 3 Process and requirements to implement an Enterprise Resource Planning System (ERP). Set up server, implement ERP system, then transfer and configure database for case company. *Prerequisite:* ITP 320 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 457 Network Security
Units: 4 Network policy and mechanism, firewalls, malicious code; intrusion detection, prevention, response; cryptographic protocols for privacy; risks of misuse, cost of prevention, and societal issues. *Prerequisite:* ITP 357. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 460 Web Application Project
Units: 4 Terms Offered: Sp Skills to plan, analyze, build, and launch professional Web sites with actual clients. Includes project management, documentation, technology assessment, security, UI, Q/A, and various methodologies. *Recommended Preparation:* one 300-level Web minor course Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 460

ITP 466 Building the High Tech Startup
Units: 4 Teach students the basic technologies and processes involved in building web and mobile startups. Students will be introduced to the different aspects of building a web startup including online business models, Product management, Agile development processes, technology platforms and operations, customer development and online marketing. Instruction Mode: Lecture Grading Option: Letter

ITP 470 Information Technology Practicum
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Independent technology project related to specific topics under the direction of a faculty member. *Recommended Preparation:* appropriate 300-level course work to topic of study Registration Restriction: Not open to graduate students. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 475 Advanced Digital Forensics
Units: 4 Terms Offered: Sp Advanced forensic techniques. Live image analysis. Network level forensic investigation. Server forensic techniques. Deposition and trial. *Prerequisite:* ITP 375 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 476 Technologies for Interactive Marketing
Units: 4 Designed to introduce students to technologies, concepts and strategies in the emerging online advertising ecosystem. Through lectures, discussions, and projects, students learn strategies and tactics to drive traffic to a website. They learn how to analyze and measure the efficacy of their plans. Lastly, they will work with a real client and with a real budget to craft and execute an online marketing plan. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 477 Software Based Engineering Design of Roadways
Units: 3 Orient students to the InRoads software and familiarize them with its capabilities to support engineering design of roadways. Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 479 Cyber Law and Privacy
Units: 3 Cyber legal issues, search and seizure, 4th amendment and digital evidence, private searches, case law relating to search and seizure. Instruction Mode: Lecture, Lab

Grading Option: Letter

ITP 480 Information Technology Internship
Units: 1, 2, 3, 4 Max Units: max 8 Practical experience in applying information technology skills in real-world settings. Supervised internship at companies and start-ups. Balancing academic rigor with corporate challenges and deadlines. *Recommended Preparation:* knowledge of chosen function area Registration Restriction: No open to graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as ACAD 480

ITP 482 Engineering Database Applications
Units: 3 Planning and implementation of engineering information systems that interface with a large database. Emphasis is placed on web-based data entry and retrieval. *Prerequisite:* CSCI 101 and DSO 435 or ISE 382. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE-482

ITP 484 Multiplayer Game Programming
Units: 3 Techniques for developing networked multiplayer games. Topics include Internet protocols, network topology, data streams, object sharing, client prediction, latency, and back-end databases. *Prerequisite:* ITP 380 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 485 Programming Game Engines
Units: 4 Terms Offered: FaSp Techniques for building the core components of a game engine; 2-D/3-D graphics, collision detection, artificial intelligence algorithms, shading, programming input devices. *Prerequisite:* ITP 380. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as CSCI-487

ITP 486 Securing and Auditing Enterprise Resource Planning Systems
Units: 3 Management and technical issues related to the security of ERP systems. Students will audit ERP systems and apply appropriate security controls. *Prerequisite:* ITP 320. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ISE-486

ITP 487 Data Warehouses
Units: 3 Role of data warehouses in analytics. Modeling and building data warehouses. Extraction, transformation and loading data into cubes. *Prerequisite:* ITP 250x or ITP 320x. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as ISE-487

ITP 488 Managing Supply Chains with Advanced Planning & Optimization
Units: 3 Drivers and obstacles to the process of coordinating the flow of material/information along the logistics chain. Optimize the supply network, from raw materials to sales. Not available for major credit in engineering except toward undergraduate and graduate programs offered by the Epstein Department of Industrial and Systems Engineering. *Prerequisite:* ITP 320 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 489 In-Memory Database Systems for Real Time Analytics
Units: 3 Examines the design, architecture, and capabilities of in-memory databases and their application to real-time analytics. *Prerequisite:* ITP 250 or ITP 320 . Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 491 Level Design and Development for Video Games
Units: 4 Theories and practices of defining, prototyping, testing, and refining a video game level, development of game level documents, and the tools for managing the development process. *Prerequisite:* ITP 230 or ITP 280 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 496 The Startup Launchpad Lab
Units: 2 A real world, hands-on learning experience on what it's like to actually start a high-tech company. Students will work in teams to design, prototype and implement version 1.0 of a high tech web or mobile startup. *Prerequisite:* BAEP 452 and ITP 466 and ITP 476 *Corequisite:* BAEP 496 Instruction Mode: Lecture, Lab Grading Option: Letter

ITP 499 Special Topics
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8 Max Units: max 8 Recent developments in computers and data processing. Instruction Mode: Lecture, Lab Grading Option: Letter

Journalism

JOUR 190 Introduction to Journalism
Units: 2 Terms Offered: Fa Survey of all media and outlets including print, broadcasting, public relations and online journalism, plus analysis of what it means to be a professional journalist. Instruction Mode: Lecture Grading Option: Letter

JOUR 200w The Power and Responsibility of the Press
Units: 4 Explores the role of journalism and social media in society - its influence on government, technology, business, national security, sports, science and entertainment. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

JOUR 201 Culture of Journalism: Past, Present and Future
Units: 4 Understanding key moments, debates and ideas that have shaped journalism in the United States from the Revolutionary War period through today. Examination of the social, cultural, political and technological aspects of journalism and its impact on the profession and public service. Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 202 Newswriting: Print
Units: 3 Introduction to basic skills of print newswriting, news judgment, construction of print news stories. Social responsibility and ethical framework for print journalists. *Concurrent Enrollment:* JOUR 203 Instruction Mode: Lecture Grading Option: Letter

JOUR 203 Newswriting: Broadcast
Units: 3 Introduction to broadcast newswriting with emphasis on the ear and eye. News judgment. Social responsibility and ethical framework for broadcast journalists. *Concurrent Enrollment:* JOUR 202 Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 205 Journalism Practicum
Units: 1, 2 Max Units: 04 Terms Offered: FaSpSm Field experience in journalism, public relations, or related field. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 207 Reporting and Writing I
Units: 4 Provides students with foundational skills to report, write and produce journalism content across multiple platforms, including broadcast, digital and text. *Concurrent Enrollment:* JOUR 321 Registration Restriction: Open only to Broadcast and Digital Journalism, Journalism, and Print and Digital Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 208 Media Law and Ethics
Units: 2 Introduction to the basics of the U.S. legal system and contemporary case law and ethics; impact of the Web on the practice of journalism; understanding essential legal frameworks and the rights and responsibilities of journalists. Instruction Mode: Lecture Grading Option: Letter

JOUR 210x Basics of News Production for Non-Majors
Units: 2 Max Units: 6.0 Terms Offered: FaSp Introduction to television, radio, and/or digital news production. Examination of issues in journalism. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 302 Reporting: Print
Units: 3 Terms Offered: Sp Introduction to basic reporting techniques, public records reporting and beginning investigative journalism. Social responsibility and ethical framework for print journalists. *Prerequisite:* JOUR 202, JOUR 203; *Concurrent Enrollment:* concurrent enrollment: JOUR 303. Instruction Mode: Lecture Grading Option: Letter

JOUR 303 Reporting: Broadcast
Units: 3 Terms Offered: Sp Introduction to field reporting, audio and visual media. Social responsibility and ethical framework for broadcast journalists. *Prerequisite:* JOUR 202, JOUR 203; *Concurrent Enrollment:* concurrent enrollment: JOUR 302. Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 306 Production: Broadcast
Units: 3 Terms Offered: Fa Studio and field production for audio and visual media. Social responsibility and ethical framework involving broadcast non-fiction production. *Prerequisite:* JOUR 302, JOUR 303. Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 307 Reporting and Writing II
Units: 4 Report, write, produce and distribute in-depth stories produced off beats on multiple platforms for diverse audiences; enhance understanding of news judgment; develop and maintain sources; engage communities through field reporting and

emerging digital tools. *Prerequisite:* JOUR 207 and JOUR 321 *Concurrent Enrollment:* JOUR 320 Registration Restriction: Open only to Broadcast and Digital Journalism, Journalism, and Print and Digital Journalism majors Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 308 Newspaper Editing and Design
Units: 3 Copyediting and newspaper production layout. Headline and caption writing. Design. Social responsibility and ethical framework involving print production. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 309 Introduction to Online Media
Units: 3 Convergence journalism and online skill sets. Blogs and Web content production. Social responsibility and ethical framework in digital information technology. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 310 Investigative Reporting
Units: 4 Reportorial and analytical skills and techniques required for portraying and evaluating contemporary newsworthy events; lectures, discussions. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 311 Multi-Platform Editing
Units: 4 Copyediting, headline writing, Search Engine Optimization and other production skills for preparation of content across platforms. Social responsibility and ethical framework also components of this course. *Prerequisite:* JOUR 302 and JOUR 303 or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 320 Introduction to Coding for Storytelling
Units: 2 Introduction to basic web technologies; conceive, design, code and produce an advanced multimedia story package. *Prerequisite:* JOUR 207 and JOUR 321 *Concurrent Enrollment:* JOUR 307 Registration Restriction: Open only to Broadcast and Digital Journalism, Journalism, and Print and Digital Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 321 Visual Journalism
Units: 2 Video for digital platforms, principles of photography, design for web and mobile platforms. Introduction to principles of digital news design, interactivity and presentation in interactive storytelling. *Concurrent Enrollment:* JOUR 207 Registration Restriction: Only open to Broadcast and Digital Journalism, Journalism, and Print and Digital Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 322 Data Journalism
Units: 2 Overview of the basic data journalism techniques and tools for statistical analysis; understanding of numbers and basic statistics as they relate to journalism. Proficiency with gathering, analyzing and visualizing data. *Prerequisite:* JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 323 Creating your Digital Footprint and Brand
Units: 2 Build a personal website that features a culmination of your previous undergraduate journalism work; craft a professional digital profile using various social media platforms; understand the economics of the news business; prepare to enter the industry. *Prerequisite:* JOUR 307 and JOUR 320 and JOUR 322 Instruction Mode: Lecture Grading Option: Letter

JOUR 330 Photojournalism
Units: 4 Terms Offered: FaSp Emphasis on fundamental skills necessary for photojournalism including camera techniques, story ideas and digital darkroom. Instruction Mode: Lecture Grading Option: Letter

JOUR 350 Introduction to Sports Media
Units: 4 Highlight norms, routines of content, including print, broadcast, video. Focus on opportunities, constraints posed by roles of reporters, fans, players, publicists, agents, leagues, teams. Instruction Mode: Lecture Grading Option: Letter

JOUR 371 Censorship and the Law: From the Press to Cyberspace
Units: 4 (Enroll in COMM 371)

JOUR 372 Engaging Diverse Communities in the Digital Era
Units: 2 Explores how to engage diverse local communities through participatory journalism and communication strategies. Focuses on using digital tools to increase engagement with communities via field reporting and mobile platforms to produce stories across platforms. *Prerequisite:* JOUR 307 Registration Restriction: Open only to the Broadcast and Digital Journalism, Journalism, and Print and Digital Journalism majors Duplicates Credit in ASCJ 440 Instruction Mode: Lecture, Lab Grading Option: Letter

JOUR 373 Journalism Ethics Goes to the Movies
Units: 4 Terms Offered: Sp Ethical issues facing journalists in the complex world of legacy media, social media and the Internet as dramatized in the movies and in the newsroom. Instruction Mode: Lecture Grading Option: Letter

JOUR 375 The Image of the Journalist in Popular Culture
Units: 4 The impact of conflicting images of reporters in movies and television on the American public's perception of newsgatherers in the 20th century. A decade-by-decade evaluation. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-372, SWMS-377

JOUR 380 Sports, Business and Media in Today's Society
Units: 4 An inside look at the important stories, topical issues, trends and historical developments related to the growing influence of business and media on college and professional sports; identifying the key components and meeting the influencers in class that help shape the business side of sports, while recognizing the role the media plays in providing daily coverage across multiple platforms. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 382

JOUR 381 Entertainment, Business and Media in Today's Society
Units: 4 Terms Offered: FaSp An examination of the symbiotic relationship of the entertainment business and the media; press coverage of the entertainment industry; Hollywood's relationship with news media. Instruction Mode: Lecture Grading Option: Letter

JOUR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

JOUR 400 Interpretive Writing
Units: 4 Weekly assignments in the shorter forms of newspaper and magazine writing: essays, reviews, editorials, opinion-page articles, profiles; analyses of major 20th century journalists. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 401 Online Site Management and Production for Journalists
Units: 4 Hands-on experience in a digital newsroom environment; planning, editing, writing, reporting and aggregating stories for audiences across platforms. Instruction Mode: Lecture Grading Option: Letter

JOUR 402 Advanced Television Reporting
Units: 4 Role of the broadcast journalism reporter; similarities and differences between print and electronic media; application of audio-video equipment; analysis and practical experience. *Prerequisite:* JOUR 306 or (JOUR 307 and JOUR 321) Instruction Mode: Lecture Grading Option: Letter

JOUR 403 Television News Production
Units: 4 Production of television news programs; preparation and treatment of form and content; procedures, problems, and practice in planning and producing broadcast news materials. *Prerequisite:* JOUR 306 or (JOUR 307 and JOUR 321) Instruction Mode: Lecture Grading Option: Letter

JOUR 405 Non-Fiction Television
Units: 4 Presentation and selection in non-fiction television programs including documentaries, electronic magazines and news series; ethical problems, field research, reporting, interviewing, pre-production. *Prerequisite:* JOUR 306 or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 407 Newsradio
Units: 4 Production of radio news: research, reporting, writing, preparation and treatment of form and content: procedures, problems and practice in producing radio news programs. Instruction Mode: Lecture Grading Option: Letter

JOUR 408 Advanced Media Law in the Digital Age
Units: 2 Advanced examination of the rights

of journalists in the American legal system; understanding the First Amendment and seminal case law to provide a framework for the practice of journalism; recognizing ethical dilemmas confronting members of the media *Prerequisite:* JOUR 208 and JOUR 307 and JOUR 320 Instruction Mode: Lecture Grading Option: Letter

JOUR 409 Radio Storytelling and Podcasts
Units: 4 Techniques for audio journalism, including effective use of sound, art of the interview, writing for the ear and crafting stories to engage listeners. *Prerequisite:* (JOUR 202 and JOUR 203) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 410 Radio Documentary
Units: 4 In-depth reporting for public radio news: writing, editing, advanced vocal delivery. Production of long-form radio features and short documentaries. *Prerequisite:* JOUR 409. Instruction Mode: Lecture Grading Option: Letter

JOUR 411 Broadcast Reporting and Newswriting for Non-Majors
Units: 2 Develop a broad-based knowledge of broadcast news writing and reporting; recognize, research and develop stories; write and format broadcast stories in all forms and learn to produce finished news packages. Registration Restriction: Not open to Journalism, Broadcast and Digital Journalism, and Print and Digital Journalism majors Instruction Mode: Lecture Grading Option: Letter

JOUR 412 Introduction to Online Publishing
Units: 4 Introduction to the methods, theory and production of news publishing on the World Wide Web including basic HTML, graphics production and news design. Instruction Mode: Lecture Grading Option: Letter

JOUR 414 Advanced Digital Media Storytelling
Units: 2 Production of a well-reported advanced multimedia package, with a blend of text, audio, video, photos, navigation and interactivity; final projects will be published by the Annenberg Media Center. *Prerequisite:* JOUR 307 and JOUR 320 and JOUR 322 Instruction Mode: Lecture Grading Option: Letter

JOUR 420 Advanced Photojournalism
Units: 4 Emphasis on advanced photojournalism techniques for complex photo storytelling; focus on style, content, design, expression and ethics. *Prerequisite:* JOUR 330. Instruction Mode: Lecture Grading Option: Letter

JOUR 421 Photo Editing for News Media
Units: 4 Emphasis on understanding, selection and power of photographs; how they work in concert with words and graphics to inform the public. Instruction Mode: Lecture Grading Option: Letter

JOUR 422 Advanced Visual Journalism
Units: 4 Emphasis on photographic storytelling in print, video and Web-based media; understanding of visual thinking and imagery techniques. Instruction Mode: Lecture Grading Option: Letter

JOUR 425 Advanced Radio News Production
Units: 4 Production of public radio news: producing real-time newscasts for Annenberg Radio News. Newsgathering, assigning stories, anchoring, interviewing, working with reporters, editing and producing live programming. *Prerequisite:* JOUR 409. Instruction Mode: Lecture Grading Option: Letter

JOUR 430 Writing the Film Review
Units: 4 Techniques of writing the film review; preparation and treatment of form and content; problems, responsibilities and ethics of film reviewing. Instruction Mode: Lecture Grading Option: Letter

JOUR 431 Feature Writing
Units: 4 Techniques of writing newspaper feature stories, including the profile, the light feature, the news feature, the in-depth story; the art of narrative writing. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 432 Sports Commentary
Units: 4 Terms Offered: Fa Techniques of reporting and writing sports columns and commentary for print, video, radio and Web-based media. Instruction Mode: Lecture Grading Option: Letter

JOUR 433 Writing About Science
Units: 4 Terms Offered: Sp Techniques of writing about science, including news, profiles, features and commentary. Instruction Mode: Lecture Grading Option: Letter

JOUR 435 Writing Magazine Non-Fiction
Units: 4 A seminar in "how to" interview, research, write — and place — professional quality articles for a full range of magazines/newspapers including women's, sports, ethnic, local and national. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 436 Magazine Production
Units: 4 Publishing and production technologies; economics of magazine publishing including cost analysis, marketing, advertising, and circulation. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 440 Environmental Journalism
Units: 4 Techniques of reporting and writing about the environment. Includes both theory and practice needed for reporters specializing in this area of journalism. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 441 Sports Reporting
Units: 2 JOUR 302 News and feature coverage of sporting events, including social and economic factors influencing sports in America. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 443 Business Reporting
Units: 2 Techniques of reporting and writing about business, economics and finance. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 444 Reporting on Religion
Units: 4 Provides print, online and broadcast journalists with basic tools for reporting on the religion angle of news stories. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 446 Entertainment Reporting
Units: 2 Techniques of reporting and writing about the entertainment business, economics and finances. Analysis of the skills and background needed for reporters specializing in this area of the news. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 447 Arts Reporting
Units: 2 Techniques of reporting and writing about the arts, including television, film, theatre, music, graphic arts, architecture and design. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 448 Government and Public Affairs Reporting
Units: 4 Techniques for covering beats that are the foundation of daily newspaper reporting, including crime, education, immigration and local government. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 449 Reporting Los Angeles
Units: 2 Specialized reporting class focused on Los Angeles that requires intensive fieldwork in the neighborhoods, ethnic communities, and/or among local institutions. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 459 Fact and Fiction: From Journalism to the Docudrama
Units: 4 Historical, legal and ethical limitations to the misrepresentation of fact. Includes print and broadcast journalism, books, theatre, cinema and new technology. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-459

JOUR 460 Social Responsibility of the News Media
Units: 4 Terms Offered: Sp News media as instruments of constructive social change; standards of ethics and aesthetics; interactions between news media and cultural settings; social responsibility of news media personnel. Instruction Mode: Lecture, Lab Grading Option: Letter Crosslisted as COMM 464

JOUR 462 Law of Mass Communication
Units: 4 Terms Offered: FaSp Press law; government controls on the news media; legal responsibilities of the journalist. Instruction Mode: Lecture Grading Option: Letter

JOUR 465m Latino News Media in the United States

Units: 4 Terms Offered: Fa History and growing importance of Latino print and broadcast news media in covering immigration, discrimination, culture, social differences and other aspects of U.S. Latino life. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-464

JOUR 466m People of Color and the News Media
Units: 4 Terms Offered: Sp Reporting and portrayal of people of color in the United States; impact of racial diversity on media, employment and access, and development of media for individuals and communities of color. Open to non-majors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-466, AMST-456

JOUR 467 Gender and the News Media
Units: 4 Gender and news media evolving images of women and men in print and electronic media. Impact of gender in content and style of news, television and cinema. Open to non-majors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM-467, SWMS-467

JOUR 468m The American Press and Issues of Sexual Diversity
Units: 4 Examines how news media reflect and affect perception of gay/lesbian issues; provides historical-contemporary context; arms students to bypass rhetoric and knowledgeably evaluate facts. Instruction Mode: Lecture Grading Option: Letter

JOUR 469 Money, Markets and Media
Units: 4 Terms Offered: Sp Practical approach to understanding and writing about economic concepts through current events, case studies and historical examples. Instruction Mode: Lecture Grading Option: Letter

JOUR 470 Community Journalism
Units: 2 Survey of how local journalism functions in a community. Students work as editors/mentors to high school students, writing for school newspaper and other media. Instruction Mode: Lecture Grading Option: Letter

JOUR 471 Advanced Multimedia Storytelling
Units: 2 Terms Offered: Sp Students create and manage advanced online story packages with multiple digital elements including text, visuals (videos, photos, graphics, etc.), audio, interactivity and navigation. *Recommended Preparation:* JOUR 309. Instruction Mode: Lecture Grading Option: Letter

JOUR 472 Strategies for Monetizing New Media
Units: 4 Learn strategies for how content creates value in a shifting media landscape. Work with a real client to create a sustainable media business model. Instruction Mode: Lecture Grading Option: Letter

JOUR 474 Interviewing and Profile Writing
Units: 2 Techniques of, and intensive application in researching and writing interviews and profiles for newspapers and magazines. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 475 Publications Design and Technology
Units: 4 Terms Offered: FaSp Art, typography, and other graphic elements in publication design; traditional, contemporary, and advanced production methods, processes, and equipment; representative examples; practice in design. Instruction Mode: Lecture Grading Option: Letter

JOUR 476 Reporting Urban Affairs
Units: 4 Examination of U.S. urban issues with an eye toward history for context; study of emerging 21st century solutions for urban communities. *Prerequisite:* (JOUR 302 and JOUR 303) or JOUR 307 Instruction Mode: Lecture Grading Option: Letter

JOUR 477 Web Analytics for News and Nonprofit Organizations
Units: 2 Terms Offered: FaSp Introduction to using Web traffic and other audience behavior data to manage Websites and social media for news and nonprofit organizations. Instruction Mode: Lecture Grading Option: Letter

JOUR 480 Sports and Media Technology
Examine and analyze the ever-changing technology sector of the sports business and sports media world. Identify emerging technologies being developed in the sports industry and how they are being utilized to enhance the fan experience. Instruction Mode: Lecture Grading Option: Letter

JOUR 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm Examines print, broadcast and public relations media and their interactive roles in multi-national and supra-national settings at sites in both Western and Eastern Europe. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 482 and PR 482

JOUR 483 Negotiating and Reporting Global Change
Units: 4 Max Units: 0.0 Terms Offered: FaSpSm In-depth multimedia reporting on social, economic and political processes of global impact; combining intense fieldwork and specialized background knowledge. Instruction Mode: Lecture Grading Option: Letter

JOUR 484 American Religion, Foreign Policy and the News Media
Units: 4 Terms Offered: Sp Exploration of the influence of American religion on foreign policy from Colonial Era to present; how the news media, reporting on international stories, shapes public opinion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR-484, REL-484

JOUR 489 Hands-on Disruption: Experimenting with Emerging Technology
Units: 2
Exploration and experimentation of emerging technologies through the lens of journalism and hands-on prototyping Instruction Mode: Lecture Grading Option: Letter

JOUR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

JOUR 493 Comics and Graphic Storytelling
Units: 4 Focus on comics as a medium to tell a broad range of stories and speak to diverse kinds of audiences. Develop a core vocabulary for thinking about comics as a medium and analyze how artists have drawn on that vocabulary in a range of contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 493

JOUR 494 Python Coding for Data Journalism
Units: 2 Python coding language to gather, parse and analyze data for investigative news reporting. Instruction Mode: Lecture Grading Option: Letter

JOUR 495 Journalism for Mobile and Emerging Platforms
Units: 2 Create video, audio and graphic news and information using mobile and emerging technology – such as phones, tablets and laptops -- for non-broadcast platforms; understand ethical and legal issues related to journalists working on mobile and emerging platforms. Instruction Mode: Lecture Grading Option: Letter

JOUR 496 Interactive Media Design for Publishing
Units: 4 Design, test and distribute engaging news and publishing apps. Learn concepts of interactive design, color, type, UX, and more for digital mobile/tablet platforms. Instruction Mode: Lecture Grading Option: Letter

JOUR 497 Data Visualization and Interactive Tools
Units: 2 Present your data in tables, charts, graphs, maps, and complex multimedia pieces using readily available interactive tools. Instruction Mode: Lecture Grading Option: Letter

JOUR 498 Honors Seminar
Units: 2 Terms Offered: Sp Intensive study of a subject of contemporary relevance or of professional importance to journalists and public relations practitioners. Registration Restriction: Admission to Honors Program Instruction Mode: Lecture Grading Option: Letter

JOUR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

JOUR 500 Media and Society
Units: 3 Terms Offered: Fa Analysis of major theories on the role of communication media and society with special emphasis on the role and responsibility of the news media. Instruction Mode: Lecture Grading Option: Letter

JOUR 505 The Practice: Journalism's Evolution as a Profession
Units: 1 Analyzes the history, ethics and evolution of journalism; Students will be introduced to key innovations and innovators in journalism history as well as multimedia platforms. Open only to journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 506 Multimedia Journalism I: Text

Units: 2 Terms Offered: Fa Basics of newswriting and news judgment for text. Fundamentals of journalism ethics, covering a diverse society, pitching stories, blogging and Web aggregation. *Concurrent Enrollment:* Concurrent enrollment: JOUR 507, JOUR 509. Instruction Mode: Lecture Grading Option: Letter

JOUR 507 Multimedia Journalism I: Video and Audio
Units: 2 Terms Offered: Fa Basics of video journalism for broadcast and the Web. Newswriting, shooting and editing images and audio into television and Web news reports. Videography and editing. *Concurrent Enrollment:* Concurrent enrollment: JOUR 506, JOUR 509. Instruction Mode: Lecture Grading Option: Letter

JOUR 509 Multimedia Journalism I: Digital
Units: 2 Terms Offered: Fa Basics of multimedia literacy including still photography, video and audio. Contemporary digital storytelling. Legal, ethical and business implications of digital media and journalism. *Concurrent Enrollment:* Concurrent enrollment: JOUR 506, JOUR 507. Instruction Mode: Lecture Grading Option: Letter

JOUR 510 Special Assignment Reporting
Units: 2 Beat reporting with a deep dive into research, source development, and writing/reporting skills. Focus on current trends, history, major actors and key issues. Instruction Mode: Lecture Grading Option: Letter

JOUR 512 Advanced Interpretive Writing
Units: 3 Terms Offered: Sp Analysis and writing of editorials, essays, Op-Ed page articles, profiles, and other shorter forms of journalism, combined with study of historic practitioners of those forms. Instruction Mode: Lecture Grading Option: Letter

JOUR 513 Advanced Newswriting and Reporting
Units: 3 Reportorial and analytical skills and techniques required in searching out and evaluating newsworthy events. Research and publication of stories. Instruction Mode: Lecture Grading Option: Letter

JOUR 514 Multimedia Journalism II: Text
Units: 2 Terms Offered: Sp Reporting and writing daily news and feature stories on deadline for text. Beat reporting, interviewing, sourcing, research, fact checking, Web aggregation, blogging, search optimization skills. *Prerequisite:* JOUR 506; *Concurrent Enrollment:* concurrent enrollment: JOUR 516, JOUR 518. Instruction Mode: Lecture Grading Option: Letter

JOUR 516 Multimedia Journalism II: Video and Audio
Units: 2 Terms Offered: Sp Reporting and writing for television, radio and Internet. Pitch, shoot, write, and produce video and audio news packages, incorporating standups and creative visual storytelling techniques. *Prerequisite:* JOUR 507, *Concurrent Enrollment:* concurrent enrollment: JOUR 514, JOUR 518. Instruction Mode: Lecture Grading Option: Letter

JOUR 517 Advanced Investigative Reporting
Units: 3 Terms Offered: Fa Advanced reportorial and analytical skills and techniques required for evaluating newsworthy events. Group research and publication of stories on important current topics. Instruction Mode: Lecture Grading Option: Letter

JOUR 518 Multimedia Journalism II: Digital
Units: 2 Terms Offered: Sp Online story packages with multiple elements including text, visuals, audio, interactivity and navigation. Online ethics and basics of copyright law, design, typography, color, photo usage. *Prerequisite:* JOUR 509; *Concurrent Enrollment:* concurrent enrollment: JOUR 514, JOUR 516. Instruction Mode: Lecture Grading Option: Letter

JOUR 519 Advanced Writing and Reporting for Magazine and the Web
Units: 4 Focus on reporting and writing for magazine and the web, learning fundamental production skills, and pitching stories in the freelance market Instruction Mode: Lecture Grading Option: Letter

JOUR 520 Advanced Broadcast Newswriting
Units: 3 Writing for broadcast, preparation and presentation. Responsibility and ethics of broadcast newswriting. Form and content of broadcast news presentation. Similarities and differences between media. Instruction Mode: Lecture Grading Option: Letter

JOUR 521 Documentary Pre-Production
Units: 2 Terms Offered: Fa Pre-production of video documentary including selection of topic, diversity, ethical and legal problems, research and reporting techniques, interviewing, writing, balanced presentation, visual and audio literacy. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 522 Video Documentary Production
Units: 4 Terms Offered: Sp Production of video documentary including research and reporting techniques, writing, interviewing, field work, editing, legal issues, economics, aesthetics, balanced presentation, ethics, diversity and production problems. Instruction Mode: Lecture Grading Option: Letter

JOUR 523 Public Radio Reporting
Units: 2 Terms Offered: Fa Reporting for public radio-style news: writing, newsgathering, editing, vocal delivery. Techniques applicable for broadcast or Web audio stories. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 524 Advanced Broadcast Reporting
Units: 4 Reporting and writing broadcast news; analysis and practical experience; role of the broadcast journalism reporter; similarities and differences between media; application of audio-visual equipment. *Recommended Preparation:* JOUR 552 Instruction Mode: Lecture Grading Option: Letter

JOUR 525 Public Radio Documentary
Units: 4 Advanced production techniques for public radio-style reports: writing, sound, editing, narrative voice. Techniques applicable for broadcast features or Web audio documentaries. Instruction Mode: Lecture Grading Option: Letter

JOUR 526 Advanced Broadcast News Production
Units: 3 Production of television news programs; preparation and treatment of form and content; procedures, problems and practice in planning and producing broadcast news materials. Instruction Mode: Lecture Grading Option: Letter

JOUR 528 Summer Digital Journalism Immersion
Units: 4 Terms Offered: Sm A journalism immersion experience that orients and familiarizes students with the best practices and standards of cutting-edge multimedia, multi-platform fact gathering, reporting and storytelling. Open only to Journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 531L Fall Digital Journalism Immersion
Units: 4 Terms Offered: Fa Students write, report, produce, code, promote (through social media), and publish/air cross-platform stories in a converged news environment. Open only to Journalism majors. *Prerequisite:* JOUR 528 Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

JOUR 533 Web Journalism and Editorial Site Management
Units: 2 Terms Offered: Fa Report, edit, and manage a major news Website while operating its content management system; understand best standards and practices in online site management. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 539 Introduction to Investigative Reporting
Units: 2 Focus on basic investigative reporting; understand its history, how to access records, identify sources, use computer assisted reporting, report in a fair and ethical manner. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 540 International Journalism Seminar I
Units: 3 Historical perspective of foreign correspondence; examination of the working conditions, problems and consequences of reporting from abroad. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PR 540

JOUR 542 Foreign Reporting
Units: 3 News stories analyzed, researched, and critiqued for validity and background; projects to include editorials, news stories,

magazine articles or broadcast reports. Instruction Mode: Lecture Grading Option: Letter

JOUR 545 International Internships in the Media
Units: 1 Terms Offered: Sm Intensive field experience at international news media and public relations organizations. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as PR 545

JOUR 546 News, Numbers and Introduction to Data Journalism
Units: 2 Terms Offered: Sp An overview of the basic quantitative analysis tools and techniques essential to give perspective to a journalistic story or to put it in context. Instruction Mode: Lecture Grading Option: Letter

JOUR 547 Navigating the Media Marketplace
Units: 1 Explores the economics of the news industry and prepares students to navigate the journalism job market through practical exercises, practice interviews and cover letter-writing. Instruction Mode: Lecture Grading Option: Letter

JOUR 550 Introduction to Online Publishing
Units: 3 Methods, theory and publishing of online news; HTML skills, graphics production and design theory. Instruction Mode: Lecture Grading Option: Letter

JOUR 551 Intermediate Online Publishing
Units: 4 Terms Offered: Sp Advanced concepts in online publishing; focus on databases, editing, scripting and authoring applications for news Websites. Instruction Mode: Lecture Grading Option: Letter

JOUR 552 Television Reporting and Production
Units: 2 Terms Offered: Fa Writing, reporting and producing content for video and digital platforms; similarities and differences between media; application of audio-visual and digital equipment. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 553 Coding and Programming for Storytelling
Units: 2 Terms Offered: Fa Sketch, design and code a website from scratch, using HTML, CSS and jQuery plug-ins to tell a rich multimedia story. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 555 Advanced Coding for Creative Storytelling
Units: 4 Focuses on advanced coding techniques for the creation of dynamic, interactive, multimedia and data-driven news stories on the web. *Prerequisite:* JOUR 551, JOUR 553 *Recommended Preparation:* Proficiency in HTML, CSS and basic JavaScript/jQuery (approved by the instructor) Instruction Mode: Lecture Grading Option: Letter

JOUR 556 Online Journalism Seminar
Units: 3 Terms Offered: Sp Writing and reporting for the Internet and other technology platforms; computer-assisted reporting; multimedia storytelling. *Prerequisite:* JOUR 551. Instruction Mode: Lecture Grading Option: Letter

JOUR 560 Seminar in Mass Communication Law
Units: 2 Terms Offered: Fa Analysis of major elements of mass communication law, legal issues in contemporary mass communication, and the impact of legal trends on professional journalists. Open only to journalism majors. Registration Restriction: Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 561 Advanced Data Journalism
Units: 2 Execute data-driven projects and add context to news stories with advanced quantitative analysis tools and techniques. Instruction Mode: Lecture Grading Option: Letter

JOUR 570 Journalism Ethics Goes to the Movies Seminar
Units: 2 Understand ethical issues facing journalists as dramatized in the movies. Develop an ethical structure to use as journalists and consumers of news in the complex world of social media and the Internet. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 571 21st Century Sports Storytelling
Units: 3 Seminar in how to report and write sports: news, previews, profiles, features, columns. Instruction Mode: Lecture Grading Option: Letter

JOUR 572 Reporting on Entertainment and Popular Culture
Units: 3 Terms Offered: Fa Reporting about entertainment, popular culture and their impact on American society; survey of past media coverage and current practices. Instruction Mode: Lecture Grading Option: Letter

JOUR 573 Graduate Journalism Practicum
Units: 1, 2, 3, 4 Terms Offered: Sm Developing work experience through the MS in Journalism practicum. Open only to Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 574 Sports and Society
Units: 3 Develop and refine print and multimedia skills to work as a sports journalist. Gain perspective, context and background in how sports intersect with society. Instruction Mode: Lecture Grading Option: Letter

JOUR 575 Converged Media Center
Units: 2, 4 Terms Offered: Sp Advanced multimedia news production; preparation and treatment of form and content; procedures, problems, ethics, and practice in operating a daily, 24-7 news outlet. Instruction Mode: Lecture Grading Option: Letter

JOUR 576 The Image of the Journalist in Popular Culture Seminar
Units: 2 Terms Offered: Sp Study and analysis of the conflicting images of the journalist in popular culture and its impact on the public's perception of the media and news gatherers. Instruction Mode: Lecture Grading Option: Letter

JOUR 577 Monetization and the New Media
Units: 3 Understanding new media through an economic lens. Applying knowledge by creating, reporting and delivering a communications or business strategy model. Instruction Mode: Lecture Grading Option: Letter

JOUR 578 Reporting on Globalization
Units: 3 Understanding globalization, its origins, history and major characteristics. Developing skills in reporting, describing, analyzing, and responding to globalization. Instruction Mode: Lecture Grading Option: Letter

JOUR 579 Journalism Internship
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Field experience in journalism, public relations, or related field. Instruction Mode: Lecture Grading Option: Letter

JOUR 580 Introduction to Specialized Journalism
Units: 4 Terms Offered: Sm Understanding the role of specialized journalism and its changing role in U.S. news media; audience interest in areas of specialized coverage. Open only to specialized journalism (the arts) and specialized journalism majors. Registration Restriction: Open only to Specialized Journalism (The Arts) and Specialized Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 581 Specialized Journalism: Research Methods
Units: 3 Terms Offered: Fa Advanced skills in the use of expert sources, scholarly resources, computer-assisted and investigative reporting in specialized journalism; social and ethical issues in specialized reporting. Instruction Mode: Lecture Grading Option: Letter

JOUR 582 Specialized Journalism: Reporting Decisions
Units: 2 Terms Offered: FaSpSm Reporting and analysis of decision making; case studies and analytical tools in dissecting decisions for readers, listeners and viewers. Open only to specialized journalism (the arts) and specialized journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 583 Managing Communication in the Entertainment Industry
Units: 4 Terms Offered: Fa (Enroll in CMGT 543)

JOUR 584 Specialized Reporting: Education, Youth and Learning
Units: 3 Terms Offered: Fa Reporting and writing on education; survey of historical and contemporary issues affecting children, families and public education. Instruction Mode: Lecture Grading Option: Letter

JOUR 585 Specialized Reporting: Religion
Units: 3 Terms Offered: Sp Reporting and writing on religion; survey of world religion, religion and public life — including politics, gender and science. Instruction Mode: Lecture Grading Option: Letter

JOUR 586 Specialized Reporting: Science
Units: 3 Terms Offered: Fa Reporting and

writing on science; survey of scientific research fields and evaluation of evidence and claims. Instruction Mode: Lecture Grading Option: Letter

JOUR 587 Audience Analysis
Units: 4 Terms Offered: Fa (Enroll in CMGT 587)

JOUR 588 Cities, Climate and Risk
Units: 3 Terms Offered: FaSpSm Reporting and writing on urbanization, climate change and environmental harm. Instruction Mode: Lecture Grading Option: Letter

JOUR 589 Specialized Reporting: The Changing U.S. Population
Units: 3 Terms Offered: Fa Reporting and writing on immigration and other forms of demographic change; survey of immigration, the journalism it has generated and the impact of coverage. Instruction Mode: Lecture Grading Option: Letter

JOUR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 591 Arts Writing Practicum
Units: 3 Terms Offered: Fa Intensive writing workshop on the craft of arts criticism and persuasive writing of different arts genres. Instruction Mode: Lecture Grading Option: Letter

JOUR 592 Arts Journalism: Storytelling and Production
Units: 3 Terms Offered: Fa Reporting and writing on the arts; strategies for arts journalism in the digital era; survey of essays and reviews by great critics. Instruction Mode: Lecture Grading Option: Letter

JOUR 593 Arts Criticism and Commentary
Units: 3 Terms Offered: Sp Writing workshops and independent fieldwork; development of critical skills to write socially valuable criticism and commentary about art, entertainment and culture. *Prerequisite:* JOUR 591. Instruction Mode: Lecture Grading Option: Letter

JOUR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

JOUR 595 Critical Thinking: The Art and Science of Not Getting Fooled
Units: 3 Terms Offered: Fa Researching and writing about how not to get fooled as a journalist; includes research, writing and discussion. Open only to journalism and specialized journalism majors. Registration Restriction: Open only to Journalism and Specialized Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 596 Follow the Money: Business and Economics Reporting
Units: 3 Terms Offered: Fa Reporting and writing on business, economics and public finance; students produce a series of professional projects for publication. Open only to journalism and specialized journalism majors. Registration Restriction: Open only to Journalism and Specialized Journalism majors. Instruction Mode: Lecture Grading Option: Letter

JOUR 598 Journalism Capstone Project
Units: 4 Production of a journalism capstone project with multimedia elements for a master's degree. Projects can be single stand-alone pieces, or series of pieces. Registration Restriction: Open only to Journalism majors Instruction Mode: Lecture Grading Option: Credit/No Credit

JOUR 599 Special Topics
Units: 2, 3, 4 Terms Offered: FaSpSm Seminar in selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

Judaic Studies

JS 100gp Jewish History
Units: 4 Terms Offered: Fa Major ideas, personalities, and movements in Jewish history from antiquity to the present in light of the interaction of the Jews with the general culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

JS 180gp Introduction to Judaism
Units: 4 Terms Offered: Sp Jewish beliefs, practices, and history from the biblical period to the present; Judaic contributions to Western civilization. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

JS 211gw The Holocaust
Units: 4 Terms Offered: FaSp Historical background and responses to the Holocaust, with special emphasis on ethical implications. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Global Era Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

JS 214 Zionism, Israel, and the Modern World
Units: 4 Terms Offered: Fa Ideas about nationalism, Zionism, and society-building; emphasis on self-definition in the Jewish state. Instruction Mode: Lecture Grading Option: Letter

JS 258gp Food, Faith and Conflict
Units: 4 Terms Offered: Sp Investigates how food and food traditions create and cross religious and social conflicts between Jews, Christians and Muslims by exploring faith, practice, thought and ethics. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

JS 300 American Jewish History
Units: 4 Terms Offered: Fa Patterns of immigration, acculturation, religious forms, and ethnic expression in America from the colonial period to the present. Instruction Mode: Lecture Grading Option: Letter

JS 314gp Holy War And History: Jews, Christians, Muslims
Units: 4 Terms Offered: Sp Investigates the engagement in war by Judaism, Christianity and Islam by examining history and theology and looks at religious justifications and condemnations of war. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

JS 315g Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp History and contexts of anti-Semitism, racism and other discourses about difference examined through religious, national and cultural forms in Europe and in the US. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter Crosslisted as REL 310, HIST 322

JS 321 Gender and Judaism
Units: 4 Terms Offered: FaSp An investigation into the ways in which gender has structured Jewish religious, social, political and intellectual life from the Biblical period through the present. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-321

JS 330 Jewish Power, Powerlessness, and Politics in the Modern Era
Units: 4 Terms Offered: FaSp Explores the relationship between the Jewish people and political powers. Topics include politics in exile, changing relationships to power, and relations with the modern nation-state. Instruction Mode: Lecture Grading Option: Letter

JS 340 Modern Jewish History
Units: 4 Terms Offered: FaSp A survey of the major trends and themes of modern Jewish history. Examination of Jewish culture, society and politics from the Spanish Expulsion to the Second World War. *Recommended Preparation:* JS 100. Instruction Mode: Lecture Grading Option: Letter

JS 342 Reading in Two Directions:

Connecting Law and Literature in Jewish Tradition
Units: 4 Investigates understandings of law, legal interpretation and the integration of law and narrative in Jewish texts by exploring how to examine legal and literary texts. Instruction Mode: Lecture Grading Option: Letter

JS 360m Identity, Community, and Service: Jews and Other Americans
Units: 4 Examination of relationships between identity, community and service by investigating ethno-religious organizations' attempts to serve members of their group and confront issues of injustice in society. Instruction Mode: Lecture Grading Option: Letter

JS 361 Scripture and Polemic in Judaism, Christianity and Islam
Units: 4 Terms Offered: FaSp Origins of Scriptures and their polemical environments in earliest Judaism, Christianity, and Islam. Scripture as polemic and legitimation, and cross-religious/cross-cultural interpretation and argument based on scriptural themes. Instruction Mode: Lecture Grading Option: Letter

JS 362 Terror and Resistance in Literature and the Media
Units: 4 Terms Offered: Sp Investigation of the multiple ways that people experience and represent incidents of terror in literature, film, music, and social media. Instruction Mode: Lecture Grading Option: Letter

JS 370 Digs and Dispute: Religion and Archaeology in Israel
Units: 4 Terms Offered: FaSp Investigates contemporary conflicts in the discovery of the ancient world. Students will ask essential questions about the power of discovering and showcasing specific narratives. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 370

JS 374 Messiah: The History of an Idea
Units: 4 Terms Offered: Sp Exploration of the history of the idea of a messiah in Judaism from antiquity to today. Instruction Mode: Lecture Grading Option: Letter

JS 375 Issues of American Jewish Literature
Units: 4 Issues-oriented study of the human experience in America as expressed in the fiction, poetry, drama, memoirs, and literary criticism of America's Jews, using a dual approach incorporating both literary history and specific issues. Instruction Mode: Lecture Grading Option: Letter

JS 378 Jewish Magic in the Ancient World
Units: 4 Terms Offered: Sp A cross-cultural examination of different kinds of magical literature that describe miraculous practices in Jewish mainstream and marginal life in the ancient and classical periods. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 378

JS 379gm Mixing and Matching: Intermarriage in the 21st Century
Units: 4 Terms Offered: Sp An investigation into interethnic, interracial, and inter-religious marriage in the 21st century. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-379

JS 381 The Jew in American Society
Units: 4 Terms Offered: FaSp The changing sociological profile of the American Jew and changing organization of the American Jewish community as they developed over the 19th and 20th centuries. Instruction Mode: Lecture Grading Option: Letter

JS 382 Judaism as an American Religion
Units: 4 The development of American expressions of Judaism as part of the American religious context, from the perspective of the social scientific study of religion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-382

JS 383 Jews in American Popular Culture
Units: 4 Terms Offered: FaSp Social and cultural history of American Jewish contributions to the arts, science, literature, economics and politics. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-383

JS 389 Culture and Society in Israel: Inventing the Dream
Units: 4 Terms Offered: Sp Examination of the social forces that shaped and continue to shape culture and society in contemporary Israel. Instruction Mode: Lecture Grading Option: Letter

JS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

JS 415 The American Jewish Experience in Film
Units: 4 A survey of American Jewish history through the medium of film, with particular emphasis on the experience of the post-war generation. Instruction Mode: Lecture Grading Option: Letter

JS 428 Blacks and Jews: Conflicts and Alliances
Units: 4 Terms Offered: Sp Examination of the relationship between the American Jewish and African-American communities and what it teaches about race and coalition politics in American society. Instruction Mode: Lecture Grading Option: Letter

JS 467 Modern Jewish Thought
Units: 4 Terms Offered: Sp Foundations of modern Jewish thought from the Western European Enlightenment to the present. Instruction Mode: Lecture Grading Option: Letter

JS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

JS 499 Special Topics
Units: 4 Selected topics in Judaic Studies. Instruction Mode: Lecture Grading Option: Letter

JS 501a Bible Texts
Units: 4 Terms Offered: FaSp Advanced grammar and reading. An introduction to principles of form criticism as applied to selected narrative and legal portions of the Pentateuch. Instruction Mode: Lecture Grading Option: Letter

JS 501b Bible Texts
Units: 4 Terms Offered: FaSp A critical evaluation of the biblical books of Amos and Hosea with a view to gaining an appreciation of the prophets' literary skill, their religious motivations, and the originality of their thought. Instruction Mode: Lecture Grading Option: Letter

JS 501c Bible Texts
Units: 4 Terms Offered: FaSp Critical readings in each of the biblical books of Ruth, Lamentations, Ecclesiastes, Esther, and Song of Songs, with a view toward gaining an appreciation of their literary and religious values. Knowledge of Hebrew required. Instruction Mode: Lecture Grading Option: Letter

JS 504 Modern Hebrew Literature
Units: 3 Terms Offered: Fa Reading of unvocalized texts primarily from modern Hebrew literature. A survey of the development of modern Hebrew literature, with an emphasis on short story and poetry. Knowledge of Hebrew required. Instruction Mode: Lecture Grading Option: Letter

JS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

JS 680 Boundaries of Jewish Normative Behavior
Units: 4 Terms Offered: Sp Institutions claiming Jewish authenticity and their treatment of Jews perceived to be deviant. Instruction Mode: Lecture Grading Option: Letter

Latin

LAT 020x Latin for Research
Units: 2 For students who wish to use Latin in their research, or who need help in meeting the reading requirement for the PhD Not available for degree credit. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAT 120 Latin I
Units: 4 Terms Offered: FaSp Essentials of Latin grammar and vocabulary. Instruction Mode: Lecture Grading Option: Letter

LAT 150 Latin II
Units: 4 Terms Offered: FaSp Essentials of Latin grammar and vocabulary, continued. Basic reading skills. *Prerequisite:* LAT 120. Instruction Mode: Lecture Grading Option: Letter

LAT 222 Latin III
Units: 4 Terms Offered: FaSp Reading Latin literature. Introduction to reading and translation of classical Latin prose and poetry. Extensive grammar review. *Prerequisite:* LAT 150. Instruction Mode: Lecture Grading Option: Letter

LAT 310 Latin Elegiac Poetry
Units: 4 Terms Offered: Irregular Selected poems of Catullus, Tibullus, Propertius, and

Ovid; meter, style, and themes. *Prerequisite:* LAT 313, LAT 314, LAT 315, or LAT 316. Instruction Mode: Lecture Grading Option: Letter

LAT 312 Roman Satire
Units: 4 Terms Offered: Irregular Selected satires of Horace and Juvenal; history of the genre. Instruction Mode: Lecture Grading Option: Letter

LAT 313 Ovid and Classical Mythology
Units: 4 Selections from the Metamorphoses and Fasti; collateral reading on classical mythology. Instruction Mode: Lecture Grading Option: Letter

LAT 314 Catullus and Horace
Units: 4 Selected poems of Catullus and Odes of Horace. Instruction Mode: Lecture Grading Option: Letter

LAT 315 Cicero
Units: 4 Representative philosophical, oratorical, and rhetorical works; selected letters. Instruction Mode: Lecture Grading Option: Letter

LAT 316 Roman Comedy
Units: 4 Selected plays of Plautus and Terence. Instruction Mode: Lecture Grading Option: Letter

LAT 320 Vergil
Units: 4 Studies in the Aeneid or Eclogues and Georgics. Instruction Mode: Lecture Grading Option: Letter

LAT 322 Lucretius' De Rerum Natura
Units: 4 The didactic epic as a vehicle of Epicurean philosophy. Instruction Mode: Lecture Grading Option: Letter

LAT 325 Roman Historians
Units: 4 Readings from Sallust, Livy, and Tacitus. *Prerequisite:* LAT 222 or satisfactory completion of placement test. Instruction Mode: Lecture Grading Option: Letter

LAT 365 Latin Literature of the Silver Age
Units: 4 Readings in Seneca, Martial, Pliny, and other representative writers. Instruction Mode: Lecture Grading Option: Letter

LAT 385 Late and Medieval Latin
Units: 4 Selections from poets and prose writers from late antiquity to the 15th century. Instruction Mode: Lecture Grading Option: Letter

LAT 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

LAT 450 Readings in Latin Literature
Units: 4 Max Units: 12.0 Terms Offered: FaSp Readings in various authors and genres of Latin literature. *Prerequisite:* 300-level Latin course. Instruction Mode: Lecture Grading Option: Letter

LAT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

LAT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

Law

Courses numbered 500 and above are open only to law students except by special permission from the associate dean.

LAW 101w Law and the U.S. Constitution in Global History
Units: 4 By examining key constitutional moments involving race, rights, and revolutions, students will explore how legal meaning changes over time. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

LAW 200w Law and Society
Units: 4 Sources and structure of law; history of Bill of Rights emphasizing effect on criminal justice system; limits of law in solving problems in American society. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

LAW 201x Law and Politics: Electing a President
Units: 4 Examination of the rules and realities of American politics, and the role politics plays in American life and culture. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-201

LAW 220 The Legal Profession
Units: 2 Introduces students to the basic aspects of the legal profession. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 250 Children and Law
Units: 3 Examines topics such as children's suggestibility, decision-making, and risk and resiliency all as they apply to legal settings. Instruction Mode: Lecture Grading Option: Letter

LAW 300 Concepts in American Law
Units: 4 The main concepts and topics in American law, in the historical, economic and cultural contexts in which they have developed. Open only to students enrolled in the Philosophy, Politics and Law (PPL) major. Instruction Mode: Lecture Grading Option: Letter

LAW 301 The Constitution in Transnational Perspective
Units: 4 Examines the Constitution of the United States in transnational perspective, both historically and today. Focuses on democracy; slavery, emancipation, and freedom; empire; and governmental structures. Instruction Mode: Lecture Grading Option: Letter

LAW 320 Law, Slavery, and Race
Units: 4 Studies how law, politics and culture interacted to shape the institution of slavery and the development of modern conceptions of race. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 320

LAW 402 Psychology and Law
Units: 4 Terms Offered: Sp Explores issues of responsibility and credibility. Intentional and unintentional behavior. Clinical biases. Topics include witness credibility, confessions, cults, hostages, battered persons, and repressed memories. Instruction Mode: Lecture Grading Option: Letter

LAW 403 Mental Health Law
Units: 4 Terms Offered: Sp Issues at the intersection of law and psychology, both civil — e.g., civil commitment — and criminal — e.g., the insanity defense. Emphasis on ethical issues. Instruction Mode: Lecture Grading Option: Letter

LAW 404 Law and Psychology: Examining the Criminal Justice Process
Units: 4 Terms Offered: FaSpSm Examination of the capacity of the criminal justice process to produce accurate verdicts. Application of psychological research on witnesses, detectives, suspects, judges and jurors. *Recommended Preparation:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

LAW 444 Civil and Political Rights and Liberties
Units: 4 (Enroll in POSC 444)

LAW 450 Law, Atrocity Crimes and Transitional Justice
Units: 4 Historical overview of the evolution of international legal norms prohibiting atrocity crimes found in the law of armed conflict, international human rights law and the 1948 Genocide Convention. Instruction Mode: Lecture Grading Option: Letter

LAW 502 Procedure I
Units: 4 Terms Offered: Fa Consideration of the participants in litigation — private and public plaintiffs, defendants, and courts. Information exchange, process, outcomes, and costs of lawsuits. Instruction Mode: Lecture Grading Option: Numeric

LAW 503 Contracts
Units: 2, 3, 4 Terms Offered: Fa The interpretation and enforcement of promises and agreements. Instruction Mode: Lecture Grading Option: Numeric

LAW 504 Criminal Law
Units: 3 Terms Offered: Sp The crime problem and the legislative response to it through substantive criminal law; administration of criminal justice through police, prosecutorial, sentencing, and penological discretion. Instruction Mode: Lecture Grading Option: Numeric

LAW 505 Legal Profession
Units: 2, 3, 4 Functions of the lawyer in modern society; history and organization of the legal profession; the adversary system; equal access to justice; other problems of ethics and professional responsibility. Instruction Mode: Lecture Grading Option: Numeric

LAW 507 Property
Units: 4 Terms Offered: Sp The idea of property as understood through economic and philosophical concepts. Rights in land, water and other natural resources. Forms of shared ownership (e.g., landlord and tenant), and a survey of mechanisms for controlling land use. Instruction Mode: Lecture Grading Option: Numeric

LAW 508 Constitutional Law: Structure
Units: 2, 3, 4, 5 Terms Offered: FaSp Considers the delineation of spheres of

responsibility between the judiciary and legislature, the nation and the state, and the government and the individual. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 509 Torts I
Units: 4 Terms Offered: Fa Individual's obligation not to harm others; bases for compensating persons who are harmed, either by holding responsible whoever is at fault or by invoking other principles of liability, including the efficiency of resource allocation and the spreading of losses. Instruction Mode: Lecture Grading Option: Numeric

LAW 510 Legal Research
Units: 0 or 1 Terms Offered: FaSpSm Examination of the basic sources of law for federal and California jurisdictions, utilizing a vast array of sources from books to computer-assisted research and analyzing research methodology and techniques. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 511a Legal Writing
Units: 1, 2 Terms Offered: Fa Two-semester course focusing on developing analytic and communication skills. Lawyers will analyze legal principles and incisively apply them to facts. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 511b Legal Writing
Units: 1, 2 Terms Offered: Sp Two-semester course focusing on developing analytic and communication skills. Lawyers will analyze legal principles and incisively apply them to facts. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 512 Law, Language and Values
Units: 2, 3, 4 An introduction to legal interpretation and normative reasoning. Among the topics addressed are statutory and common law interpretation, the rule of law, externalities, and inequality. Instruction Mode: Lecture Grading Option: Numeric

LAW 515 Legal Research, Writing and Advocacy I
Units: 2, 3 Development of legal research, writing and advocacy skills. Emphasis on objective legal writing, including memoranda, and researching case law through primary and secondary sources. Instruction Mode: Lecture Grading Option: Numeric

LAW 516 Legal Research, Writing and Advocacy II
Units: 2 Terms Offered: Sp Continuation of LAW 515. Development of legal research, writing, and advocacy skills. Emphasis on persuasive legal writing, including appellate briefs, and researching statutory and administrative law. Participation in a moot court program. *Prerequisite:* LAW 515. Instruction Mode: Lecture Grading Option: Numeric

LAW 520 Introduction to U.S. Legal System
Units: 2 The basic structure of government in the U.S., including the constitutionally mandated division of power in the federal government and the federal system of power sharing between state and federal systems. A comparative perspective on selected substantive and procedural matters, such as common law reasoning, jury trials, adversary process, and various aspects of civil procedure. Open to LLM students only. Instruction Mode: Lecture Grading Option: Numeric

LAW 521 Topics in American Law
Units: 1, 2, 3, 4 Terms Offered: FaSp This course provides LLM and MCL students with a survey of various topics in American law, including criminal law, evidence, family law, constitutional law, torts, wills and trusts, administrative law and property law. Open to LLM and MCL students only. Instruction Mode: Lecture Grading Option: Numeric

LAW 522 Entertainment Law and Industry
Units: 2 Terms Offered: FaSpSm Provides a detailed survey of entertainment law, entertainment-related transactions and litigation, and legal issues facing the entertainment industry. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 527 Intellectual Property: Copyright
Units: 2 Terms Offered: FaSpSm Provides an introduction to copyright law, the application of copyright laws in litigation, and the management of copyrighted works. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 528 Constitutional Law
Units: 2 Covers the delineation of spheres of responsibility between three branches of the federal government, the federal government and the states and the government and individuals. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 530 Fundamental Business Principles
Units: 3 Exposes students to everyday business and finance vocabulary, concepts and modes of analysis. Strongly recommended for students without significant prior business experience. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 531 Ethical Issues for Public Interest, Government and Criminal Lawyers
Units: 3 Covers legal ethics issues with an emphasis on access to justice, nonprofit practice settings, and duties of prosecutors and defense attorneys. Fulfills Legal Profession requirement. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 532 Constitutional Law: Rights
Units: 3 Examines constitutional rights particularly ones protected under the Equal Protection/Due Process Clauses and related questions of judicial role and theories of interpretation. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 550 Business Law Advisor
Units: 1 Max Units: 4 Write or edit articles for the Business Law Advisor, a student-run publication that publishes advisory articles relevant to the intersection of business and law. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 551 Intellectual Property: Trademark
Units: 2 Terms Offered: FaSpSm Provides an introduction to trademark law, the federal trademark registration process, and the application of trademark laws in litigation. Instruction Mode: Lecture Grading Option: Numeric

LAW 559 Human Resource Compliance
Units: 2 Terms Offered: FaSpSm Provides an overview of human resource related law, and various legal issues involved in the employment relationship. Instruction Mode: Lecture Grading Option: Numeric

LAW 560 Academic and Professional Skills for U.S. Law Studies I
Units: 2 Terms Offered: Fa Explores and develops the legal communication and analytical skills necessary to the practice of law. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 561 Fundamentals of Legal Writing Skills
Units: 2 Terms Offered: Fa Explores purpose and form of legal documents and emphasizes effective communication. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 562 Introduction to U.S. Legal Culture and Practice
Units: 2 Terms Offered: Fa Explores the foundation for U.S. law and culture, including the historical and contemporary development of U.S. law. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 563 Presentation Skills for International Lawyers
Units: 2 Terms Offered: Fa Explores the art of public speaking and effective communication in legal settings. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 564 Persuasive Advocacy
Units: 2 Terms Offered: Sp Explores the communication and presentation skills necessary for persuasive legal advocacy. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal

Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 565 U.S. Common Law Analysis and Skills
Units: 3 Terms Offered: Sp Explores how judicial opinions interact with other sources of law and develop law in the U.S. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 566 Academic and Professional Skills for U.S. Law Studies II
Units: 1 Terms Offered: Sp Explores effective legal communication and professionalism skills. Registration Restriction: Open only to master students enrolled in Certificate in U.S. Legal Studies program at USC Gould School of Law. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 567 Introduction to Litigation in U.S. Courts
Units: 2 Terms Offered: FaSp Provides an overview of the United States legal system for those unfamiliar with common law courts, including the mechanics of the U.S. Court system in both criminal and civil courts, as well as more detailed analysis of torts and intellectual property disputes. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 570 ADR Legal Principles
Units: 2 Terms Offered: Sp Survey course for students who have not earned a J.D. in a U.S. law school to gain an understanding of the legal framework for the dispute resolution processes in which they participate. Instruction Mode: Lecture Grading Option: Numeric

LAW 571 Organizational Conflict
Units: 3 Terms Offered: Sp Origin and types of conflicts which arise within organizations. Designing systems to prevent conflict from developing or escalating and developing a culture of collaboration and creativity. Instruction Mode: Lecture Grading Option: Numeric

LAW 572 Practical Mediation Skills Clinic
Units: 3 Terms Offered: Sm Students learn basic and advanced mediation skills, practice their skills in simulated mediations, and upon certification by the instructor, mediate in the Los Angeles Superior Court. (Note: LAW 570 must be taken prior to or concurrently with enrollment in LAW 572, unless the student has previously earned a J.D. from a U.S. law school.) Instruction Mode: Lecture Grading Option: Numeric

LAW 573 ADR Specialized Study
Units: 1, 2, 3 Terms Offered: FaSp ADR Specialized Study projects reflect substantial research and study which result in meaningful written work, generally 10 to 15 pages in length per unit of credit. *Prerequisite:* LAW 715 and LAW 819 and LAW 829 Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 574 Health Care Compliance
Units: 2 Terms Offered: FaSpSm Provides background on about the importance of compliance for health care organizations and legal challenges facing the health care industry. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 579 Global Regulatory Compliance
Units: 2 Terms Offered: FaSp Introduction to regimes that regulate business practices on a global level and compliance of such regimes, such as Foreign Corrupt Practices Act, OECD Anti-Bribery Convention, and other regulations. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 580 Wicked Problems Practicum
Units: 2 Max Units: 6 A year-long project addressing an urgent public policy issue that is both multifaceted and intractable. Instruction Mode: Lecture Grading Option: Numeric

LAW 598 Regulatory Compliance
Units: 2 Terms Offered: FaSpSm Provides an overview of regulatory compliance law and the ways that various organizations ensure compliance with governing laws and regulations. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Numeric

LAW 600 Taxation
Units: 3 or 4 Federal tax statutes, technical issues and social problems involved in tax planning, tax litigation, and reform of the tax laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 601 Advanced Legal Writing Practicum
Units: 2, 3, 4 Requires students to draft legal documents they were not exposed to in the first-year writing course, such as client letters, demand letters, and contracts. Instruction Mode: Lecture Grading Option: Numeric

LAW 602 Criminal Procedure
Units: 2, 3, 4 Terms Offered: FaSpSm Criminal procedure in the courts, and the regulation of law enforcement by the courts through rules of evidence and interpretation of the Bill of Rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 603 Business Organizations
Units: 3, 4, 5 Terms Offered: FaSp Organization of economic activity — especially the modern corporation — as institutions of social power. The roles of managers, owners, and public regulatory agencies in shaping processes of decision-making. Instruction Mode: Lecture Grading Option: Numeric

LAW 604 Real Estate Transactions Problems
Units: 1 Terms Offered: Fa Selected problems to supplement LAW 605. *Corequisite:* LAW 605. Instruction Mode: Lecture Grading Option: Numeric

LAW 605 Real Estate Law and Business I (Transactions)
Units: 3, 4, 5 Terms Offered: Fa The land transfer process: arrangements between buyers and sellers, brokers, escrows, recorders, title companies. Real estate financing through mortgages and other land security devices. Instruction Mode: Lecture Grading Option: Numeric

LAW 606 Land Use Controls
Units: 2, 3, 4 Concentrates on the major topics of Land Use and Environmental law in the 21st Century. Instruction Mode: Lecture Grading Option: Numeric

LAW 607 Gifts, Wills, and Trusts
Units: 3 or 4 Gratuitous transfer of wealth, especially the transmission of wealth from one generation to the next as a settlement of family affairs. Comparative analysis of the legal mechanisms of gifts, wills, and trusts. Introduction to problems of fiduciary administration. Instruction Mode: Lecture Grading Option: Numeric

LAW 608 Evidence
Units: 3 or 4 The purpose and character of trial. Problems of adversary presentation and the nature of proof. The basis for admission and exclusion of evidence in judicial proceedings. Instruction Mode: Lecture Grading Option: Numeric

LAW 610 Antidiscrimination Law
Units: 3, 4 Surveys federal constitutional and statutory mechanisms designed to fulfill the promise of equality under the law. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 611 Advanced Topics in Constitutional Law
Units: 1, 2, 3, 4 Max Units: 8.0 Seminar for students who aspire to write publishable research articles or notes on constitutional law topics. Instruction Mode: Lecture Grading Option: Numeric

LAW 612 California Civil Procedure
Units: 2, 3, 4 Examines the California rules of civil procedure. Emphasizes California law, with some discussion of the differences between state and federal procedure. Instruction Mode: Lecture Grading Option: Numeric

LAW 614 Accounting for Lawyers
Units: 2 or 3 The lawyer's skills needed to understand the financial affairs of a business client. Instruction Mode: Lecture Grading Option: Numeric

LAW 615 Election Law
Units: 1, 2, 3, 4 Consideration of legal regulation of the right to vote and otherwise to participate in the electoral process. Instruction Mode: Lecture Grading Option: Numeric

LAW 616 Restitution
Units: 3 Comprehensive study of restitution, the common law action for unjust enrichment. Addresses unjust enrichment as a freestanding wrong, not just as a remedy. Instruction Mode: Lecture Grading Option: Numeric

LAW 617 History of American Law
Units: 2 or 3 Explores the interaction of law, culture, and politics in American society from the Revolution through the New Deal. Instruction Mode: Lecture Grading Option: Numeric

LAW 618 Advanced Contracts
Units: 2, 3, 4 Terms Offered: FaSp Students work in groups using principles of contract design analyzing concrete cases based on actual events in transactions handled by a large commercial law firm. Instruction Mode: Lecture Grading Option: Numeric

LAW 619 Employment Law
Units: 2, 3, 4 Examination of the evolving role of work in our society and the nature and scope of legal regulation of the employment relationship. Instruction Mode: Lecture Grading Option: Numeric

LAW 620 Mortgage Law
Units: 2, 3, 4 Terms Offered: Sp Deals with the rights and remedies of mortgage lenders and borrowers after the mortgage loan has gone into default. *Recommended Preparation:* LAW 605. Instruction Mode: Lecture Grading Option: Numeric

LAW 621 Gender Discrimination
Units: 1, 2, 3, 4 Analysis of the constitutional and statutory debates about the meaning of equality, and the recognition and accommodation of difference. Instruction Mode: Lecture Grading Option: Numeric

LAW 622 Money in Politics
Units: 2, 3 Studies the statutes and cases governing campaign finance in America and the latest research into their effects. Instruction Mode: Lecture Grading Option: Numeric

LAW 623 Family Law
Units: 3 or 4 Creating, regulating and dissolving family relationships. Explore moral and power relations among men, women, children and the state. Develop skills to help clients in families. Instruction Mode: Lecture Grading Option: Numeric

LAW 624 Water Law
Units: 2 Covers the regulation of groundwater and surface water by the courts and the State Water Resources Control Board. Instruction Mode: Lecture Grading Option: Numeric

LAW 625 Remedies
Units: 3 or 4 Comparison of the remedial goals of contracts, torts, and property and the impact of procedural devices in law and equity. Damages, injunctions, specific performance and restitution. Remedial theory and transactional application. Instruction Mode: Lecture Grading Option: Numeric

LAW 626 International Investment Law and Arbitration
Units: 2 Provides students with understanding of protection offered to foreign investment and investors through bilateral investment treaties and multilateral and regional investment and free trade agreements. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 627 Business Planning
Units: 3, 4 Covers each phase of the structuring, formation, financing and operation of a new media enterprise. Instruction Mode: Lecture Grading Option: Numeric

LAW 628 Real Estate Problems
Units: 1 Terms Offered: Sp Selected problems to supplement LAW 629. Instruction Mode: Lecture Grading Option: Numeric

LAW 629 Real Estate Law and Business II (Finance and Development)
Units: 2, 3, 4, 5 Terms Offered: FaSp A survey of the major types of financing used for real estate and the basic techniques used to make real estate investment and financing decisions. *Recommended Preparation:* LAW 605 Instruction Mode: Lecture Grading Option: Numeric

LAW 630 Mediation Clinic I
Units: 2, 3, 4 Terms Offered: FaSpSm Students receive the training required to become professional mediators for civil cases in the L.A. County Superior Court, and mediate these cases. Instruction Mode: Lecture Grading Option: Numeric

LAW 631 Mediation Clinic II
Units: 2, 3, 4 Continuation of LAW 630. *Prerequisite:* LAW 630. Instruction Mode: Lecture Grading Option: Numeric

LAW 632 Business for Lawyers
Units: 2, 3, 4 This course introduces law students to the tools, concept, and language of business. It is premised on the belief that to excel as a business lawyer, one must understand the business world from the perspective of the clients one counsels and assists. The course will cover, in compressed form, the basic subjects from the MBA program which are most useful to lawyers. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 634 Legal Analysis of Evidence
Units: 2, 3, 4 Legal analysis of the rules of Evidence using problems designed to improve analytic skills and problem-solving. Taken in conjunction with Evidence. *Corequisite:* LAW 608. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 635 Employment Discrimination Law
Units: 2, 3, 4 Examines the regulation of employment discrimination under federal law. Pays primary attention to issues of race, sex, age and disability discrimination. Instruction Mode: Lecture Grading Option: Numeric

LAW 636 Labor Law
Units: 3 or 4 The interrelation of labor, business, and government in collective bargaining, federal regulation of union and management practices and pressures, especially through the Taft-Hartley Act. Instruction Mode: Lecture Grading Option: Numeric

LAW 637 International Trade Policy
Units: 1, 2, 3, 4 Examination of the institutions and laws that regulate international economic relations. Students will be introduced to the major international agreements and national laws that regulate international trade goods, services and capital. Instruction Mode: Lecture Grading Option: Numeric

LAW 638 Topics in Alternative Dispute Resolution
Units: 2, 3, 4 Max Units: 6.0 Terms Offered: Sp Examines selected topics in negotiation, mediation, or alternative dispute resolution. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 639 Law and Literature
Units: 1, 2, 3, 4 Max Units: 8.0 Selected topics in law and literature. Instruction Mode: Lecture Grading Option: Numeric

LAW 641 Commercial Law
Units: 2 or 4 Commercial transactions involving secured financing (other than land). Government regulation of such sales and borrowing through Article 9 of the Uniform Consumer Credit Code and other recent legislation. Instruction Mode: Lecture Grading Option: Numeric

LAW 642 Secured Transactions
Units: 2, 3, 4 This is a course on Chattel paper and secured transactions involving personal property under Article 9 of the Uniform Commercial Code and some related bodies of law. Instruction Mode: Lecture Grading Option: Numeric

LAW 643 Securities Fraud Litigation
Units: 2, 3, 4 Terms Offered: FaSpSm Examination of the laws governing fraud in securities markets. Focus on several sections of the Securities Exchange Act of 1934, including fraudulent statements and insider trading, fraud in the takeover context, fraud in proxies, and controlling personal liability. Instruction Mode: Lecture Grading Option: Numeric

LAW 644 Corporate Taxation
Units: 2, 3, 4 Tax principles and practice applicable to business, especially problems of formation, liquidation, and reorganization. *Prerequisite:* LAW 600. Instruction Mode: Lecture Grading Option: Numeric

LAW 645 Transactional Practice — The Syndicated Loan Agreement
Units: 4 Involves issues including loan restructuring; what loan agreements cover; how representations, covenants, default and financial and repayment terms interrelate; and how security documents fit in. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 646 Advanced Topics in Employment Discrimination
Units: 1, 2, 3 Reviews recent Supreme Court decisions and legal scholarship with attention to statutory interpretation, consistency with constitutional antidiscrimination standards, and consistency with current understandings about discrimination. Instruction Mode: Lecture Grading Option: Numeric

LAW 647 Bankruptcy: Debtors and Creditors I
Units: 2 or 3 Bankruptcy of the poor, imprudent or unlucky, and of unsuccessful businesses. The mechanisms of our law for distributing the debtor's property and

discharging his obligations. Instruction Mode: Lecture Grading Option: Numeric

LAW 648 Topics in Entertainment Law
Units: 1, 2, 3, 4 Max Units: 8.0 Contemporary topics in the field of entertainment law. Instruction Mode: Lecture Grading Option: Numeric

LAW 649 Insurance
Units: 2 or 3 The pooling of risks and distributing of losses. Actuarial foundation and contract problems of insurance. Instruction Mode: Lecture Grading Option: Numeric

LAW 650 Entertainment Law
Units: 2, 3, 4 Terms Offered: FaSp An examination of how the courts are handling selected, "cutting edge" topics in entertainment law. The topics will include the scope of and limitations on the right of publicity; fair use and parody defenses to copyright infringement; future technology clauses in rights contracts; and copyright and defamation issues arising in the online world. *Recommended Preparation:* Previous entertainment law courses recommended, but not required. Instruction Mode: Lecture Grading Option: Numeric

LAW 651 Entertainment Law Practicum
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Supervised internship for students enrolled in LAW 650. *Corequisite:* LAW 650. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 653 Legal Issues in the Music Industry
Units: 1, 2, 3, 4 Terms Offered: FaSp The course will focus on contract drafting and negotiation issues relevant to an artist's pursuit of a career in the music business. Instruction Mode: Lecture Grading Option: Numeric

LAW 654 Television and Digital Media
Units: 2, 3, 4 An in-depth study of television industry legal concepts, contracts, business structures and economic models. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 655 Environmental Law
Units: 2, 3, 4 Focus on environmental law policy and practice. This course is a combination of regulatory and private law, with a special emphasis on disputes and regulations involving contamination in soil, water and air. Instruction Mode: Lecture Grading Option: Numeric

LAW 656 The Business of Entertainment, Media and Technology
Units: 1, 2 Introduces aspiring attorneys to important concepts in the entertainment business, and builds context for more advanced courses in entertainment, media, technology and intellectual property law. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 657 International Protection of Intellectual Property
Units: 1, 2, 3, 4 The laws concerning how to enforce and exploit rights protecting media creations, marketing symbols, computer programs, new technologies, designs, know-how, and data across national borders. Instruction Mode: Lecture Grading Option: Numeric

LAW 658 Mergers and Acquisitions
Units: 1, 2, 3, 4 Terms Offered: Sp Problems of integrating the corporate, securities, tax, business, antitrust, accounting and contractual aspects of corporate mergers and acquisitions. *Prerequisite:* LAW 603. Instruction Mode: Lecture Grading Option: Numeric

LAW 659 Legal Issues in the Motion Picture Industry
Units: 2, 3, 4 Involves the legal and business principles involved in structuring, negotiating and documenting agreements relating to the development, production and distribution of theatrical motion pictures. *Prerequisite:* LAW 772 or LAW 841; *Corequisite:* LAW 650. Instruction Mode: Lecture Grading Option: Numeric

LAW 660 Trademark Law in Practice
Units: 1, 2, 3, 4 A rigorous introduction to a law of trademarks. A trademark can be any word, symbol, design, sound, fragrance or product configuration that is used to distinguish the goods or services of one person from those of another, and to indicate the origin of the goods or services. *Prerequisite:* LAW 772 or LAW 841 Instruction Mode: Lecture Grading Option: Numeric

LAW 661 National Security Law
Units: 2, 3, 4 Examination of the nature of United States' national security law, focusing on how it is created, violated and enforced. Instruction Mode: Lecture Grading Option: Numeric

LAW 662 Public International Law
Units: 3, 4 Principles of international law involving relations among governments. The function of international tribunals and organizations. Instruction Mode: Lecture Grading Option: Numeric

LAW 665 Art Law
Units: 2 or 3 Provides an overview, often from a litigation perspective, of legal issues affecting artworks and cultural property. Instruction Mode: Lecture Grading Option: Numeric

LAW 667 Hale Moot Court Brief
Units: 2 Invitation-only course offered to second-year students as part of the Hale Moot Court Honors Program. Students write an appellate brief. Open only to students in JD program (including dual degrees). Instruction Mode: Lecture Grading Option: Numeric

LAW 668 Hale Moot Court Oral Advocacy
Units: 1 Terms Offered: Sp Invitation-only course for students in the Hale Moot Court Honors Program. Students present an oral argument and judge first-year student rounds. *Prerequisite:* LAW 667. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 669 Moot Court Supervision
Units: 1, 2, 3 Max Units: 6.0 Terms Offered: FaSp Evaluation and supervision of the preparation of briefs and oral arguments in the Hale Moot Court honors competition. Instruction Mode: Lecture Grading Option: Numeric

LAW 670 Advanced Moot Court Oral Arguments
Units: 1, 2, 3 Max Units: 3.0 Terms Offered: Sp Preparation of oral arguments in approved moot court competitions, such as national and state prize rounds (other than Hale Moot Court Program). Registration Restriction: Open only to law students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 671 Advanced Moot Court Briefs
Units: 1, 2, 3 Terms Offered: Sp Preparation of briefs in approved moot court competitions, such as national and state prize rounds (other than Hale Moot Court Program). Instruction Mode: Lecture Grading Option: Numeric

LAW 672 Jessup Moot Court Briefs
Units: 1, 2, 3 Terms Offered: Fa Students prepare for competition by writing a brief on the issues in a problem that is the basis for the Jessup International Moot Court Competition. Participation is by faculty selection only. Instruction Mode: Lecture Grading Option: Numeric

LAW 673 Deal Strategy, Structure and Negotiation
Units: 4 Examines the legal and business skills, concepts and practices, involved in structuring, drafting and negotiating financing, production and distribution deals in the entertainment industry. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 674 Advanced Secured Transactions Workshop
Units: 1 Provides hands-on experience in the various tasks typically required in structuring, documenting and closing a personal property secured transaction. *Corequisite:* LAW 642. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 675 Mental Health Law
Units: 2, 3, 4 Studies the important issues at the intersection of law and psychology/psychiatry, both civil and criminal. Instruction Mode: Lecture Grading Option: Numeric

LAW 678a Review of Law and Social Justice Staff
Units: 1, 2, 3, 4 Writing, source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 678b Review of Law and Social Justice Staff
Units: 1, 2, 3, 4 Writing, source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 679 Review of Law and Social Justice Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Writing,

source-checking, and preliminary editing of articles and comments for publication in the Review of Law and Social Justice. Instruction Mode: Lecture Grading Option: Numeric

LAW 680a Review of Law and Social Justice Editing
Units: 1, 2, 3 Supervision of research and writing, and final editing of articles and comments for publication in the Review of Law and Social Justice. For officers of the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 680b Review of Law and Social Justice Editing
Units: 1, 2, 3, 4 Supervision of research and writing, and final editing of articles and comments for publication in the Review of Law and Social Justice. For officers of the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 681 Analytical Methods for Lawyers
Units: 2, 3, 4 Teaches important business and economic concepts that will assist with problems lawyers in every practice area routinely encounter. Instruction Mode: Lecture Grading Option: Numeric

LAW 682 Jessup Moot Court Oral Arguments
Units: 1 Terms Offered: Sp Students prepare oral arguments on the issues in a problem that is the basis for the Jessup International Moot Court competition. Participation is by faculty selection only *Prerequisite:* LAW 672. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 683 Fact Investigation and Discovery
Units: 2, 3 Terms Offered: FaSp Introduction to a practice-oriented approach to interviewing and counseling clients. Enables students to develop a useful framework for effectively interviewing and representing clients. Instruction Mode: Lecture Grading Option: Numeric

LAW 684 Suing the Government
Units: 2, 3, 4 Terms Offered: FaSp Deals with suits against federal and state governments. Intended for aspiring government workers or representatives of plaintiffs who sue a government official or entity. Instruction Mode: Lecture Grading Option: Numeric

LAW 685 Civil Discovery
Units: 2, 3, 4 Focuses on the discovery phase of pre-trial litigation and many of the skills new lawyers are called upon to use right out of law school. Instruction Mode: Lecture Grading Option: Numeric

LAW 686 Civil Rights: The Enforcement of the Constitution
Units: 3 Gives students operational significance to the abstractions presented in the Constitutional Law courses by investigating civil rights litigation. Instruction Mode: Lecture Grading Option: Numeric

LAW 690 Entertainment Law in Practice
Units: 2 Develops legal, analytical, and client management skills required to represent entertainment industry clients in all areas of the entertainment industry. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 697 Foreign Relations and National Security Law
Units: 2, 3, 4 Terms Offered: FaSp This course will examine the statutory, constitutional, and international legal structures that form the base of American diplomacy. Instruction Mode: Lecture Grading Option: Numeric

LAW 698 The Legal and Social Determinants of Health
Units: 2, 3 Explores how legal, social, cultural and economic factors contribute to health disparities and the role that physicians and lawyers can play in advocating for patients and policy change. Instruction Mode: Lecture Grading Option: Numeric

LAW 700 Health Care Regulations
Units: 1, 2, 3, 4 Regulation of the medical profession; the physician-patient relationship; professional and institutional liability; health care institutions and delivery systems; quality control; access to health care services and problems of distribution and rationing; cost control, including government and private health care programs; patient rights; antitrust. Instruction Mode: Lecture Grading Option: Numeric

LAW 701 Child Interviewing Seminar
Units: 1, 2, 3, 4 Students learn how to effectively interview child witnesses. Students will practice mock interviews, and may be eligible to conduct actual interviews of child witnesses. Instruction Mode: Lecture Grading Option: Numeric

LAW 702 Children, Sexuality and the Law
Units: 2, 3, 4 Explores laws designed to protect children from sexual abuse and exploitation, with a limited emphasis on foreign and international law for comparative perspective. Instruction Mode: Lecture Grading Option: Numeric

LAW 703a Children's Legal Issues
Units: 1, 2, 3, 4 Students will work on cases in the following areas: (1) Dependent and neglected children: All children who are wards of the court must have legal counsel. (2) Children with AIDS: Legal implications of such issues as health care and custody. (3) Guardianships or other temporary arrangements for children whose parents are terminally ill or are otherwise unable to care for them. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 703b Children's Legal Issues
Units: 1, 2, 3, 4 Students will work on cases in the following areas: (1) Dependent and neglected children: All children who are wards of the court must have legal counsel. (2) Children with AIDS: Legal implications of such issues as health care and custody. (3) Guardianships or other temporary arrangements for children whose parents are terminally ill or are otherwise unable to care for them. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 704 Poverty Law
Units: 2, 3, 4 Terms Offered: FaSp An introduction to the problem of poverty in the United States and to the response of government and the legal system to the problems of the poor. Instruction Mode: Lecture Grading Option: Numeric

LAW 705 Community Property
Units: 1, 2, 3 The law of community property, including disposition of property on dissolution of the marriage and questions of conflict of laws. May be offered as a reading course. Instruction Mode: Lecture Grading Option: Numeric

LAW 706 Public Health Law
Units: 2, 3, 4 Provides an introduction to the legal foundations of the public health system in the United States. Instruction Mode: Lecture Grading Option: Numeric

LAW 707 Global Health, Law and Human Rights
Units: 1, 2, 3 Highlights the complex interactions between health, law and human rights, emphasizing the use of human rights in public health thinking and practice. Duplicates Credit in PM 577. Instruction Mode: Lecture Grading Option: Numeric

LAW 708 Contract Drafting, Analysis and Negotiation
Units: 2, 3, 4 Terms Offered: FaSpSm Covers the fundamentals of reviewing and analyzing business contracts and strategies for negotiating business issues with an emphasis on developing practical skills. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 709 Contract Drafting and Negotiation
Units: 2, 3, 4 Terms Offered: FaSp Contract Drafting and Negotiation will teach students the mechanics of drafting and negotiating sophisticated contracts from a variety of legal disciplines including entertainment law, real estate law and general corporate law. Instruction Mode: Lecture Grading Option: Numeric

LAW 710 Contract Drafting and Strategy
Units: 2, 3 Students examine contracts and present to the class their assessment of why the specific provisions were drafted and possible alternatives and challenges to those provisions. Instruction Mode: Lecture Grading Option: Numeric

LAW 711 Access to Justice Practicum
Units: 2, 3, 4 Real world advocacy projects involving issues such as civil rights, disability rights, foster care, welfare, and health care, among others. Instruction Mode: Lecture Grading Option: Numeric

LAW 712 Negotiation Theory and Application
Units: 2, 3 Terms Offered: FaSp Develops enhanced negotiation skills and a working understanding of ADR processes and procedures in an interactive classroom experience. Registration Restriction: Open only to Law students Duplicates Credit in LAW 638 Instruction Mode: Lecture Grading Option: Numeric

LAW 713 International Human Rights
Units: 2, 3, 4 Terms Offered: FaSp This course will address the international law and institutions which have developed since

World War II for the protection of human rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 714 U.S. Foreign Policy and International Law
Units: 1, 2, 3, 4 Discusses current U.S. foreign policy challenges and the underlying international legal issues and principles which shape them. Instruction Mode: Lecture Grading Option: Numeric

LAW 715 ADR Law and Policy: Mediation and Arbitration
Units: 2, 3, 4 Terms Offered: FaSpSm Exploration of the origin, development, and practice of mediation, arbitration and other forms of ADR, emphasizing the policies underlying these increasingly significant and evolving areas. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 716 Race and Gender in the Law
Units: 1, 2, 3, 4 Investigates the experience of women and people of color as they have encountered legal institutions and processes. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 717 Estate Planning
Units: 3 Terms Offered: FaSp Legal and tax considerations important to the lawyer advising his client on the transmission of wealth from one generation to the next. Instruction Mode: Lecture Grading Option: Numeric

LAW 718 Sports Law in Practice
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Sports law is a blend of contract, labor, antitrust, agency, tax, intellectual property, tort, civil rights and constitutional law. Registration Restriction: Open only to Law majors. Instruction Mode: Lecture Grading Option: Numeric

LAW 719 Corporate Finance
Units: 2, 3, 4 Legal and economic aspects of corporate finance including capital structure, policy, mergers, takeovers, and freeze-outs; analysis of policy relating to present law and possible reforms. Instruction Mode: Lecture Grading Option: Numeric

LAW 720 Topics in Corporate Law
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Executive malfeasance, shareholder rights, securities class actions, asset securitizations, hedge fund regulation and corporate social responsibility from a theoretical and corporate finance framework. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 721 Class Actions
Units: 2 Studies the theory and practice of class action litigation in the United States. Instruction Mode: Lecture Grading Option: Numeric

LAW 722 Litigating Land Use Cases
Units: 2 Covers leading land use appellate cases, developing and implementing winning strategies with clients, formulating and articulating sensible arguments and rebuffing flawed arguments. Instruction Mode: Lecture Grading Option: Numeric

LAW 725 Bioethics and Law
Units: 3 Legal, ethical and economic problems of advanced biological technologies, for example, behavior, genetic, and reproductive control; control of the processes of dying; organ transplantation and the use of artificial organs; regulation of scientific research and human experimentation. Instruction Mode: Lecture Grading Option: Numeric

LAW 726 Stereotypes, Prejudice, and the Rule of Law
Units: 2, 3, 4 Terms Offered: FaSp An examination of the role of race (and other markers of social marginality) in the administration of justice in American courts. Instruction Mode: Lecture Grading Option: Numeric

LAW 727 Partnerships and Limited Liability Companies
Units: 2, 3, 4 Terms Offered: FaSp Deals with the formation, features and functions of general partnerships, limited partnerships and limited liability companies. Also focuses on business planning, recognizing business and legal objectives and selecting the appropriate entity to accomplish these objectives. Instruction Mode: Lecture Grading Option: Numeric

LAW 732 Bioethics and Law Seminar
Units: 1, 2, 3, 4 Max Units: 8.0 Covers legal and law-related issues, including constitutional law perspectives, concerning biomedical technologies. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 733 Business Bankruptcy
Units: 2, 3 Reorganization of failing corporations under Chapter XI of the Bankruptcy Act. Claims, protective committees, plans, tax considerations. Instruction Mode: Lecture Grading Option: Numeric

LAW 734 Local Government Law
Units: 3 or 4 Study and evaluation of the municipal and regional legal institutions. Emphasis on the crises in financing and governing the urban society. Instruction Mode: Lecture Grading Option: Numeric

LAW 736 Small Business Clinic I
Units: 2, 3, 4 Terms Offered: FaSpSm Students provide legal assistance to small businesses, entrepreneurs and non-profit organizations that cannot pay market rates for legal services. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 737 Small Business Clinic II
Units: 2, 3, 4 Terms Offered: Sp Continuation of Small Business Clinic I. *Prerequisite:* LAW 736. Instruction Mode: Lecture Grading Option: Numeric

LAW 739 Reproductive Rights and Justice
Units: 4 Students will acquire a basic familiarity with the constitutional rules governing reproductive rights, and with legal and sociolegal theories that interpret and challenge those rules. Instruction Mode: Lecture Grading Option: Numeric

LAW 740 Law of the City
Units: 3 Reviews and discusses the laws and the lawsuits that shape daily life in the city. Instruction Mode: Lecture Grading Option: Numeric

LAW 743 Federal Criminal Law
Units: 2, 3, 4 Max Units: 8.0 Covered topics include offenses relating to fraud and political corruption, terrorism, narcotics, money laundering, organized crime, false statements and obstruction of justice. Instruction Mode: Lecture Grading Option: Numeric

LAW 746 Critical Race Theory
Units: 2, 3, 4 Intersectionality, destruction and critical historiography; specifically affirmative action in education, hate speech and immigration reform. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 749 Securities Regulation
Units: 2, 3, 4 Terms Offered: Sp Regulation by state and federal agencies of issuance of, and trading in, stocks, bonds, and other securities. Particular reference to SEC regulations. Instruction Mode: Lecture Grading Option: Numeric

LAW 750 Choice of Law
Units: 2, 3 Introduces students to the doctrines of choice of law. This field determines which state's law applies when events causing disputes happen in several locations. Instruction Mode: Lecture Grading Option: Numeric

LAW 751 Sexual Orientation and the Law
Units: 2, 3, 4 Terms Offered: FaSp Explores the ways in which American law has responded to the diversity that exists within human sexual orientation. Instruction Mode: Lecture Grading Option: Numeric

LAW 752 Digital Media Transactions: Policy and Practice
Units: 2 Considers the policy and practice of digital media law in several disciplines including music, social media and other models for online content creation and distribution. Open only to Law School students. Registration Restriction: Open only to Law School students. Instruction Mode: Lecture Grading Option: Numeric

LAW 753 Antitrust Law I
Units: 3 or 4 Laws designed to preserve and promote business competition, with heavy emphasis on the federal antitrust laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 754 Antitrust and Intellectual Property Law
Units: 2, 3, 4 Covers the interface between antitrust law and intellectual property law. Instruction Mode: Lecture Grading Option: Numeric

LAW 756 Law Firms and In-House Law Departments
Units: 3 Examines the current status and possible future trajectories of large law firms and in-house law departments. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 757 Sex, Gender and the Law

Units: 1, 2, 3, 4 Terms Offered: FaSp Explores law's response to questions of sex discrimination and gender identity and expression, with emphasis upon legal issues facing transgender and intersex persons. Instruction Mode: Lecture Grading Option: Numeric

LAW 758 Identity Categories
Units: 2, 3, 4 Terms Offered: FaSp Drawing on feminist legal theory, critical race theory, and lesbian/gay/bisexual and queer theory, this seminar will explore the treatment of identity categories in United States law. Instruction Mode: Lecture Grading Option: Numeric

LAW 760a Interdisciplinary Law Journal Staff
Units: 1 or 2 Terms Offered: FaSp Source-checking and preliminary editing of articles and comments for publication in the Interdisciplinary Law Journal. For third-year students serving as staff members on the Journal. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 760b Interdisciplinary Law Journal Staff
Units: 1 or 2 Terms Offered: FaSp Source-checking and preliminary editing of articles and comments for publication in the Interdisciplinary Law Journal. For third-year students serving as staff members on the Journal. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 761 Interdisciplinary Law Journal Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSp Students will write journal notes as members of the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: Numeric

LAW 762a Interdisciplinary Law Journal Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision and final editing of articles and comments for publication in the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 762b Interdisciplinary Law Journal Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision and final editing of articles and comments for publication in the Interdisciplinary Law Journal. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 763 Federal Courts: The Federal System II
Units: 3, 4, 5 Terms Offered: FaSpSm Problems of adjudication in a federal system. Allocation of authority between federal and state courts and among Congress, the Executive and the Courts; choice of federal and state law; jurisdiction of federal courts and significant rules of practice. Instruction Mode: Lecture Grading Option: Numeric

LAW 764 International Business Transactions
Units: 3 or 4 Survey of legal aspects of international trade and investment transactions, including tax considerations. Instruction Mode: Lecture Grading Option: Numeric

LAW 765 Topics in Intellectual Property Law
Units: 1, 2, 3, 4 Analyzes selected contributions to intellectual property scholarship and explores some challenging problems in contemporary intellectual property law. Instruction Mode: Lecture Grading Option: Numeric

LAW 766 Writing for Publication Seminar
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Special seminars to provide a forum for students who wish to produce a paper for academic publication to receive guidance and feedback. Instruction Mode: Lecture Grading Option: Numeric

LAW 767a Law Review Staff I
Units: 1 or 2 Writing, source-checking, and preliminary editing of articles and comments for publication in the Southern California Law Review. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 767b Law Review Staff I
Units: 1 or 2 Writing, source-checking, and preliminary editing of articles and comments for publication in the Southern California Law Review. For second-year students serving as staff members on the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 768 Law Review Writing
Units: 1, 2, 3, 4 Max Units: 4.0 Writing, source-checking and preliminary editing of articles and comments for publication in the Southern California Law Review. Instruction Mode: Lecture Grading Option: Numeric

LAW 769a Law Review Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision of research and writing, and final editing of articles and comments for publication in the Southern California Law Review. For officers of the Review. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LAW 769b Law Review Editing
Units: 1, 2, 3 Terms Offered: FaSp Supervision of research and writing, and final editing of articles and comments for publication in the Southern California Law Review. For officers of the Review. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 770 Technology Transactions
Units: 2, 3 Provides students with the foundation for advising clients on transactions involving patents, trade secrets and other technology-related rights. Instruction Mode: Lecture Grading Option: Numeric

LAW 771 Intellectual Property and Technology Law Clinic I
Units: 2, 3, 4, 5 Terms Offered: Fa Provides law students with the ability to represent clients (under the supervision of the professor) in cutting-edge issues of intellectual property and technology law. *Corequisite:* LAW 772 or LAW 841. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 772 Intellectual Property
Units: 2 or 3 The protection of intellectual property and encouragement of creativity. Explores copyright, trademarks, patents, and selected state law theories. Instruction Mode: Lecture Grading Option: Numeric

LAW 773 Internet Law
Units: 2, 3, 4 Terms Offered: Fa Integration of cyberspace and the Internet into existing legal structures. Topics include: First Amendment issues; intellectual property, privacy and child protection; criminal activity and governance and jurisdictional activities. Instruction Mode: Lecture Grading Option: Numeric

LAW 775 Immigration Law
Units: 2, 3, 4, 5 The development of immigration law to its present state. Instruction Mode: Lecture Grading Option: Numeric

LAW 776 Immigration Clinic I
Units: 2, 3, 4, 5 Terms Offered: FaSpSm Students represent clients before Immigration and Customs Enforcement, the Immigration Court, and certain law enforcement agencies in cases including applications for relief under the Violence Against Women Act, for asylum, and for relief against deportation. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 777 Administrative Law and Regulatory Policy
Units: 1, 2, 3, 4 Legal principles subject to judicial control and the alternative ways in which agencies can be organized to serve their purposes. Instruction Mode: Lecture Grading Option: Numeric

LAW 778 Sales
Units: 2, 3, 4 Terms Offered: FaSp Analysis of the buying and selling of goods both in domestic and international transactions with a heavy focus on Article 2 of the Uniform Commercial Code. Instruction Mode: Lecture Grading Option: Numeric

LAW 779 Regulated Industries
Units: 2, 3, 4 Provides students with an understanding and an appreciation of regulated industries. Instruction Mode: Lecture Grading Option: Numeric

LAW 780 Intellectual Property and Technology Law Clinic II
Units: 2, 3, 4, 5 Terms Offered: FaSpSm Continuation of LAW 771. Instruction Mode: Lecture Grading Option: Numeric

LAW 781 Clinical Internship/Externship I
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Terms Offered: FaSpSm A clinical internship or judicial externship allows a student to gain hands-on legal experience in legal settings. Students will be assigned to a legal services program, government agency, or state or federal judge under faculty supervision. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 782 Clinical Internship/Externship II
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Terms Offered: FaSp Advanced clinical

training/externship. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 783 General Counsel Practicum
Units: 1, 2 Max Units: 8.0 Students will work under the direction of an experienced attorney in a general counsel's office. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 784 Theories of International Law
Units: 2, 3, 4 Explores theories of international law, examining classical and modern ideas of international legal obligations. Students develop their own intellectual structures for explaining international norms. Instruction Mode: Lecture Grading Option: Numeric

LAW 786 Core Competencies for Litigators
Units: 3 An introduction to the various approaches and techniques litigators use when interviewing, counseling, negotiating, and analyzing facts. Instruction Mode: Lecture Grading Option: Numeric

LAW 787 International Sales of Goods
Units: 2, 3, 4 Instruction Mode: Lecture Grading Option: Numeric

LAW 791 Law and Society
Units: 2, 3, 4 Examines where the law comes from, how it operates in society, and how it shapes and is shaped by competing social economic, and political institutions. Instruction Mode: Lecture Grading Option: Numeric

LAW 792 Law and Philosophy
Units: 2, 3, 4 Max Units: 8.0 Examination of the best scholarly work currently done by legal, moral and political philosophers. Open only to law students. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 793 Law and Economics Seminar
Units: 1, 2, 3, 4 Max Units: 8.0 Key concepts and cutting-edge research in law and economics. Workshops with leading scholars from around the country. Instruction Mode: Lecture Grading Option: Numeric

LAW 795 Law of the Political Process
Units: 2, 3, 4 Examines the state and federal laws regulating the political process and related Constitutional issues. Instruction Mode: Lecture Grading Option: Numeric Crosslisted as PPD-795

LAW 796 Immigration Clinic II
Units: 2, 3, 4, 5 Terms Offered: Sp Continuation of LAW 776. Enrollment restricted to law students. *Prerequisite:* LAW 776. Instruction Mode: Lecture Grading Option: Numeric

LAW 797 Public Policy in Law: Analysis and Advocacy
Units: 1, 2, 3, 4 Focuses on contemporary policy problems, identifies relevant legal issues and utilizes multidisciplinary techniques found in law, political science, economics and history to formulate positions. Instruction Mode: Lecture Grading Option: Numeric Crosslisted as PPD-797

LAW 798 Law, Mental Health and Ethics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Focuses on one or two topics per year at the intersection of law, mental health and ethics and explores them from an interdisciplinary perspective. Instruction Mode: Lecture Grading Option: Numeric

LAW 801 Venture Capital and Emerging Companies
Units: 2, 3 Introduces students to the unique legal and financial aspects of the venture capital industry and the skills needed to represent entrepreneurs and venture capital investors. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 802 Psychology for Lawyers
Units: 2, 3 Exposes students to the psychological research on cognitive errors and biases that threaten to compromise a lawyer's performance. Also examines ethical issues and professional happiness. Instruction Mode: Lecture Grading Option: Numeric

LAW 804 Information Privacy Law
Units: 2 Surveys the legal framework concerning information privacy in the U.S., including developments in constitutional, tort, contract, property and statutory law to address emerging privacy threats. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 808 Medical-Legal Community Partnership Seminar and Practicum
Units: 1, 2, 3, 4 Medical and law students, in conjunction with public policy advocates, work together to identify and improve health outcomes for vulnerable populations. Instruction Mode: Lecture Grading Option: Numeric

LAW 809 Deposition Strategies and Techniques
Units: 2, 3 Emphasizes strategies and tactics in asking and objecting to questions at a deposition in a civil case. Students will conduct mock depositions. Instruction Mode: Lecture Grading Option: Numeric

LAW 810 Patent Law
Units: 3, 4 Terms Offered: Sp Patent laws, litigation, and the process of prosecuting the patent application. The concept of invention and ownership of rights under patents. Instruction Mode: Lecture Grading Option: Numeric

LAW 811 Health Law and Policy
Units: 2, 3, 4 Explores the statutes and regulations that govern the health care system and the policies that shape its development. Instruction Mode: Lecture Grading Option: Numeric

LAW 812 Patent Litigation
Units: 3 Terms Offered: Fa Provides students with a deep immersion into federal court litigation, with a focus on effective oral and written advocacy in the context of patent litigation. Instruction Mode: Lecture Grading Option: Numeric

LAW 813 Arbitration in the United States
Units: 3 Introduces students to the range of issues addressed by the Federal Arbitration Act and state arbitration laws. Instruction Mode: Lecture Grading Option: Numeric

LAW 814 Current Issues in Alternative Dispute Resolution
Units: 1 Examines the current issues and topics that practitioners face when seeking to resolve conflicts with the help of ADR. Instruction Mode: Lecture Grading Option: Numeric

LAW 815 Deals
Units: 3, 4 Examines the collaboration between business people aiming to accomplish a goal and lawyers translating their business objectives into contract language to achieve the goal. Instruction Mode: Lecture Grading Option: Numeric Crosslisted as FBE-515

LAW 816 Dealmaking in the Entertainment Industry
Units: 1, 2 Examines the major components of deals in the entertainment industry, and provides students the opportunity to learn real-world negotiating skills in the process. Instruction Mode: Lecture Grading Option: Numeric

LAW 817 International Arbitration
Units: 3 Examines methods of dispute resolution used in other countries and compares them to those employed in the United States. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 818 Entrepreneurial Opportunities in Online Dispute Resolution
Units: 3 Presents the theoretical groundwork of online dispute resolution (ODR) and prepares students to be successful neutrals in ODR settings. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 819 ADR Ethics
Units: 1, 2 Provides law students, lawyers and professional neutrals with an in-depth examination of the rules guiding our behavior in various dispute resolution processes. Registration Restriction: Open only to law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 820 Pretrial Advocacy
Units: 3 or 4 Examines conceptual and practical aspects of interviewing, counseling, negotiation, settlement, drafting, and formal advocacy in the handling of legal cases. Instruction Mode: Lecture Grading Option: Numeric

LAW 821 Trial Advocacy
Units: 3 or 4 Terms Offered: FaSp Examines decision-making by counsel in the litigation of cases. Emphasis is given to decisions involving tactics and strategies and their implications for the functioning of legal institutions and substantive doctrine. Extensive use of simulated trial practice exercises. Instruction Mode: Lecture Grading Option: Numeric

LAW 822 Alternative Dispute Resolution Clause Drafting
Units: 1 Explores a variety of contract provisions, and teaches students the important drafting skills necessary to achieve a client's goal. Instruction Mode: Lecture Grading Option: Numeric

LAW 823 Statutory Interpretation

Units: 2 or 3 Examines the change and evolution of law to discover its political roots and the ways policy making branches work to make and implement law. Instruction Mode: Lecture Grading Option: Numeric

LAW 824 Arbitration Advocacy
Units: 1, 2 Helps students understand the basic approaches to preparing and presenting cases in the arbitration context. Registration Restriction: Open only to Law School students. Instruction Mode: Lecture Grading Option: Numeric

LAW 825 International Arbitration Competition
Units: 1, 2, 3 Max Units: 6 Covers basic aspects of international commercial arbitration and prepares a USC Law School team for participation in the Willem C. Vis International Commercial Arbitration Moot. Instruction Mode: Lecture Grading Option: Numeric

LAW 826 Employment Dispute Mediation
Units: 1 Provides hands-on experience in mediation of the complex issues of disability, wage and hour, sex and sex harassment, age, race, religion, and national origin. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 827 Counseling the Startup Company
Units: 2, 3, 4 Terms Offered: Sp Role of the attorney in startup firms: business plan, employment agreements, lease, stock option plan, financing documents and distribution and strategic partnership arrangements. Instruction Mode: Lecture Grading Option: Numeric

LAW 828 Mediation Advocacy
Units: 3 Introduces students to the process of mediation, explores the philosophical approaches to mediation and different styles of mediating, develops a working knowledge of the stages of mediation, and cultivates students' skills to become effective advocates throughout each stage of the process. Instruction Mode: Lecture Grading Option: Numeric

LAW 829 Cross-Cultural Dispute Resolution
Units: 2 Brings an international perspective to understanding the impact of culture in the most commonly used international and domestic dispute resolution practices (negotiation, mediation, and arbitration). Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 830 Law Firm Economics and the Public Interest
Units: 1 Introduces students to the tools needed to work in a large law firm pro bono practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 833 Labor Arbitration
Units: 2 Introduces students to the National Labor Relations Act, collective bargaining and the labor arbitration process. Students also prepare labor arbitration briefs. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 834 Veterans Legal Practicum
Units: 3 Allows students to hone their legal skills while representing veterans of the United States Armed Forces in administrative proceedings. Registration Restriction: Open only to Law students Instruction Mode: Lecture, Lab Grading Option: Numeric

LAW 835 Transactional Due Diligence
Units: 1 Prepares students to handle due diligence projects at the level of a first-year or second-year transactional associate through hands-on, practical training. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 837 Diversity: Legal and Social Perspectives
Units: 2, 3 Examine legal and social perspectives on the concept of diversity. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 838 Patent Drafting and Prosecution
Units: 3 Students learn how to prepare and prosecute U.S. patent applications, as well as an overview of design and foreign patent prosecution. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 839 Copyright Law in Practice
Units: 2, 3, 4 Study of federal copyright law, analysis of property rights and interests created thereunder. Manner in which these rights can be exploited in the various entertainment media. *Prerequisite:* LAW 772 or LAW 841 Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 840 Copyright and Fictional Characters
Units: 2, 3, 4 Involves the treatment of fictional characters by the courts and in new media and the fundamental copyright concepts that have shaped that treatment. Instruction Mode: Lecture Grading Option: Numeric

LAW 841 Copyright, Trademark and Related Rights
Units: 3 An introductory survey of statutory and case law, and underlying policy issues, concerning copyright, trademark and certain related legal rights. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 842 Partnership Taxation
Units: 2, 3, 4 Instruction Mode: Lecture Grading Option: Numeric

LAW 843 Tax Policy Seminar
Units: 2, 3, 4 Students will write and present papers discussing topics in tax policy. Instruction Mode: Lecture Grading Option: Numeric

LAW 844 Prepare for Trial Like a Master
Units: 1 Allows students to practice trial techniques and covers cutting-edge techniques in trial preparation. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 845 Negotiation Skills
Units: 2 Develops students' negotiating skills through role plays, reflection and instructor feedback. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 846 Mathematical Modeling of Law and Society
Units: 2, 3, 4 Explores the use of mathematical modeling as a way of describing the dynamic relationships between legal regulation and the social behavior that law regulates. Instruction Mode: Lecture Grading Option: Numeric

LAW 847 Refugee and Forced Migration Law
Units: 2, 3, 4 Examines refugee law and forced migration, including the causes and consequences of forced migration and the responses to forced migration. Instruction Mode: Lecture Grading Option: Number

LAW 849 International Human Rights Clinic I
Units: 4, 5 Students work under close faculty supervision on cases and projects that involve the application of international law to address human rights violations. Instruction Mode: Lecture Grading Option: Numeric

LAW 850 International Human Rights Clinic II
Units: 4 or 5 Continuation of the International Human Rights Clinic. *Prerequisite:* LAW 849. Instruction Mode: Lecture Grading Option: Numeric

LAW 851 Topics in Criminal Law and Criminology
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in criminal law or criminology. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Numeric

LAW 854 Legal Design Lab
Units: 3 Students work in teams to develop innovative ways of addressing shortcomings in our legal systems to improve access, quality, efficiency and global integration and prosperity. Instruction Mode: Lecture Grading Option: Numeric

LAW 855 Topics in Maritime and Admiralty Law
Units: 2, 3, 4 Max Units: 6.0 Terms Offered: FaSp Taught in honor of James Ackerman, USC Law graduate of 1948, this class examines selected topics in maritime and admiralty law. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Numeric

LAW 856 Transnational Human Rights Litigation
Units: 1, 2, 3, 4 Terms Offered: Fa Provides an introduction to the legal and political issues raised by cases involving international human right violations. Instruction Mode: Lecture Grading Option: Numeric

LAW 857 Legal Design Challenge
Units: 2 Students develop a proposal in response to the call for solutions to global supply chains problems from the Hague Institute for the Internationalisation of Law.

Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 858 Law and Psychology
Units: 2, 3, 4 Examines the psychological factors that hinder the making of accurate factual findings. Registration Restriction: Open only to law students Instruction Mode: Lecture Grading Option: Numeric

LAW 859 Communications Law: Internet, Television and Other Media
Units: 2, 3, 4 Terms Offered: FaSpSm Concentrates on the regulation of broadcast television, cable television, telephone, and spectrum management. Instruction Mode: Lecture Grading Option: Numeric

LAW 860 International Criminal Law
Units: 4 Covers the prosecution, trial and punishment of individuals suspected of crimes considered among the most serious violations of international humanitarian and human rights law. Instruction Mode: Lecture Grading Option: Numeric

LAW 861 International Law Seminar
Units: 2, 3 Max Units: 6.0 Terms Offered: Sp Investigation of selected problems of international law. May be repeated with permission of the instructor as topics vary. Instruction Mode: Lecture Grading Option: Numeric

LAW 862 Iraqi Refugee Assistance Project Seminar
Units: 1, 2, 3, 4 Max Units: 8.0 Formally instructs students on U.S. and international refugee law and policy regarding the Iraqi refugee humanitarian crisis. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 863 International Negotiations and Mediation
Units: 2, 3, 4 Introduction to negotiation and mediation from an international perspective. Development of essential skills for effective client representation in negotiation and mediation. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 864 Sovereign Debt
Units: 1, 2, 3, 4 Examines the legal regimes that exist to address the problems that arise when a sovereign cannot pay back what it owes. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 865 Legislative Policy Practicum
Units: 3 Provides students with an opportunity to participate in realworld advocacy on juvenile justice issues. Instruction Mode: Lecture Grading Option: Numeric

LAW 866 Counterterrorism, Privacy and Civil Liberties
Units: 2, 3, 4 Terms Offered: FaSpSm Explores the spectrum of interrelated legal and policy issues known as "homeland security" since the events of September 11, 2001. Instruction Mode: Lecture Grading Option: Numeric

LAW 867 Corporate Fraud
Units: 2, 3, 4 Terms Offered: FaSpSm Introduces law students to the real world issues of major civil and criminal corporate fraud. Instruction Mode: Lecture Grading Option: Numeric

LAW 868 Business Enterprise Taxation
Units: 2, 3, 4 Terms Offered: FaSp Examination of the taxation of corporations, partnerships, and limited liability companies. Instruction Mode: Lecture Grading Option: Numeric

LAW 869 Family Law Mediation Clinic
Units: 4 Teaches the skills and substantive area of the law necessary to successfully mediate cases in the Edelman Children's courthouse in Monterey Park. *Prerequisite:* LAW 630. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 870 Legal Writing Fellows
Units: 1, 2, 3, 4 Max Units: 7.0 Terms Offered: FaSpSm Assist in teaching writing and advocacy. Responsibilities include helping prepare lesson plans and drafting writing assignments and sample answers; leading class exercises; and judging first-year moot court practice rounds. Instruction Mode: Lecture Grading Option: Credit/No Credit

LAW 871 First Amendment
Units: 2, 3, 4 Terms Offered: FaSp Freedom of expression (political speech, symbolic expression, obscenity, commercial speech, defamation), rights of access to the media, religious protection and prohibition of establishment of religion. Instruction Mode: Lecture Grading Option: Numeric

LAW 872 Advanced Legal Writing and Advocacy: Appellate Advocacy
Units: 1, 2, 3, 4 Terms Offered: FaSp Students will research, write, and rewrite an appellate brief and may work on motions and oral advocacy as well. Instruction Mode: Lecture Grading Option: Numeric

LAW 873 Judicial Opinion Writing
Units: 2, 3, 4 Students write a majority opinion and a dissenting opinion based on cases pending before the U.S. Supreme Court. This is a writing-intensive course. Instruction Mode: Lecture Grading Option: Numeric

LAW 874 Media Law in the Digital Age
Units: 2, 3, 4 Explores the interplay between the law, politics, and media, particularly mass media, in the digital age. Instruction Mode: Lecture Grading Option: Numeric

LAW 875 Constitutional Theory Seminar
Units: 1, 2, 3, 4 Seminar course devoted to different methods of reading the Constitution. Instruction Mode: Lecture Grading Option: Numeric

LAW 877 Major Trends in American Legal Thought
Units: 1, 2, 3 Survey of major trends in American legal thought. Instruction Mode: Lecture Grading Option: Numeric

LAW 878 Evolutionary Game Theory and the Law
Units: 1, 2, 3 Uses the Evolutionary Game Theory methodology to explore the dynamics of cooperative interaction among people, and the role that legal punishment plays. Instruction Mode: Lecture Grading Option: Numeric

LAW 879 Future Property Interests
Units: 3 Combines state and national statutory and common laws relating to present and future property interests important to the preparation of gifts, trusts, wills and deeds. Registration Restriction: Open only to Law students Instruction Mode: Lecture Grading Option: Numeric

LAW 880 Treating Difference Equally
Units: 2, 3, 4 Comparative look at the legal treatment of religious, cultural, gender and sexual differences and differences in physical and mental ability. Instruction Mode: Lecture Grading Option: Numeric

LAW 881 Constitutional Innovation
Units: 2, 3, 4 Examines the U.S. Constitution in transnational perspective. The focus is democracy; slavery, emancipation, and freedom; empire; and governmental structures. Instruction Mode: Lecture Grading Option: Numeric

LAW 882 Advanced Legal Writing for Pretrial Practice
Units: 2, 3 Hone written advocacy skills for pretrial litigation practice. Draft motions, letters, and other communications to court, opposing counsel, and client. Practice oral communication through exercises. Registration Restriction: Op Instruction Mode: Lecture Grading Option: Numeric

LAW 883 Advanced Legal Writing for International Business Lawyers
Units: 2 Develop communication skills for international transactional practice. Practice drafting memoranda, letters, and other communications to partners, clients, and other attorneys. Practice negotiation in intercultural setting. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 884 Constitutional Law: Equality and Liberty
Units: 3, 4 Focuses on individual rights and liberties, with special attention paid to equal protection and substantive due process. Instruction Mode: Lecture Grading Option: Numeric

LAW 885 Advanced Legal Writing: A Partnership with Public Counsel
Units: 2 Write office memoranda and sample pleadings modeled after real legal issues faced by attorneys at Public Counsel. Registration Restriction: Open only to Law students. Instruction Mode: Lecture Grading Option: Numeric

LAW 886 Justice and the Foundations of Liberalism
Units: 1, 2, 3, 4 Discusses John Rawls' A Theory of Justice (1971), critical reactions to it and some possible extensions of Rawls' theory of justice. Instruction Mode: Lecture Grading Option: Numeric

LAW 887 Religious Freedom and its Limits
Units: 2, 3 Surveys constitutional doctrines pertaining to the Free Exercise and Establishment Clauses of the First Amendment and the emergent doctrine

regarding the application of the federal Religious Freedom Restoration Act and its state offspring. Instruction Mode: Lecture Grading Option: Numeric

LAW 888 First Amendment: Law and Religion
Units: 1, 2, 3 Explores the laws that govern and affect religious groups and religious belief-systems and religious experience in the United States. Instruction Mode: Lecture Grading Option: Numeric

LAW 889 Law Informed by Faith
Units: 2, 3, 4 Considers the role of faith in a lawyer's life and work. Discusses issues in constitutional law, tort law, criminal law, professional responsibility and more. *Prerequisite:* LAW 748 Duplicates Credit in LAW 748. Instruction Mode: Lecture Grading Option: Numeric

LAW 890 Directed Research
Units: 1, 2, 3, 4 Directed Research may be taken only with the approval of the Administrative Board. This course is intended for substantial independent research and study that does not result in a paper of publishable quality. It includes, but is not limited to, preparation of research memoranda for faculty research projects, empirical research for such projects, and supervised independent study. Directed research is to be supervised by a regular, full-time faculty member (including full-time visiting faculty). Students may take a maximum of 4 units of Directed Research during their educational experience at the law school. Instruction Mode: Lecture Grading Option: Numeric

LAW 891 Post-Conviction Justice Seminar I
Units: 1, 2, 3, 4, 5 Terms Offered: FaSpSm Examines the substantive rights of federal prisoners with respect to parole, sentencing, validity of conviction and conditions of confinement and the procedural mechanisms by which to enforce those rights. Under faculty supervision, students provide legal assistance to federal inmates in administrative and judicial proceedings. Registration Restriction: Open only to Law majors Instruction Mode: Lecture Grading Option: Numeric

LAW 892 Post-Conviction Justice Seminar II
Units: 1, 2, 3, 4, 5 Max Units: 5.0 Terms Offered: Sp Continuation of LAW 891. *Prerequisite:* LAW 891. Instruction Mode: Lecture Grading Option: Numeric

LAW 893 Advanced Clinical Training
Units: 1, 2, 3, 4, 5 Max Units: 10.0 Terms Offered: FaSp For third-year students who wish to continue their clinical training. Instruction Mode: Lecture Grading Option: Numeric

LAW 894 Advanced Mediation Clinic
Units: 1, 2, 3, 4 Max Units: 10 Students learn mediation skills, conduct live mediations and help to run the regular Mediation Clinic. Registration Restriction: Open only to USC Gould School of Law students Instruction Mode: Lecture Grading Option: Numeric

Liberal Studies

LBST 500 Introduction to Liberal Studies: Methods of Knowing
Units: 3 Terms Offered: Sp Introduction to research methods in the social sciences, humanities, and natural sciences; then methods for applied interdisciplinary research. Instruction Mode: Lecture Grading Option: Letter

LBST 502 The Anthropology of Popular Culture
Units: 4 Terms Offered: FaSpSm (Enroll in ANTH 602)

LBST 503 Self-Justifying Fictions
Units: 3 Theoretical approaches to the study of literature, including formal and cultural analysis and the ethics and social impact of the humanities. Instruction Mode: Lecture Grading Option: Letter

LBST 505 East Asian Humanities: Classics of China, Korea, and Japan
Units: 3 Examination of major themes in East Asian culture through primary texts in translation. Instruction Mode: Lecture Grading Option: Letter

LBST 507 Great Western Cities
Units: 3 Examination of Western civilization in the urban context, focusing on several great cities in their "golden age" of creativity, accomplishment, and influence. Instruction Mode: Lecture Grading Option: Letter

LBST 510 Cities and Globalization
Units: 3 Contemporary urban theory and comparative urban analysis. Emphasis on the role of globalization in shaping urban form and problems. Instruction Mode: Lecture Grading Option: Letter

LBST 512 Language in a Globalizing World
Units: 3 Examination of the relationship between language and geopolitical change, endangered and minority languages, and the public policy implications of multilingualism and multiculturalism. Instruction Mode: Lecture Grading Option: Letter

LBST 514 Ideas of Nature in American Culture
Units: 3 Examination of how Americans have used nature to think about themselves, environmentalism, American identity, gender/class relations, the American West, and the mythology of Los Angeles. Instruction Mode: Lecture Grading Option: Letter

LBST 516 Urban Conservation Biology
Units: 3 Analysis of plant and animal distribution in urban landscapes. Exploration of major threats to urban biodiversity and nature conservation controversies and successes. Instruction Mode: Lecture Grading Option: Letter

LBST 520 Tradition and the Modern World
Units: 3 Studies the continuing interplays between tradition and novelty; between locale and globalization; and between heritage and post-modernity with a focus on a specific locale. Instruction Mode: Lecture Grading Option: Letter

LBST 525 The Revolution That Made America
Units: 3 Ideas and politics of the world's first modern revolution, which transformed 13 colonies into a nation. Instruction Mode: Lecture Grading Option: Letter

LBST 527 Information Systems From Libraries to the Internet
Units: 3 History and sociology of information systems. Philosophical and literary implications of writing, archives, libraries, printing, and publishing from the ancient world to the Internet age. Instruction Mode: Lecture Grading Option: Letter

LBST 530 Portraits of Leadership
Units: 3 Analysis of different forms of cultural leadership in their historical, literary, and philosophical context. Instruction Mode: Lecture Grading Option: Letter

LBST 531 The Hero/Heroine in History
Units: 3 Analysis of human agency in history and whether individual men and women are capable of altering the course of history by their actions. Instruction Mode: Lecture Grading Option: Letter

LBST 532 Ideas on Trial
Units: 3 Examination of great trials in history as indicators of changing social and cultural attitudes. Instruction Mode: Lecture Grading Option: Letter

LBST 535 Great Works, Great Challenges
Units: 3 Analysis of works of literature, drama, and poetry and their relationship to their historical contexts. Instruction Mode: Lecture Grading Option: Letter

LBST 537 Empire and Social Reform in America 1890–1917
Units: 3 Analysis through literary and historical texts of American public life, culture, and social justice during the era of U.S. ascendancy as a world power. Instruction Mode: Lecture Grading Option: Letter

LBST 540 Hell, Purgatory, and Paradise: Dante's Divine Comedy
Units: 3 In-depth reading and analysis of Divine Comedy, in order to develop appreciation for changing values from medieval, to Renaissance and contemporary culture. Instruction Mode: Lecture Grading Option: Letter

LBST 541 Opera, Culture, History, and Thought
Units: 3 Analysis of cultural, historic, philosophical, political, and literary movements and themes through the medium of opera. Instruction Mode: Lecture Grading Option: Letter

LBST 542 The Culture of Comedy
Units: 3 Historical and synchronic ideas of comedy. Ways in which philosophers, artists, and everyday individuals adapt in our ever-changing world. Instruction Mode: Lecture Grading Option: Letter

LBST 544 Representations of Los Angeles
Units: 3 Study of literary, artistic and/or dramatic expressions of Los Angeles and its inhabitants in modern and historical literature, art, photography, film, television, and architecture. Instruction Mode: Lecture Grading Option: Letter

LBST 545 Imagining the American West
Units: 3 Explores Western myths and realities through literature, history, film, and painting. Examines why American culture places questions about national pasts and futures in the West. Instruction Mode: Lecture Grading Option: Letter

LBST 547 Acts of Interpretation: Literature, Film, and Methodology
Units: 3 Analysis of literature, film, and methodologies for approaching issues of interpretation, readership, and spectatorship. Examination of how interpretation varies across gender, race, class, and sexuality. Instruction Mode: Lecture Grading Option: Letter

LBST 548 Contemporary Fiction in Social Context
Units: 3 Terms Offered: FaSpSm Study of novels and short stories to examine how societal pressures and cultural identity constrain individual actions, with attention to family, gender, class, ethnicity, others. Open only to graduate students. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

LBST 550 Theories and Methods of Analysis in Cultural Studies
Units: 3 Development of cultural studies as a fast-growing area of intellectual inquiry. Case study analysis of race/ethnicity, history and memory, space, postmodernism, globalization, censorship, and originality. Instruction Mode: Lecture Grading Option: Letter

LBST 551 Narrative Forms
Units: 3 Max Units: 6.0 Study of narrative in literature, film, sociology, psychology and history; how narrative conventions shape humans' experience and understanding of society, past and present. Instruction Mode: Lecture Grading Option: Letter

LBST 554 Century City: 100 Years of LA Literature and Culture
Units: 3 Terms Offered: Fa The history of Los Angeles since 1910, using literary, historical, autobiographical, and cinematic texts to consider issues of geography, economics, race, class, gender, and sexuality. Instruction Mode: Lecture Grading Option: Letter

LBST 555 Constructions of Childhood
Units: 3 Analysis of the concept of childhood from its 18th-century origins. Applications of age studies, language, and cultural construction through fiction, history, film, and other media. Instruction Mode: Lecture Grading Option: Letter

LBST 560 Effects of Traumatic Life Experiences
Units: 3 Examination of the psychological and emotional effects of extreme trauma and survivor consequences. Instruction Mode: Lecture Grading Option: Letter

LBST 570 Ecology of Night
Units: 3 Explore the world of night. Human perception of the stars and the role of night in history. Impact of artificial lighting on non-human species and habitat. Instruction Mode: Lecture Grading Option: Letter

LBST 571 Food, Fashion and Furniture: Commodities in the Global Economy
Units: 3 Analysis of commodities from origin to consumption illustrates the global impact of everyday choices. Instruction Mode: Lecture Grading Option: Letter

LBST 572 Controversies in Science, Medicine and Ethics
Units: 3 Focus on how scientific developments drive ethical issues in medicine. Exploration of ethical dimensions of issues such as stem cells, genetic engineering and reproductive technology. Instruction Mode: Lecture Grading Option: Letter

LBST 574 Advances in Genetics and Evolutionary Biology
Units: 3 How DNA directs an organism's development and how our DNA can be "read" to understand human diversity, diseases, defects, and evolution. Instruction Mode: Lecture Grading Option: Letter

LBST 585a Master's Project
Units: 3 Terms Offered: FaSp A summative research project completed in consultation with the student's committee. Departmental approval. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

LBST 585b Master's Project
Units: 3 Terms Offered: FaSp A summative research project completed in consultation with the student's committee. Departmental approval. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

LBST 585z Master's Project
Units: 0 Terms Offered: FaSp A summative research project completed in consultation with the student's committee. Departmental approval. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

LBST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 18.0 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

LBST 599 Special Topics
Units: 2, 3, 4 Current issues, trends, and developments in liberal studies. Instruction Mode: Lecture Grading Option: Letter

Library and Information Management

LIM 500 Fundamentals of Library and Information Science
Units: 3 Terms Offered: FaSpSm An overview of the history of recorded knowledge from ancient times to the digital age informed by the cultural implications of those eras. Open only to MMLIS students. Registration Restriction: Open only to Library and Information Science majors. Instruction Mode: Lecture Grading Option: Letter

LIM 501 Fundamentals of Library Leadership and Management
Units: 3 Terms Offered: FaSpSm Fundamentals of library leadership and management from past, present and future perspectives, including selected case studies. Registration Restriction: Open only to Library and Information Science majors. Instruction Mode: Lecture Grading Option: Letter

LIM 502 Collection Development and Management
Units: 3 Terms Offered: FaSpSm The development of library collections in all formats emphasizing clientele interest, usage patterns, bibliographical and Website sources. Open only to MMLIS students. Instruction Mode: Lecture Grading Option: Letter

LIM 503 Information Description, Organization, and Retrieval
Units: 3 Terms Offered: FaSpSm An overview and critical analysis of current practices of information organization, cataloguing, access and reference services, including a conceptual understanding of these skills. Registration Restriction: Open only to Library and Information Science students Instruction Mode: Lecture Grading Option: Letter

LIM 504 Research Methods in Library and Information Management
Units: 3 An overview of research methods in information management including the conceptualization of research problems, literature reviews, research design, sampling, measurement, data collection and data analysis. Open only to MMLIS students. Registration Restriction: Open only to Library and Information Science students. Instruction Mode: Lecture Grading Option: Letter

LIM 510 Academic Librarianship
Units: 3 An examination of current research and future trends in academic librarianship, emphasizing the necessary partnership among information culture and technology, academic research and instruction. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Registration Restriction: Open only to Library and Information Science students. Instruction Mode: Lecture Grading Option: Letter

LIM 511 Instructional Strategies for Information Professionals
Units: 3 An overview of research in learning emphasizing the role of academic librarians as instructors and facilitators of information navigation. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 512 Instructional Technologies for Educators
Units: 3 An overview and critical analysis of past and current instructional technologies used primarily in academic libraries. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 513 Multicultural Information Perspectives
Units: 3 An examination of critical issues, theories and research in educating and serving diverse populations with an emphasis on social, cultural and linguistic imperatives. *Prerequisite:* GSBA 502, LIM 500, LIM 501,

LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 520 Library Information Systems Analysis and Design
Units: 3 The analysis and design of information systems from the perspectives of information theory, technology, retrievability, storage and shelf life, copyright, privacy and related issues. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 521 Database Management Systems for Information Professionals
Units: 3 An overview of and instruction in the skills required to build library and archival relational databases including data integrity, security, maintenance and extraction. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 522 Metadata and Taxonomies
Units: 3 An overview of developing and assessing metadata for digital resources including the different types of metadata schema, data dictionaries, taxonomies and emerging metadata standards. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 523 Information Delivery in the Digital Environment
Units: 3 An inventory and description of digital competencies, assessments and techniques followed by instruction, practice and testing of these competencies in simulated situations. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 530 Library Resource Management
Units: 3 An overview and assessment of planning, design, allocation and implementation of library finance and resource distribution in a variety of settings. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 531 Global Perspectives in Librarianship
Units: 3 An investigation of the theory and practice of librarianship in the context of international approaches to knowledge creation, research, learning, information discovery and presentation. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 532 The Social Context of Information
Units: 3 An examination of information in the context of social networks, media, and other cultural structures that inform teaching, learning and research. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 533 Operations Research in Libraries
Units: 3 Overview of theory and best practices in operations research and how it can be applied in a broad range of library and other information-focused settings. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 534 Library Fundraising and Development
Units: 3 An overview of fundraising and development including the internal organization of the fundraising and development enterprise, the cultivation of donors and related issues. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 550 Information Behaviors, Ethics and Policy
Units: 3 A study of information behaviors, policies and ethics including social networks, the interactive effects of information on users, users on information. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 551 Advanced Research Methods in Library and Information Management
Units: 3 Building on LIM 504, this course provides advanced research methods and analytical techniques and the application of these skills to complex library issues. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 552 Strategic Information and Competitive Analysis
Units: 3 Terms Offered: FaSpSm Searching sophisticated for-fee and free sources of information unique to particular industry client groups, synthesizing and translating information ethically to critical intelligence. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Open only to MMLIS students. Registration Restriction: Open only to MMLIS students. Instruction Mode: Lecture Grading Option: Letter

LIM 553 Corporate and Business Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in corporate librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 554 Science Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in science librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 555 Social Science Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in social science librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 556 Health Sciences Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in health sciences librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 557 Cinematic Arts Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in cinematic arts librarianship, including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 558 Art and Museum Librarianship
Units: 3 An examination and critical analysis of resources, research and literature in art and museum librarianship including collection development and management, access, reference and service patterns. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 559 Marketing and Communications Strategies for Libraries
Units: 3 An introduction to essential marketing concepts such as brand platform, value proposition and message development and their application in a library environment. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 560 Rare Books and Manuscripts
Units: 3 An overview of the organization, management, public and technical service operations and outreach involved in the development and operation of rare and special collections. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 561 Library Program Development and Evaluation
Units: 3 An overview of library program development and evaluation with an emphasis upon linking student learning outcomes to library programs. Qualitative and quantitative methods are covered. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 562 Library and Information Technologies
Units: 3 An overview of information technologies, information design and architecture (IA), information retrieval and electronic resources, computer networks, cloud technologies, data storage, web design. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

LIM 591 Research and Professional Applications
Units: 2 Max Units: 10.0 Terms Offered:

FaSpSm Apply concepts learned during the MMLIS program and investigate research questions and professional problems of concern to employers, their institutions and the profession at large. Open only to Library and Information Science majors. Registration Restriction: Open only to: Library and Information Science majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 598 Capstone in Library and Information Management
Units: 3 Student-driven research or project-based experience that integrates the knowledge from course work and applies it to current issues in the field. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Credit/No Credit

LIM 599 Special Topics in Library and Information Management
Units: 3 Selected topics reflecting current trends and recent developments in library and information management. *Prerequisite:* GSBA 502, LIM 500, LIM 501, LIM 502, LIM 503, LIM 504. Instruction Mode: Lecture Grading Option: Letter

Linguistics

LING 110Lg In a Word
Units: 4 Terms Offered: FaSp Words as a gateway to the human mind. How words are stored, comprehended and retrieved. How words are constructed. Words and concepts. Words and social constructs. The processing and the acquisition of words in normal and atypical children and adults. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Grading Option: Letter

LING 115gw Language and Society
Units: 4 Terms Offered: FaSp Discourse patterns among diverse social groups in institutional and interpersonal settings; interrelationships among language practices and gender, socioeconomic status, ethnicity; social structures and cultural values as reflected in language policies and practices. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 125 Hindi I
Units: 4 Terms Offered: Fa Introduction to current Hindi. Oral practice, listening and reading comprehension; grammar necessary for simple spoken and written expression. Instruction Mode: Lecture Grading Option: Letter

LING 155 Hindi II
Units: 4 Terms Offered: Sp Continuation of LING 125. Reading of simple Hindi prose, practice in pronunciation, the grammar essential for reading comprehension and writing. *Prerequisite:* LING 125. Instruction Mode: Lecture Grading Option: Letter

LING 210g Introduction to Linguistics
Units: 4 Empirical study of the sounds and structures of human language; syntax and semantics; language change; linguistic universals. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 255 Hindi III
Units: 4 Terms Offered: Fa Continuation of LING 155; intensive work in listening comprehension, oral communication, reading and writing short essays; introduction of readings and periodicals related to Hindi culture and civilization. *Prerequisite:* LING 155. Instruction Mode: Lecture Grading Option: Letter

LING 265x Hindi IV
Units: 4 Terms Offered: Sp Reading of modern Hindi authors, review of grammar, composition, oral conversation, and collateral reading. *Prerequisite:* LING 255. Instruction Mode: Lecture Grading Option: Letter

LING 275Lg Language and Mind
Units: 4 Terms Offered: FaSp Language within cognitive science: speech physiology and acoustics, language acquisition, reading, language disorders, perception and mental representation of words, linguistic diversity and computer analysis of speech. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as PSYC-275

LING 285Lg Human Language and Technology
Units: 4 Study of human linguistic competence and technologies that simulate it. Grammar, parsing, text generation; semantics, pragmatics, sense disambiguation; phonetics, speech synthesis, speech recognition. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

LING 295g The Ancient Near East: Culture, Archaeology, Texts
Units: 4 An investigation of the peoples of the ancient Near East, focusing upon the writings which they produced, their languages and scripts, and their archaeological remains. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

LING 301 Introduction to Phonetics and Phonology
Units: 4 Terms Offered: Fa A survey of topics in phonetics and phonology. *Prerequisite:* LING 210. Duplicates Credit in former LING 401a. Instruction Mode: Lecture Grading Option: Letter

LING 302 Introduction to Syntax and Semantics
Units: 4 Terms Offered: Fa A survey of topics in syntax and semantics. *Prerequisite:* LING 210. Duplicates Credit in former LING 402a. Instruction Mode: Lecture Grading Option: Letter

LING 303 Logic and Meaning in Natural Language
Units: 4 Terms Offered: FaSp Introduction to meaning in natural language and the methods from logic applied to its study. *Prerequisite:* LING 210. Instruction Mode: Lecture Grading Option: Letter

LING 307 Introduction to Speech-Language Pathology
Units: 4 Terms Offered: FaSp Introduces the breadth of possible communication disorders with a particular focus on the duties of the professionals who assist people with these disorders. Explores both the diagnostic criteria and common interventions for disorders such as Language Impairment, stuttering, swallowing, and dementia. *Recommended Preparation:* LING 210 Instruction Mode: Lecture Grading Option: Letter

LING 322g Language Contact and Language Acquisition
Units: 4 Terms Offered: Sp The emergence of new languages, spoken and signed, in socio-historical situations, where linguistic input is degraded and insufficient to support the ordinary language acquisition process. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

LING 325g Language and Number
Units: 4 Terms Offered: FaSp Analysis of the formal properties of linguistic expressions of number with the goal of understanding the structures that underlie language and numerical reasoning. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 374 Language and Society in East Asia
Units: 4 (Enroll in EALC 374)

LING 375 Sociolinguistics
Units: 4 Linguistic and cultural pluralism in the U.S.; distributional and structural characteristics of selected urban and minority dialects; the relationship between dialects and "media standard." *Prerequisite:* LING 210. Instruction Mode: Lecture Grading Option: Letter

LING 380 Languages of the World
Units: 4 Introduction to the world's linguistic diversity; number of languages spoken and where; grammatical structure and social function of selected languages. Instruction Mode: Lecture Grading Option: Letter

LING 385Lg Human Language as Computation
Units: 4 Terms Offered: Fa Study of language as a complex natural system that requires elaborate mental computation. Satisfies New General Education in Category F: Quantitative Reasoning Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

LING 390 Special Problems

Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

LING 401 Advanced Phonology
Units: 4 Advanced study of topics in phonology. *Prerequisite:* LING 301. Duplicates Credit in former LING 401b. Instruction Mode: Lecture Grading Option: Letter

LING 402 Advanced Syntax
Units: 4 Terms Offered: Sp Advanced study of topics in syntax. *Prerequisite:* LING 210, LING 302. Duplicates Credit in former LING 402b. Instruction Mode: Lecture Grading Option: Letter

LING 403 Advanced Semantics
Units: 4 Topics in the theory of meaning in natural language *Prerequisite:* LING 302. Duplicates Credit in former LING 201. Instruction Mode: Lecture Grading Option: Letter

LING 405 Child Language Acquisition
Units: 4 Universal characteristics of child language; stages of acquisition of phonology, syntax, semantics; processes and dimensions of development; psychological mechanisms; communicative styles. Duplicates Credit in former LING 395. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-405

LING 406 Psycholinguistics
Units: 4 Experimental and theoretical aspects of how spoken and written language is produced and understood, learned during childhood, and affected by brain damage. *Prerequisite:* LING 210 or PSYC 100. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-406

LING 407 Atypical Language
Units: 4 Analysis of atypical language and language pathologies throughout the lifespan and their relevance to current linguistic and cognitive science theory. *Prerequisite:* LING 210 or PSYC 100. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-407

LING 409 Linguistic Structure of English
Units: 3 An overview of the syntactic, semantic, pragmatic structures of English as they relate to the theoretical literature on language acquisition. Instruction Mode: Lecture Grading Option: Letter

LING 410 Second Language Acquisition
Units: 4 Theories of second language acquisition in children and adults; comparison of first and second language acquisition including psychological, social, and individual factors. *Prerequisite:* LING 210. Duplicates Credit in former LING 396. Instruction Mode: Lecture Grading Option: Letter

LING 411x Linguistics and Education
Units: 4 Practical classroom approaches to children's language; relationships between writing, reading, and speaking; social and regional dialects; traditional, structural, and generative-transformational grammars. Instruction Mode: Lecture Grading Option: Letter

LING 412 Language and Law
Units: 4 Principles of semantics; analysis of speech acts including informing, promising, threatening, warning; linguistic analysis of consumer contracts and advertisements; readability studies. Instruction Mode: Lecture Grading Option: Letter

LING 415 Phonetics
Units: 4 Familiarization with the articulation and transcription of speech sounds. Also vocal tract anatomy, acoustics, speech technology, non-English sounds, perception. Includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

LING 433 Children's Learning and Cognitive Development
Units: 4 (Enroll in PSYC 433)

LING 450 New Horizons in Forensic Speaker Identification
Units: 4 Overview of methods used to identify voices on the basis of their characteristic speech patterns. Instruction Mode: Lecture Grading Option: Letter

LING 465 Philosophy of Language
Units: 4 (Enroll in PHIL 465)

LING 466 Word and Phrase Origins
Units: 4 Introduction to historical-comparative word study; history of ideas concerning language relationships; types of semantic change; hidden metaphors in English word-stock. Instruction Mode: Lecture Grading Option: Letter

LING 480 Linguistic Structures
Units: 4 Analysis of grammatical structures of an individual language. Instruction Mode: Lecture, Discussion Grading Option: Letter

LING 485 Field Methodology
Units: 4 Elicitation techniques and methodological principles; recording and analysis of phonological, syntactic, and semantic structures; practical approaches to procedures used in urban, rural, and "primitive" settings. Instruction Mode: Lecture Grading Option: Letter

LING 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

LING 497 Honors Thesis
Units: 4 Terms Offered: FaSp Writing of the honors thesis. Registration is restricted to honors students. Instruction Mode: Lecture Grading Option: Letter

LING 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Investigation of selected topics in linguistics. Instruction Mode: Lecture Grading Option: Letter

LING 501a Experimental Methods in Linguistics
Units: 3 Univariate and bivariate statistical methods with applications to linguistic research; introduction to statistical computer packages. *Prerequisite:* LING 501a. Duplicates Credit in former LING 601. Instruction Mode: Lecture Grading Option: Letter

LING 501b Experimental Methods in Linguistics
Units: 3 The application of advanced multivariate statistical methods to linguistic research. *Prerequisite:* LING 501a. Duplicates Credit in former LING 601. Instruction Mode: Lecture Grading Option: Letter

LING 505a Seminar in Linguistics
Units: 1 Exploration of the professional world of linguistics for first semester graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 505b Seminar in Linguistics
Units: 1 Preparation and presentation of M.A./Ph.D. screening papers; discussion of student research. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 505c Seminar in Linguistics
Units: 1 Colloquium for presentation and discussion of student research paper. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 512 Linguistic Variation and Language Changes
Units: 3 Terms Offered: Fa Linguistic relationships among various correlates of variation: social, psychological, and chronological. Focus on dialectical, registral, and historical variation; the constraints of production and perception in different modes and situations. Instruction Mode: Lecture Grading Option: Letter

LING 513 Spanish Morphology and Phonology
Units: 3 Terms Offered: FaSp (Enroll in SPAN 513)

LING 514 Spanish Syntax
Units: 3 Terms Offered: FaSp (Enroll in SPAN 514)

LING 515 Spanish Grammar in Discourse
Units: 3 Terms Offered: FaSp (Enroll in SPAN 515)

LING 527 Second Language Acquisition
Units: 3 Terms Offered: Sp Concepts and issues in theoretical approaches to the study of non-primary language acquisition; e.g., linguistic and processing universals, language transfer, language learnability, fossilization. Instruction Mode: Lecture Grading Option: Letter

LING 530 Generative Syntax
Units: 3 Introduction to syntax; transformational-generative syntax. Instruction Mode: Lecture Grading Option: Letter

LING 531a Phonology
Units: 3 Terms Offered: Fa Traditional views of phonology; generative phonology; current developments in phonological research and theory. Instruction Mode: Lecture Grading Option: Letter

LING 531b Phonology
Units: 3 Terms Offered: Sp Traditional views of phonology; generative phonology; current developments in phonological research and theory. Instruction Mode: Lecture Grading Option: Letter

LING 532 Current Issues in Syntactic Theory
Units: 3 Original literature, focusing

whenever possible on issues in comparative syntax and their implications for universal grammar. Course complements LING 530. Instruction Mode: Lecture Grading Option: Letter

LING 533 Language Universals and Typology
Units: 3 Introduction to language universals and typology. Instruction Mode: Lecture Grading Option: Letter

LING 534 Logic and the Theory of Meaning
Units: 3 An introduction to logic in preparation for advanced work in semantics and linguistic theory. Instruction Mode: Lecture Grading Option: Letter

LING 535 Syntax and Grammatical Theory
Units: 3 Terms Offered: Sp Principles and comparison of modern theories of grammar with special reference to syntax. Instruction Mode: Lecture Grading Option: Letter

LING 536 Semantics
Units: 3 Terms Offered: Sp Current linguistic approaches to the semantics of natural language; analysis of concepts of meaning and reference. Instruction Mode: Lecture Grading Option: Letter

LING 537 Advanced Syntax
Units: 3 Max Units: 9.0 Topics in advanced formal syntax; current literature leading to open questions in research; survey of important and controversial issues of current theoretical relevance. Instruction Mode: Lecture Grading Option: Letter

LING 538 Selected Topics in Romance Syntax
Units: 3 Max Units: 9.0 Terms Offered: Sp Overview of selected topics in Romance Syntax within a comparative perspective and their contribution towards the understanding of a general theory of grammar. Instruction Mode: Lecture Grading Option: Letter

LING 539 Japanese/Korean Syntax and Theoretical Implications
Units: 3 Max Units: 9.0 Critical discussion of selected papers and dissertations on Japanese/Korean syntax and consideration of their theoretical implications. Instruction Mode: Lecture Grading Option: Letter

LING 540 Field Methods in Linguistics
Units: 3 Max Units: 6.0 Terms Offered: Sp Recording and analysis of a living language as employed by a native speaker of that language. Instruction Mode: Lecture Grading Option: Letter

LING 541 Field Methods in Second Language Acquisition
Units: 3 Research design and methodology; data collection, coding, and analysis; ethical considerations. Instruction Mode: Lecture Grading Option: Letter

LING 542 Historical Linguistics
Units: 3, 2 years Terms Offered: Sp Principles of language change; the comparative method; structural and social factors in language change. Instruction Mode: Lecture Grading Option: Letter

LING 546 Comparative Indo-European Linguistics
Units: 3 Analysis of the phonological, morphological, and syntactic structures of Proto-Indo-European, and its development in the various branches of Indo-European. Instruction Mode: Lecture Grading Option: Letter

LING 547 Morphology
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Introduction to morphology: words versus sentences, the grammar of words, the various notions of "lexicon," the architecture of the phonological component. This course is in preparation for advanced work in linguistic theory. Instruction Mode: Lecture Grading Option: Letter

LING 548 Lexical Semantics
Units: 3 Terms Offered: Sp Languages group meaning elements together in different ways to form words. Consideration of how to identify these elements and how speakers map them into lexico-syntactic units. Instruction Mode: Lecture Grading Option: Letter

LING 550 Advanced English Linguistics
Units: 3 The analysis of problems in the grammatical description and history of English. Instruction Mode: Lecture Grading Option: Letter

LING 555 Comparative Germanic Linguistics
Units: 3 Nature and relationship of changes that led to the differentiation of the individual Germanic languages. Instruction Mode: Lecture Grading Option: Letter

LING 557 Structure of the Chinese Language
Units: 4 (Enroll in EALC 557)

LING 561 Topics and Issues in East Asian Linguistics
Units: 4 Max Units: max 12 (Enroll in EALC 561)

LING 573 Sociolinguistics
Units: 3 Theoretical approaches to language in social context; discourse analysis, ethnography of communication, variation theory. Instruction Mode: Lecture Grading Option: Letter

LING 574 Advanced Sociolinguistics
Units: 3 Max Units: 9.0 Current issues in sociolinguistic theory. Instruction Mode: Lecture Grading Option: Letter

LING 576 Psycholinguistics
Units: 3 Theories of acquisition; sentence and discourse processing; language and thought. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-576

LING 579 Child Language Development
Units: 3 Terms Offered: Sp Acquisition of grammatical, discourse, and conversational competence; strategies and structures. Instruction Mode: Lecture Grading Option: Letter

LING 580 General Phonetics
Units: 3 Terms Offered: Sp Familiarization with articulation, transcription, production, and acoustic analysis of the speech sounds found in the world's languages. Also speech technology, perception, and disorders. Includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

LING 581 Topics in Advanced Phonology
Units: 3 Max Units: 9.0 Topics in advanced formal phonology; theoretical issues in the interface of phonology with other areas of linguistics; literature study on themes of current theoretical relevance. *Recommended Preparation:* LING 531a, LING 531b. Instruction Mode: Lecture Grading Option: Letter

LING 582 Experimental Phonetics
Units: 3 Terms Offered: FaSp Source-filter theory, acoustic correlates of speech sounds, vocal tract and auditory physiology, coarticulation and motor coordination, speech technology including synthesis and recognition, experimental design and statistics, and speech perception. *Prerequisite:* LING 580. Instruction Mode: Lecture Grading Option: Letter

LING 585 Computational Linguistics
Units: 3 Using hands-on and research techniques, study of the role of linguistic knowledge and the procedures that implement it in computational systems that process natural language. Instruction Mode: Lecture Grading Option: Letter

LING 586 Advanced Psycholinguistics
Units: 3 Max Units: 9.0 Current issues in psycholinguistic theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-586

LING 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 593x Practicum in Teaching the Liberal Arts: Linguistics
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 595 Directed Readings
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

LING 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Research trends as reflected primarily in the current periodical literature. Instruction Mode: Lecture Grading Option: Letter

LING 602 Seminar in Experimental Methods in Linguistics
Units: 3 Topics in quantitative methods in linguistics research, e.g., covariance structure analysis, multi-dimensional scaling, log linear model, metaanalysis. Instruction Mode: Lecture Grading Option: Letter

LING 610 Seminar in Linguistic Theory
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 615 Seminar in Linguistics Structures
Units: 3 Max Units: 12.0 Terms Offered: Fa Analysis of the synchronic or diachronic phonology, morphology, and syntax of individual languages. Instruction Mode: Lecture Grading Option: Letter

LING 627 Seminar in Second Language Acquisition
Units: 3 Max Units: 12.0 Terms Offered: FaSp Readings in second language acquisition as the framework for a discussion and research-oriented seminar. Instruction Mode: Lecture Grading Option: Letter

LING 631 Seminar in Phonological Theory
Units: 3 Max Units: 12.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter

LING 632 Seminar in Phonetics
Units: 3 Max Units: 12.0 Terms Offered: FaSp Readings in phonetic theory and current research as the framework for a discussion-oriented class. *Prerequisite:* LING 580. Instruction Mode: Lecture Grading Option: Letter

LING 635 Seminar in Syntax
Units: 3 Max Units: 12.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

LING 636 Seminar in Semantics
Units: 3 Max Units: 12.0 Terms Offered: Fa Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHIL-636

LING 645 Seminar in Language Change
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 675 Seminar in Sociolinguistics
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter

LING 676 Seminar in Psycholinguistics
Units: 3 Max Units: 12.0 Terms Offered: Sp Instruction Mode: Lecture Grading Option: Letter Crosslisted as PSYC-676

LING 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

LING 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

LING 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Materials Science

MASC 110L Materials Science
Units: 4 Terms Offered: FaSp Chemical bonding and structure in crystalline, amorphous, and molecular solids; tendency and mechanisms for chemical change; homogeneous and heterogeneous equilibria. *Prerequisite:* high school chemistry. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 310 Materials Behavior and Processing
Units: 3 Terms Offered: Fa Principles of mechanical behavior and processing of materials. Relationships between mechanical properties, microstructure, and processing methods. Composites and nonmetallics included. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 312

MASC 334L Mechanical Behavior of Materials
Units: 3 (Enroll in CE 334)

MASC 350L Nanostructured Materials: Design, Synthesis, and Processing
Units: 3 Terms Offered: Sp Structure, properties, synthesis, processing and design of metallic, ceramic, polymeric, electronic, photonic, composite, nanophase and biomaterials; nanostructures, microfabrication and smart materials. *Prerequisite:* CHEM 105a or CHEM 115a or MASC 110, PHYS 152. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 438L Processing for Microelectronics
Units: 3 (Enroll in EE 438)

MASC 439 Principles of Semiconductor Processing
Units: 3 Principles relevant to semiconductor processing are covered. Topics include bulk and epitaxial crystal growth, photolithography, evaporation, sputtering, etching, oxidation, alloying, and ion implantation. *Prerequisite:* MASC 110, EE 338. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE 439

MASC 440 Materials and the Environment
Units: 3 Terms Offered: Sp Interactions of metals, alloys and composite materials with liquid and gaseous corrosive environments; corrosion protection by alloying and application of inhibitors and metallic or organic coatings. Instruction Mode: Lecture Grading Option: Letter

MASC 471 Applied Quantum Mechanics for Engineers
Units: 3 (Enroll in EE 471)

MASC 472 Polymer Science and Engineering
Units: 3 (Enroll in CHE 472)

MASC 475 Physical Properties of Polymers
Units: 3 Terms Offered: Fa (Enroll in CHE 475)

MASC 476 Chemical Engineering Materials
Units: 3 (Enroll in CHE 476)

MASC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content will be selected each semester to reflect current trends and developments in the field of materials science. Instruction Mode: Lecture Grading Option: Letter

MASC 501 Solid State
Units: 3 Atomic structure, bonding in covalent, ionic and Van der Waals crystals, Brillouin zones, lattices, diffraction, electronic states, lattice vibrations, specific heat, electrical conductivity, and magnetism. *Prerequisite:* EE 471 or EE 539. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-501

MASC 502 Advanced Solid State
Units: 3 Terms Offered: Fa Semiconductors, dielectrics and metals, thermoelectric effects, magnetism, magnetic resonance and superconductivity. *Prerequisite:* MASC 501. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-502

MASC 503 Thermodynamics of Materials
Units: 3 Terms Offered: Fa Classical thermodynamics, chemical potential, pure phases and mixtures; interphase relationships; binary and ternary solutions; free energy and activity; galvanic cell, electrochemical potential and Pourbaix diagram. Instruction Mode: Lecture Grading Option: Letter

MASC 504 Diffusion and Phase Equilibria
Units: 3 Terms Offered: Sp Phase equilibria; phase diagrams; diffusion; planar defects; nucleation and growth; spinodal decomposition; phase transformation. *Prerequisite:* MASC 503. Instruction Mode: Lecture Grading Option: Letter

MASC 505 Crystals and Anisotropy
Units: 3 Terms Offered: Fa Stereographic projection; Laue back reflection method; crystal orientation; line and planar crystalline defects; tensors; susceptibility; permeability and permittivity; stress and strain; piezoelectricity; elasticity. Instruction Mode: Lecture Grading Option: Letter

MASC 506 Semiconductor Physics
Units: 3 Terms Offered: FaSp (Enroll in EE 506)

MASC 507 Micro- and Nano-Fabrication Technology
Units: 3 (Enroll in EE 507)

MASC 508 Nano-Fabrication Lithography
Units: 3 (Enroll in EE 508)

MASC 511 Materials Preparation
Units: 3 Principles and techniques of materials preparation; purification, crystal growth from liquid and vapor phases, sintering. *Prerequisite:* MASC 504. Instruction Mode: Lecture Grading Option: Letter

MASC 512 Thin Film Science and Technology
Units: 3 Terms Offered: Fa Science and technology of thin films; historical developments and motivation to achieve thin films, synthesis techniques, materials characterization, physical properties, and applications of thin films. *Recommended Preparation:* Upper Division/Graduate-level preparation in thermodynamics/quantum mechanics/solid state physics Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

MASC 514L Processing of Advanced Semiconductor Devices
Units: 3 Terms Offered: Fa Statistical design of experiments, vapor deposition of thin film dielectrics, plasma etching, advanced lithography, in-situ sensors, process monitoring, quality control, assurance/reliability. *Prerequisite:* EE 504. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 523 Principles of Electrochemical Engineering
Units: 3 Electrochemical techniques; mass, charge, and heat transfer; electrochemical thermodynamics and electrode kinetics; electrochemical reactors; optimization; materials and corrosion; experimental modeling of industrial processes. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-523

MASC 524 Techniques and Mechanisms in Electrochemistry
Units: 3 Modern electrochemistry; in-situ techniques; in-situ probes of the near-electrode region; ex-situ emersion techniques; cyclic voltammetry, electroxidation, electrochemical reduction, reactive film formation, enzyme electrochemistry. Instruction Mode: Lecture Grading Option: Letter

MASC 534 Materials Characterization
Units: 3 Terms Offered: Fa Characterization of solids by optical microscopy, electron microscopy, (TEM, SEM) and elemental and structural analysis (EPMA, ESCA, AES, SIMS, HEED, LEED, SED). Instruction Mode: Lecture Grading Option: Letter Crosslisted as EE-534

MASC 535L Transmission Electron Microscopy
Units: 4 Transmission electron microscopy and techniques. Specimen-electron beam interaction, electron diffraction and image formation. X-ray microanalysis. Laboratory involves hands-on training on the transmission electron microscope. *Recommended Preparation:* MASC 505. Duplicates Credit in former MASC 536L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MASC 539 Engineering Quantum Mechanics
Units: 3 (Enroll in EE 539)

MASC 548 Rheology of Liquids and Solids
Units: 3 (Enroll in CHE 548)

MASC 551 Mechanical Behavior of Engineering Materials
Units: 3 Terms Offered: Sp Mechanical properties of materials; macroscopic mechanical behavior related to structure and microstructure of the material; elementary dislocation theory related to basic strengthening mechanisms; fatigue and fracture; nanomaterials. *Recommended Preparation:* MASC 310. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-551

MASC 559 Creep
Units: 3 Terms Offered: Sp Behavior of engineering materials at elevated temperatures; thermal stresses; creep mechanisms; interpretation of creep data; methods of predicting long-term strains. Duplicates Credit in former AME 559 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 559

MASC 560 Fatigue and Fracture
Units: 3 Terms Offered: Sp Behavior of materials under cyclic and static fatigue; plastic instability; life-time predictions; brittle and ductile fracture; crack propagation and plastic blunting. Duplicates Credit in former AME 560 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 560

MASC 561 Dislocation Theory and Applications
Units: 3 Terms Offered: Sp Elasticity theory; types, sources, motion, interaction of dislocations; stress fields and strain energies; partial dislocations and stacking faults; principles of work-hardening. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-561

MASC 562 Failure Analysis
Units: 3 Terms Offered: Sp Apply fundamental Materials Science concepts to "real-world" material/product failures. Identify causes of material failures using analytical methodology/tools. Develop practical solutions to prevent future failures. *Recommended Preparation:* Undergraduate materials or materials selection courses Instruction Mode: Lecture Grading Option: Letter

MASC 570 Introduction to Photovoltaic Solar Energy Conversion
Units: 3 Introduction to the physical principles, implementation materials, devices, and manufacturing costs of solar cells and panels for photovoltaic conversion of solar radiation to electricity. Instruction Mode: Lecture Grading Option: Letter

MASC 575 Basics of Atomistic Simulation of Materials
Units: 3 Terms Offered: Fa Building a parallel computer from components; molecular dynamics method; computation of structural, thermodynamics and transport properties; simulation projects. *Prerequisite:* Undergraduate course in thermodynamics or statistical physics; *Recommended Preparation:* Fortran, Unix/Linux. Instruction Mode: Lecture Grading Option: Letter

MASC 576 Molecular Dynamics Simulations of Materials and Processes
Units: 3 Terms Offered: Sp Molecular dynamics method for atomistic simulations of materials and processes, simulations using parallel computing, correlation functions for structural and dynamical properties plus simulation project. *Prerequisite:* MASC 575. Instruction Mode: Lecture Grading Option: Letter

MASC 583 Materials Selection
Units: 3 Terms Offered: Fa Materials selection in relationship to design and fabrication, economic considerations, methodology of selection, performance parameter; case studies. Duplicates Credit in former AME 588 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 588

MASC 584 Fracture Mechanics and Mechanisms
Units: 3 Terms Offered: Fa Failure modes, stress concentrations, complex stress analysis, linear elastic fracture mechanics, yielding fracture mechanics, experimental methods, environmental assisted fracture and fatigue. *Prerequisite:* AME 403 Duplicates Credit in former AME 584 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME 584

MASC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 594a Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 594b Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 594z Master's Thesis
Units: 0 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 598 Materials Science Seminar
Units: 1 Seminar in Materials Science research. To be taken only once for graduate credit. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Instruction Mode: Lecture Grading Option: Letter

MASC 601 Advanced Semiconductor Device Physics
Units: 4 Terms Offered: Sp (Enroll in EE 601)

MASC 606 Nonequilibrium Processes in Semiconductors
Units: 3 Terms Offered: Sp (Enroll in EE 606)

MASC 610 Molecular Beam Epitaxy
Units: 3 Basic principles, ultra high vacuum, machine considerations, source purity and calibrations temperature measurements, surface morphology and chemistry, growth

procedures, III-V, II-VI and silicon MBE. *Prerequisite:* MASC 501, MASC 503. Instruction Mode: Lecture Grading Option: Letter

MASC 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Laboratory study of specific problems by candidates for the degree Engineer in Materials Science. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MASC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MASC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Mathematics

MATH 040x Basic Mathematical Skills
Units: 4 Terms Offered: FaSp Review of Algebra. Real numbers, linear equations and inequalities, functions, graphs, systems of equations, exponents, polynomials, factoring, rational expressions, radicals, quadratic equations and solutions. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 108g Contemporary Precalculus
Units: 4 Terms Offered: FaSp Equations and inequalities; functions; graphs; polynomial and rational functions; exponential, logarithmic, and trigonometric function; analytic geometry. *Prerequisite:* MATH 040 or passing of placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 114x Foundations of Statistics
Units: 4 Terms Offered: FaSpSm An introduction to the basic tools of statistics. Descriptive statistics; probability; expected value; normal approximation sampling; chance models; tests of significance. *Recommended Preparation:* MATH 040 or math placement exam. Satisfies New General Education in F Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 116 Mathematics for the Social Sciences
Units: 4 Terms Offered: FaSp Finite mathematics with application to the social sciences; elementary set theory and logic; counting techniques; probability; statistics; matrices and systems of linear equations. Selected topics. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 117g Introduction to Mathematics for Business and Economics
Units: 4 Terms Offered: FaSp Functions, graphs, polynomial and rational functions, exponential and logarithmic functions, matrices, systems of linear equations. *Prerequisite:* MATH 040 or math placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 118gx Fundamental Principles of Calculus
Units: 4 Terms Offered: FaSp Derivatives; extrema. Definite integral; fundamental theorem of calculus. Extrema and definite integrals for functions of several variables. *Prerequisite:* MATH 108 or MATH 117 or placement exam in MATH. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 125g Calculus I
Units: 4 Terms Offered: FaSpSm Limits; continuity, derivatives and applications; antiderivatives; the fundamental theorem of calculus; exponential and logarithmic functions. *Prerequisite:* MATH 108 or math placement exam. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 126 Calculus II
Units: 4 Terms Offered: FaSpSm A continuation of MATH 125: trigonometric functions; applications of integration; techniques of integration; indeterminate forms; infinite series; Taylor series; polar coordinates. *Prerequisite:* MATH 125. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 127 Enhanced Calculus II
Units: 4 Terms Offered: FaSp Applications of integration, review of techniques of integration, infinite sequences and series, some beginning linear algebra, ordinary differential equations. Designed for students who earn a score of 4 or 5 on the Advanced Placement Calculus AB Examination, or a score of 3 or 4 on the BC Examination. Admission to course by departmental approval. Duplicates Credit in MATH 126. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 129 Calculus II for Engineers and Scientists
Units: 4 Terms Offered: FaSpSm Trigonometric functions; applications of integration; techniques of integration; indeterminate forms; infinite series; Taylor series; polar coordinates. Engineering and physics applications. *Prerequisite:* MATH 125 Duplicates Credit in MATH 126 and MATH 127 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 200 Elementary Mathematics from an Advanced Standpoint
Units: 4 Terms Offered: FaSp An explication of arithmetic and geometry, including the algebraic operations, number bases, plane and solid figures; and coordinate geometry. *Prerequisite:* MATH 040 or math placement exam. Instruction Mode: Lecture Grading Option: Letter

MATH 208x Elementary Probability and Statistics
Units: 4 Terms Offered: FaSp Descriptive statistics, probability, discrete and continuous random variables, expectation and variance, sampling, Central Limit Theorem, estimation, hypothesis testing, correlation and regression. Emphasis on health science. *Prerequisite:* MATH 118 or MATH 125. Instruction Mode: Lecture Grading Option: Letter

MATH 225 Linear Algebra and Linear Differential Equations
Units: 4 Terms Offered: FaSp Matrices, systems of linear equations, vector spaces, linear transformations, eigenvalues, systems of linear differential equations. *Prerequisite:* MATH 126 or MATH 127. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 226 Calculus III
Units: 4 Terms Offered: FaSp A continuation of MATH 126; vectors, vector valued functions; differential and integral calculus of functions of several variables; Green's theorem. *Prerequisite:* MATH 126 or MATH 127. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 227 Enhanced Calculus III
Units: 4 Terms Offered: FaSp A continuation of MATH 127; vectors and vector spaces functions of several variables, partial differential equations, optimization theory, multiple integration; Green's Stokes', divergence theorems. *Prerequisite:* MATH 127 or MATH 225. Duplicates Credit in MATH 226. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 229 Calculus III for Engineers and Scientists
Units: 4 Terms Offered: FaSpSm A continuation of MATH 129; vectors, vector valued functions; differential and integral calculus of functions of several variables; Green's theorem. Engineering and physics applications. *Prerequisite:* MATH 126, or MATH 127, or MATH 129 . Duplicates Credit in MATH 226 and MATH 227. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 245 Mathematics of Physics and Engineering I
Units: 4 Terms Offered: FaSp First-order differential equations; second-order linear differential equations; determinants and matrices; systems of linear differential equations; Laplace transforms. *Prerequisite:* MATH 226 or MATH 227. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 265 Mathematical and Computational Methods for Neuroscience
Units: 4 Terms Offered: FaSp Differential calculus of multivariable functions,

optimization, elementary linear algebra and matrix theory, principal component analysis, elementary differential equations, systems, qualitative theory, numerical methods, scientific computation. *Prerequisite:* MATH 125; *Recommended Preparation:* MATH 126 or MATH 127 or equivalent or AP credit for Calculus BC. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 307 Statistical Inference and Data Analysis I
Units: 4 Terms Offered: Fa Probability, counting, independence, distributions, random variables, simulation, expectation, variance, covariance, transformations, law of large numbers, Central limit theorem, estimation, efficiency, maximum likelihood, Cramer-Rao bound, bootstrap. *Prerequisite:* MATH 118 or MATH 125 or MATH 126. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 308 Statistical Inference and Data Analysis II
Units: 4 Terms Offered: Sp Confidence intervals, hypothesis testing, pvalues, likelihood ratio, nonparametrics, descriptive statistics, regression, multiple linear regression, experimental design, analysis of variance, categorical data, chi-squared tests, Bayesian statistics. *Prerequisite:* MATH 307. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 370 Applied Algebra
Units: 4 Terms Offered: Sp Induction, Euclidean algorithm, factorization, congruence classes, Rings, RSA algorithm, Chinese remainder theorem, codes, polynomials, fundamental theorem of algebra, polynomial multiplication, Fourier transform, and other topics. *Prerequisite:* MATH 226 or MATH 227, and MATH 225 or MATH 245. Instruction Mode: Lecture Grading Option: Letter

MATH 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MATH 395 Seminar in Problem Solving
Units: 2 Max Units: 8.0 Terms Offered: FaSp Systematic approach to solving non-standard and competition level math problems on inequalities, infinite sums and products, combinatorics, number theory, and games. *Recommended Preparation:* MATH 126 or MATH 127. Instruction Mode: Lecture Grading Option: Letter

MATH 400 Foundations of Discrete Mathematics
Units: 4 Terms Offered: Fa Methods of proof, predicate calculus, set theory, order and equivalence relations, partitions, lattices, functions, cardinality, elementary number theory and combinatories. *Prerequisite:* MATH 225 or MATH 226 or MATH 227. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 407 Probability Theory
Units: 4 Terms Offered: FaSp Probability spaces, discrete and continuous distributions, moments, characteristic functions, sequences of random variables, laws of large numbers, central limit theorem, special probability laws. *Prerequisite:* MATH 226 or MATH 227. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 408 Mathematical Statistics
Units: 4 Terms Offered: Sp Principles for testing hypotheses and estimation, confidence intervals, methods of moments, maximum likelihood, information inequality, likelihood ratio tests, goodness of fit and nonparametric methods. *Prerequisite:* MATH 407 Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 410 Fundamental Concepts of Modern Algebra
Units: 4 Terms Offered: FaSp Sets; relations; groups; homomorphisms; symmetric groups; Abelian groups; Sylow's theorems; introduction to rings and fields. *Prerequisite:* MATH 225; *Recommended Preparation:* One 400-level Mathematics course, excluding MATH 450. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 425a Fundamental Concepts of Analysis
Units: 4 Terms Offered: FaSp The real number system, metric spaces, limits, continuity, derivatives and integrals, infinite series. *Prerequisite:* MATH 226 or MATH 227; *Recommended Preparation:* one 400-level Mathematics course, excluding MATH 450. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 425b Fundamental Concepts of Analysis
Units: 4 Terms Offered: Sp Implicit function theorems, Jacobians, transformations, multiple integrals, line integrals. *Prerequisite:* MATH 226 or MATH 227; *Recommended Preparation:* one 400-level Mathematics course, excluding MATH 450. Instruction Mode: Lecture Grading Option: Letter

MATH 430 Theory of Numbers
Units: 4 Terms Offered: Fa Introduction to the theory of numbers, including prime factorization, congruences, primitive roots, N-th power residues, number theoretic functions, and certain diophantine equations. *Prerequisite:* MATH 126 or MATH 127. Instruction Mode: Lecture Grading Option: Letter

MATH 432 Applied Combinatorics
Units: 4 Terms Offered: Sp Mathematical induction, counting principles, arrangements, selections, binomial coefficients, generating functions, recurrence relations, inclusion-exclusion, symmetric groups, graphs, Euler and Hamiltonian circuits, trees, graph algorithms; applications. *Prerequisite:* MATH 225 or MATH 226 or MATH 227. Instruction Mode: Lecture Grading Option: Letter

MATH 434 Geometry and Transformations
Units: 4 Terms Offered: Fa The Euclidean plane and its isometries. Models for the hyperbolic metric, isometries, linear fractional maps, geodesics. Gluing constructions. Knot theory and invariants. *Prerequisite:* MATH 226 or MATH 227. Instruction Mode: Lecture Grading Option: Letter

MATH 435 Vector Analysis and Introduction to Differential Geometry
Units: 4 Terms Offered: Sp Vectors, elements of vector analysis, applications to curves and surfaces, standard material of differential geometry. *Prerequisite:* MATH 226 or MATH 227. Instruction Mode: Lecture Grading Option: Letter

MATH 440 Topology
Units: 4 Terms Offered: Fa Cardinals, topologies, separation axioms. Compactness, metrizability, function spaces; completeness; Jordan curve theorem. *Recommended Preparation:* upper-division MATH course. Instruction Mode: Lecture Grading Option: Letter

MATH 445 Mathematics of Physics and Engineering II
Units: 4 Terms Offered: FaSp Vector field theory; theorems of Gauss, Green, and Stokes; Fourier series and integrals; complex variables; linear partial differential equations; series solutions of ordinary differential equations. *Prerequisite:* (MATH 225 and MATH 226 or MATH 227) or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 447 Mathematics of Machine Learning
Units: 4 Terms Offered: SpSm Mathematical aspects of Machine Learning. PAC Learning, VC-dimension and complexity. Linear predictors (regression, perceptron, SVM). Convex learning and gradient descent. Neural networks and backpropagation. *Prerequisite:* (MATH 226 or MATH 229) and (MATH 208 or MATH 407) and MATH 225 Instruction Mode: Lecture Grading Option: Letter

MATH 450 History of Mathematics
Units: 4 Terms Offered: Sp Evolution of mathematical ideas and techniques as seen through a study of the contributions of eminent mathematicians to the formulation and solution of celebrated problems. *Prerequisite:* MATH 225 or MATH 245; *Recommended Preparation:* upper-division MATH course. Instruction Mode: Lecture Grading Option: Letter

MATH 458 Numerical Methods
Units: 4 Terms Offered: Fa Rounding errors in digital computation; solution of linear algebraic systems; Newton's method for nonlinear systems; matrix eigenvalues; polynomial approximation; numerical integration; numerical solution of ordinary differential equations. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as CSCI-458

MATH 465 Nonlinear Dynamics in Science and Engineering
Units: 4 Terms Offered: Sp Nonlinear models, bifurcations, discrete and continuous dynamics, stability, dissipative and reversible systems, Poincare maps, Lyapunov exponents, fractal dimension. Applications

stressed: Economics, Engineering, Biology, Physics. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture Grading Option: Letter

MATH 466 Dynamic Modeling
Units: 4 Terms Offered: Fa Formulation and study of models arising in population dynamics, growth of plankton, pollution in rivers, highway traffic, morphogenesis and tidal dynamics: stability, oscillations, bifurcations, chaos. The lab will consist of computer simulation of models using commercially available software. *Prerequisite:* MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 467 Theory and Computational Methods for Optimization
Units: 4 Terms Offered: Fa Methods for static, dynamic, unconstrained, constrained optimization. Gradient, conjugate gradient, penalty methods. Lagrange multipliers, least squares, linear, nonlinear dynamic programming. Application to control and estimation. *Prerequisite:* MATH 226 or MATH 227; MATH 225 or MATH 245. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 471 Topics in Linear Algebra
Units: 4 Terms Offered: Sp Polynomial rings, vector spaces, linear transformations, canonical forms, inner product spaces. *Prerequisite:* MATH 225; *Recommended Preparation:* MATH 410. Instruction Mode: Lecture Grading Option: Letter

MATH 475 Introduction to Theory of Complex Variables
Units: 4 Terms Offered: Sp Limits and infinite series; line integrals; conformal mapping; single-valued functions of a complex variable; applications. Primarily for advanced students in engineering. *Prerequisite:* MATH 226 or MATH 227. Instruction Mode: Lecture Grading Option: Letter

MATH 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MATH 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures on advanced material not covered in regularly scheduled courses. No more than two registrations allowed. Instruction Mode: Lecture Grading Option: Letter

MATH 500 Graduate Colloquium
Units: 2 Lectures directed to mathematics graduate students by faculty of the department and by outside speakers. Problem solving workshops. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 501 Numerical Analysis and Computation
Units: 3 Terms Offered: Sp Linear equations and matrices, Gauss elimination, error estimates, iteration techniques; contractive mappings, Newton's method; matrix eigenvalue problems; least-squares approximation, Newton-Cotes and Gaussian quadratures; finite difference methods. *Prerequisite:* linear algebra and calculus. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-501

MATH 502a Numerical Analysis
Units: 3 Terms Offered: Fa Computational linear algebra; solution of general nonlinear systems of equations; approximation theory using functional analysis; numerical solution of ordinary and partial differential equations. *Prerequisite:* MATH 425a and MATH 471. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-502A

MATH 502b Numerical Analysis
Units: 3 Terms Offered: Sp Computational linear algebra; solution of general nonlinear systems of equations; approximation theory using functional analysis; numerical solution of ordinary and partial differential equations. *Prerequisite:* MATH 425a and MATH 471. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-502B

MATH 504a Numerical Solution of Ordinary and Partial Differential Equations
Units: 3 Terms Offered: Sp Initial value problems; multistep methods, stability, convergence and error estimation, automatic stepsize control, higher order methods, systems of equations, stiff problems; boundary value problems; eigen-problems. *Prerequisite:* MATH 501 or MATH 502a. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-504A

MATH 504b Numerical Solution of Ordinary and Partial Differential Equations
Units: 3 Terms Offered: Fa Computationally efficient schemes for solving PDE numerically; stability and convergence of difference schemes, method of lines; fast direct and iterative methods for elliptic equations. *Prerequisite:* MATH 501 or MATH 502a. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-504B

MATH 505a Applied Probability
Units: 3 Terms Offered: Fa Populations, permutations, combinations, random variables, distribution and density functions conditional probability and expectation, binomial, Poisson, and normal distributions; laws of large numbers, central limit theorem. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-505A

MATH 505b Applied Probability
Units: 3 Terms Offered: Sp Markov processes in discrete or continuous time; renewal processes; martingales; Brownian motion and diffusion theory; random walks, inventory models, population growth, queuing models, shot noise. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-505B

MATH 507a Theory of Probability
Units: 3 Terms Offered: Fa Probability spaces; distributions and characteristic functions; laws of large numbers, central limit problems; stable and infinitely divisible laws; conditional distributions. *Prerequisite:* MATH 525a or MATH 570. Instruction Mode: Lecture Grading Option: Letter

MATH 507b Theory of Probability
Units: 3 Terms Offered: Sp Dependence, martingales, ergodic theorems, second-order random functions, harmonic analysis, Markov processes. Instruction Mode: Lecture Grading Option: Letter

MATH 508 Filtering Theory
Units: 3 Theory of random differential equations and stochastic stability; optimum linear and nonlinear filtering, with discussion of asymptotic behavior of filter. *Prerequisite:* MATH 507a. Instruction Mode: Lecture Grading Option: Letter

MATH 509 Stochastic Differential Equations
Units: 3 Brownian motion, stochastic integrals, the Ito formula, stochastic differential equations, analysis of diffusion processes, Girsanov transformation, Feynmann-Kac formula, applications. *Prerequisite:* MATH 505a, MATH 505b or MATH 507a, MATH 507b. Instruction Mode: Lecture Grading Option: Letter

MATH 510a Algebra
Units: 3 Terms Offered: Fa Group Theory: Isomorphism theorems, group actions, Sylow's theorems, simple and solvable groups; Field Theory: Galois correspondence, radical extensions, algebraic and transcendental extensions, finite fields. *Prerequisite:* MATH 410, MATH 471. Instruction Mode: Lecture Grading Option: Letter

MATH 510b Algebra
Units: 3 Terms Offered: Sp Commutative Algebra: Integrality, Hilbert Basis theorem, Hilbert Nullstellensatz; Modules: modules over PIDs, chain conditions, tensor products; Noncommutative Rings: Jacobson radical, Artin-Wedderburn theorem, Maschke's theorem. *Prerequisite:* MATH 410, MATH 471. Instruction Mode: Lecture Grading Option: Letter

MATH 511aL Data Analysis
Units: 4 (Enroll in PM 511a, PM 511b) Instruction Mode: Lecture, 3 hours; laboratory, 1 hour.

MATH 511bL Data Analysis
Units: 4 (Enroll in PM 511a, PM 511b)

MATH 512 Financial Informatics and Simulation (Computer Labs and Practitioner Seminar)
Units: 3 Terms Offered: FaSp Experimental laboratory trading for financial markets using double auctions: handling statistical packages for data analysis. Practical training in virtual market environments, using financial trading system software. Instruction Mode: Lecture, Discussion Grading Option: Letter

MATH 520 Complex Analysis
Units: 3 Terms Offered: Sp Theory of analytic functions — power series and integral representations, calculus of residues, harmonic functions, normal families, approximation theorems, conformal mapping, analytical continuation. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 525a Real Analysis
Units: 3 Terms Offered: Fa Measure and

integration over abstract measure spaces, Radon-Nikodym theorem, Fubini's theorem, convergence theorems, differentiation. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 525b Real Analysis
Units: 3 Terms Offered: Sp Metric spaces, contraction principle, category, Banach spaces, Riesz representation theorem, properties of Lp Hilbert spaces, orthogonal expansions, Fourier series and transforms, convolutions. *Prerequisite:* MATH 525a. Instruction Mode: Lecture Grading Option: Letter

MATH 530a Stochastic Calculus and Mathematical Finance
Units: 3 Stochastic processes revisited, Brownian motion, Martingale theory, stochastic differential equations, Feynman-Kac formula, binomial models, basic concepts in arbitrage pricing theory, equivalent Martingale measure. *Recommended Preparation:* MATH 225, MATH 407. Duplicates Credit in the former MATH 503. Instruction Mode: Lecture Grading Option: Letter

MATH 530b Stochastic Calculus and Mathematical Finance
Units: 3 Terms Offered: Sp Advanced topics in stochastic analysis, asset pricing in continuous time, stochastic control, Hamilton-Jacobi-Bellman equations, incomplete markets, American options, exotic options, term structure of interest rates. Duplicates Credit in the former MATH 506. Instruction Mode: Lecture Grading Option: Letter

MATH 532 Combinatorial Analysis
Units: 3 Terms Offered: Fa Inversion formulas, generating functions and recursions, partitions, Stirling numbers, distinct representatives, Ramsey's theorem, graph theory, block designs, difference sets, finite geometrics, Latin squares, Hadamard matrices. Instruction Mode: Lecture Grading Option: Letter

MATH 533 Algebraic Combinatorics
Units: 3 Terms Offered: Irregular Walks in graphs, random walks, group actions on boolean algebras, Young diagrams and tableaux, the Matrix-Tree Theorem. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI 533

MATH 535a Differential Geometry
Units: 3 Terms Offered: Fa Elementary theory of manifolds, Lie groups, homogeneous spaces, fiber bundles and connections. Riemannian manifolds, curvature and conjugate points, second fundamental form, other topics. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 535b Differential Geometry
Units: 3 Terms Offered: Sp Elementary theory of manifolds, Lie groups, homogeneous spaces, fiber bundles and connections. Riemannian manifolds, curvature and conjugate points, second fundamental form, other topics. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 540 Topology
Units: 3 Terms Offered: Sp Initial and final topologies, function spaces, algebras in C(Y), homotopy, fundamental group, fiber spaces and bundles, smashes, loop spaces, groups of homotopy classes, cw-complexes. *Prerequisite:* MATH 440. Instruction Mode: Lecture Grading Option: Letter

MATH 541a Introduction to Mathematical Statistics
Units: 3 Terms Offered: Sp Parametric families of distributions, sufficiency. Estimation: methods of moments, maximum likelihood, unbiased estimation. Comparison of estimators, optimality, information inequality, asymptotic efficiency. EM algorithm, jackknife and bootstrap. *Prerequisite:* MATH 505a or MATH 407 or MATH 408. Instruction Mode: Lecture Grading Option: Letter

MATH 541b Introduction to Mathematical Statistics
Units: 3 Terms Offered: Fa Hypothesis testing, Neyman-Pearson lemma, generalized likelihood ratio procedures, confidence intervals, consistency, power, jackknife and bootstrap. Monte Carlo Markov chain methods, hidden Markov models. *Prerequisite:* MATH 541a. Instruction Mode: Lecture Grading Option: Letter

MATH 542L Analysis of Variance and Design
Units: 3 Terms Offered: Sp Least squares estimation in the linear model, analysis of variance and covariance, F-test, multiple comparisons, multiple regression, selection of variables; introduction to experimental design. Includes laboratory. *Prerequisite:* MATH 225, MATH 226, and MATH 208. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MATH 543L Nonparametric Statistics
Units: 3 Distribution-free methods for comparisons of two or more samples, tests of randomness, independence, goodness of fit; classification, regression. Comparison with parametric techniques. *Prerequisite:* MATH 226, MATH 208. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as PM-543

MATH 544L Multivariate Analysis
Units: 3 (Enroll in PM 544)

MATH 545L Introduction to Time Series
Units: 3 Terms Offered: Fa Transfer function models; stationary, nonstationary processes; moving average, autoregressive models; spectral analysis; estimation of mean, autocorrelation, spectrum; seasonal time series. *Prerequisite:* MATH 225, MATH 226, and MATH 208. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as PM-545

MATH 547 Mathematical Foundations of Statistical Learning Theory
Units: 3 Terms Offered: Fa Binary classification, empirical risk minimization, support vector machines, voting algorithms and AdaBoost, Vapnik-Chervonenkis combinatorics, concentration-of-measure inequalities, sparse recovery problems, high-dimensional convex geometry. *Prerequisite:* MATH 407 or MATH 408 Instruction Mode: Lecture Grading Option: Letter

MATH 548 Sequential Analysis
Units: 3 Sequential decision procedures: sequential probability-ratio tests, operating characteristic, expected sample size, two-stage procedures, optimal stopping, martingales, Markov processes; applications to gambling, industrial inspection. *Prerequisite:* MATH 407 or MATH 408. Instruction Mode: Lecture Grading Option: Letter

MATH 550 Sample Surveys
Units: 3 Terms Offered: Sp Theory of sampling and design of sample surveys; bias and precision; finite populations; stratification; cluster sampling; multistage, systematic sampling; non-sampling errors. *Prerequisite:* MATH 208. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PM-550

MATH 555a Partial Differential Equations
Units: 3 Terms Offered: Fa Second-order partial differential equations of elliptic, parabolic, and hyperbolic type; in particular, potential and wave equations. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 555b Partial Differential Equations
Units: 3 Terms Offered: Sp Second-order partial differential equations of elliptic, parabolic, and hyperbolic type; in particular, potential and wave equations. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 565a Ordinary Differential Equations
Units: 3 Terms Offered: Fa Existence, uniqueness and continuation of solutions, differential inequalities, linear systems, Sturm-Liouville theory, boundary value problems, Poincare-Bendixson theory, periodic solutions, perturbations, stability, fixed point techniques. *Prerequisite:* MATH 425ab. Instruction Mode: Lecture Grading Option: Letter

MATH 565b Ordinary Differential Equations
Units: 3 Terms Offered: Sp Existence, uniqueness and continuation of solutions, differential inequalities, linear systems, Sturm-Liouville theory, boundary value problems, Poincare-Bendixson theory, periodic solutions, perturbations, stability, fixed point techniques. *Prerequisite:* MATH 425a, MATH 425b. Instruction Mode: Lecture Grading Option: Letter

MATH 570a Methods of Applied Mathematics
Units: 3 Terms Offered: Fa Metric spaces, compactness, completion, fixed-point theorems, abstract spaces, linear operators, functionals, duality, conjugates, Lp spaces, Fourier transform. Applications from Engineering, Natural and Social sciences. *Recommended Preparation:* Linear Algebra and Calculus. Instruction Mode: Lecture Grading Option: Letter

MATH 570b Methods of Applied Mathematics

Units: 3 Terms Offered: Sp Measure theory, convergence, Lebesgue spaces, Riesz's theorem, Integration theorems, compact and self-adjoint operators, spectral theory, resolution of the identity, differential operators, quantum mechanics. Instruction Mode: Lecture Grading Option: Letter

MATH 572 Applied Algebraic Structures
Units: 3 Terms Offered: Fa Elementary predicate logic, model theory, axiomatic set theory; relations, functions, equivalences; algebraic and relational structures; graph theory; applications of lattices, Boolean algebras; groups, rings, field. Instruction Mode: Lecture Grading Option: Letter

MATH 574 Applied Matrix Analysis
Units: 3 Terms Offered: Fa Equivalence of matrices; Jordon canonical form; functions of matrices; diagonalization; singular value decomposition; applications to linear differential equations, stability theory, and Markov processes. Instruction Mode: Lecture Grading Option: Letter

MATH 576 Applied Complex Analysis and Integral Transforms
Units: 3 Terms Offered: Fa Review of basic complex analysis; integral transforms of Laplace, Fourier, Mellin, and Hankel; applications to solutions of ordinary and partial differential equations; Wiener-Hopf technique. *Prerequisite:* MATH 475 or MATH 520. Instruction Mode: Lecture Grading Option: Letter

MATH 577a Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Sp (Enroll in BISC 577a, BISC 577b)

MATH 577b Computational Molecular Biology Laboratory
Units: 2 Terms Offered: Fa (Enroll in BISC 577a, BISC 577b)

MATH 578a Computational Molecular Biology
Units: 3 Terms Offered: FaSp Applications of the mathematical, statistical and computational sciences to data from molecular biology. Algorithms for genomic sequence data: sequence and map assembly and alignment, RNA secondary structure, protein structure, gene-finding, and tree construction. *Prerequisite:* CSCI 570. *Recommended Preparation:* familiarity with the concepts of basic molecular biology as covered in BISC 320. Instruction Mode: Lecture Grading Option: Letter

MATH 578b Computational Molecular Biology
Units: 3 Terms Offered: FaSp Applications of the mathematical, statistical and computational sciences to data from molecular biology. Statistics for genomic sequence data: DNA sequence assembly, significance of alignment scores, hidden Markov models, genetic mapping, models of sequence evolution, and microarray analysis. *Prerequisite:* MATH 505a, MATH 541a. *Recommended Preparation:* familiarity with the concepts of basic molecular biology as covered in BISC 320. Instruction Mode: Lecture Grading Option: Letter

MATH 580 Introduction to Functional Analysis
Units: 3 Basic functional analysis in Banach and Hilbert spaces. Weak topologies, linear operators, spectral theory, calculus of vector-valued functions. Banach algebras. *Prerequisite:* MATH 525a, MATH 525b. Instruction Mode: Lecture Grading Option: Letter

MATH 585 Mathematical Theory of Optimal Control
Units: 3 Terms Offered: Fa Deterministic control: calculus of variations; optimal control; Pontryagin principle; multiplier rules and abstract nonlinear programming; existence and continuity of controls; problem of Mayer; dynamic programming. *Prerequisite:* MATH 570 and MATH 525a. Instruction Mode: Lecture Grading Option: Letter

MATH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 592 Computational Molecular Biology Internship
Units: 3 Industrial or genome-centered internship for students in the Computational Molecular Biology master's program. Real-world experience in applications. Instruction Mode: Lecture Grading Option: Letter

MATH 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

MATH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 595 Practicum in Teaching the Liberal Arts: Mathematics
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content will be selected each semester to reflect current trends and developments in the field of mathematics. Instruction Mode: Lecture Grading Option: Letter

MATH 600 Topics in Numerical Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 601 Optimization Theory and Techniques
Units: 3 Terms Offered: SpSm Necessary and sufficient conditions for existence of extrema with equality constraints; gradient methods; Ritz methods; eigenvalue problems; optimum control problems; inequality constraints; mathematical programming. *Prerequisite:* MATH 502a, MATH 502b. Instruction Mode: Lecture Grading Option: Letter

MATH 602 Galerkin Approximation Methods in Partial Differential Equations
Units: 3 Galerkin methods of approximating solutions of elliptic boundary value problems in one and several dimensions; includes the use of spline functions and triangularizations. Instruction Mode: Lecture Grading Option: Letter

MATH 605 Topics in Probability
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 606 Topics in Stochastic Processes
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Theoretic and applied topics of current interest in discrete and continuous time stochastic processes and in stochastic differential equations. *Recommended Preparation:* graduate level course in probability theory or stochastic processes. Instruction Mode: Lecture Grading Option: Letter

MATH 610 Topics in Algebra
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 612 Topics in Commutative Ring Theory
Units: 3 Max Units: 12.0 Localization, structure of Noetherian rings, integral extensions, valuation theory, graded rings, characteristic functions, local algebra, dimension theory. *Prerequisite:* MATH 510a, MATH 510b. Instruction Mode: Lecture Grading Option: Letter

MATH 613 Topics in Representation Theory
Units: 3 Max Units: 12 Terms Offered: Irregular Structure and representation theory of various algebraic structures, such as groups, Lie algebras, Hopf algebras, algebraic groups, or group schemes. *Prerequisite:* MATH 510a and MATH 510b Instruction Mode: Lecture Grading Option: Letter

MATH 620 Topics in Complex Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 625 Topics in Real Analysis
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 630 Topics in Number Theory
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 635 Topics in Differential Geometry
Units: 3 Max Units: 12.0 Topics to be chosen from the following: geometry of complex manifolds, relations between topology and curvature, homogeneous spaces, symmetric spaces, geometry of submanifolds.

Prerequisite: MATH 535a, MATH 535b. Instruction Mode: Lecture Grading Option: Letter

MATH 641 Topics in Topology
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 647 Topics in Statistics
Units: 3 Max Units: 12 Terms Offered: Irregular Current methods, techniques, and results in statistics, data science and machine learning. Instruction Mode: Lecture Grading Option: Letter

MATH 650 Seminar in Statistical Consulting
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 655 Topics in Partial Differential Equations
Units: 3 Max Units: 12.0 Terms Offered: FaSpSm Topics to be chosen from the following: Elliptic, Parabolic, Hyperbolic, and Dispersive PDEs, Conservation Laws, Mathematical Fluid Dynamics and Variational Methods. *Prerequisite:* MATH 525a; *Recommended Preparation:* MATH 555a. Instruction Mode: Lecture Grading Option: Letter

MATH 665 Topics in Ordinary Differential Equations
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 680 Nonlinear Functional Analysis
Units: 3 Calculus in Banach spaces, degree theory, fixed point theorems. Study of compact, monotone, accretive and nonexpansive operators. *Prerequisite:* MATH 580. Instruction Mode: Lecture Grading Option: Letter

MATH 681 Selected Topics in Functional Analysis
Units: 3 Max Units: 12.0 Course content will vary with professor and academic year offered. It will include topics of current interest in both linear and nonlinear functional analysis and their applications. Instruction Mode: Lecture Grading Option: Letter

MATH 685 Topics in Mathematical Control Theory
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 689 Topics in Mathematical Physics
Units: 3 Max Units: 12.0 Instruction Mode: Lecture Grading Option: Letter

MATH 700 Seminar in Numerical Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 705 Seminar in Probability
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 710 Seminar in Algebra
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 725 Seminar in Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 730 Seminar in Number Theory
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 735 Seminar in Differential Geometry
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 740 Seminar in Topology
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 761 Seminar in Programming and Computability
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 765 Seminar in Ordinary Differential Equations
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 780 Seminar in Functional Analysis
Units: 3 Instruction Mode: Lecture Grading Option: Letter

MATH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MATH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MATH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Microbiology and Immunology

MBIO 310 Principles of Microbiology and Immunology
Units: 2 Fundamental concepts of microbiology and immunology. Bacterial, viral and fungal diseases are correlated with host responses; oral manifestations of infectious disease. Emphasis on sanitation and sterilization. Instruction Mode: Lecture Grading Option: Letter

MBIO 501 Immunology
Units: 2 Fundamentals of immunology; basic immunopathology, especially concerning the oral cavity, including immunogenetics; hypersensitivities and inflammation; auto-immune diseases. Instruction Mode: Lecture Grading Option: Letter

Medical Biophysics

MBPH 550 Seminar in Medical Biophysics
Units: 1 Max Units: 4 Terms Offered: FaSp Seminar course in which students make oral and written presentations based on original research, published journal articles, or research proposals. Instruction Mode: Lecture Grading Option: Letter

MBPH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MBPH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. Registration Restriction: Open only to Master Students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* MBPH 594a Registration Restriction: Open only to Master Students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Thesis. Graded IP/CR/NC. *Prerequisite:* MBPH 594b Registration Restriction: Open only to Master Students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MBPH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794a Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794c Doctoral Disseration
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794b Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794d Doctoral Disseration
Units: 2 Terms Offered: FaSpSm Credit

on acceptance of dissertation. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MBPH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. *Prerequisite:* MBPH 794d Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Multidisciplinary Activities

MDA 020 American Popular Culture
Units: 0 Terms Offered: Sm Introduction to the popular culture of the United States, including basic history, geography, literature and the arts, as understood by generally well-educated young Americans. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100a Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100b Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100c Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 100d Introduction to the Health Professions
Units: 1 Terms Offered: FaSp An introduction to the health professions, through lectures, discussions, clinical experiences, and visits to health care delivery sites; relationships with other clinicians and the community. Departmental approval required. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 101x Health Professions: Prospects and Preparation
Units: 1 Terms Offered: Sp Presentations by health professionals, introduced by faculty members from relevant academic units and followed by discussion with the speakers. *Recommended Preparation:* BISC 120 or BISC 220; CHEM 150aL. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 105g Cultural Forms and Values I
Units: 4 Terms Offered: FaSp Norms and patterns of civilizations associated with the Greco-Roman and European traditions and the legacy of those traditions in North America. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 110 Contemporary Issues and Cases in Health Care
Units: 2 Terms Offered: FaSp An introduction to the major areas of health care; the provider's relationship to choices in professional practice; ethics and historical context. Duplicates Credit in MDA 100a, MDA 100b, MDA 100c, MDA 100d. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 120 American Popular Culture
Units: 3 Terms Offered: Sm Introduction to the popular culture of the United States, including basic history, geography, literature and the arts, as understood by generally well-educated young Americans. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 125Lg Scientific Principles
Units: 4 Terms Offered: FaSp Fundamental principles underlying a body of scientific knowledge and their evolution; the nature of scientific inquiry; how scientific knowledge is obtained and evaluated. A field experience or practical component required. Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 140 Practicum in Multimedia Authorship
Units: 2 Terms Offered: FaSp Introduction to the expressive potential of multimedia as a critical and creative tool, supplementing traditional forms of academic work. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 155g Cultural Forms and Values II
Units: 4 Terms Offered: FaSp Cultural norms and patterns of civilizations associated with Africa, Asia, Latin America, the Middle East, Native America, and elsewhere, alternative to those of the Greco-Roman and European traditions. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 165g Social Inquiry
Units: 4 Terms Offered: FaSp Analyses of compelling local, national, and/or international issues; analytical tools examined systematically in a broad range of social phenomena. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

MDA 167g Marginal Groups in America
Units: 4 Terms Offered: Fa Sociological and historical analysis of marginal populations in American society, including racial and ethnic minorities, teenage mothers, drug abusers, criminals, and the mentally ill. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 170g La Frontera: The U.S.-Mexico Borderlands
Units: 4 Provides student with a multidisciplinary understanding of the U.S./Mexico border region. Topics to be covered include: space and place, internationalization, physical environment, gender relations and culture. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 175Lg Science and Technology
Units: 4 Terms Offered: FaSp The nature of science and technology, based on a focused study of a single area of research; scientific principles, their technological applications, and social significance. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 200Lg The Cutting Edge: From Basic Science to the Marketplace
Units: 4 Terms Offered: Sp An introduction to the basic sciences of physics, chemistry, biology, and geology, examining the fundamental concepts, experimental approaches, and technological applications. Course will show the interrelationships among the fields and societal ramifications of these cutting edge technologies. Satisfies Old General Education in Category IV: Science and Its Significance Duplicates Credit in MDA 125. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MDA 205g Cities and Civilization
Units: 4 Terms Offered: FaSp Origins of cities, patterns of migration and resettlement, civic identities and the invention of public culture, from ancient Rome to contemporary Los Angeles. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

MDA 250 Internship for Liberal Arts: Work and Career — Theory and Practice
Units: 1, 2 Max Units: 4.0 Terms Offered: FaSpSm Students explore different understandings of work and career in American society while testing theories in an actual work setting. Instruction Mode: Lecture Grading Option: Letter

MDA 260 Opportunities in the Global Marketplace
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSp Professional opportunities in a changing global system, preparing the successor generation for participation in the public, private, and citizen sectors of our global society. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 300 The Dornsife Toolkit
Units: 2 Max Units: 08 Terms Offered: FaSpSm An opportunity to acquire an intellectual skill in a small group setting. Registration Restriction: Open to all undergraduates, though Dornsife majors and minors will have priority during the registration period Credit Restriction: Not for major credit Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 310 Peace and Conflict Studies

Units: 4 Terms Offered: Sp (Enroll in IR 310)

MDA 320 Global Ethics: Poverty, Health and the Human Condition
Units: 4 Terms Offered: FaSp Ethical challenges and moral obligations of the public and private sectors in global development, access to healthcare, and promotion of civil, political, and economic rights. Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 325 Case Studies in Modern Leadership
Units: 2 or 4 Max Units: 6.0 Terms Offered: FaSp Study of a single leader or small set of leaders, including the strengths and weaknesses that distinguish them and the cultural forces that nurture them. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-326

MDA 330 The Armenian Heritage: History, Arts, and Culture
Units: 4 Terms Offered: FaSp A multidisciplinary exploration of the Armenian cultural heritage through the ages — folklore, traditions, religious practices, literature, architecture, painting, sculpture, music, theatre, film and dance. Instruction Mode: Lecture Grading Option: Letter

MDA 333 Colloquium in Armenian Studies: Social and Cultural Issues
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Analysis of political, social, and cultural issues by the instructor and visiting lecturers with expertise in specific areas of the Armenian Republic and Diaspora community. Instruction Mode: Lecture Grading Option: Letter

MDA 365 The Art and Adventure of Leadership
Units: 4 Terms Offered: Sp Areas of knowledge and kinds of competencies that are fundamental to the study and practice of leadership in a variety of settings. Instruction Mode: Lecture Grading Option: Letter

MDA 399a Team Research Communities
Units: 4 Terms Offered: FaSp Cross-disciplinary inquiry in the liberal arts. Research methodologies. Instruction Mode: Lecture Grading Option: Letter

MDA 399b Team Research Communities
Units: 4 Terms Offered: FaSp Cross-disciplinary inquiry in the liberal arts. Individual student and group projects contributing to the team's collaborative report. Instruction Mode: Lecture Grading Option: Letter

MDA 423 User Experience
Units: 4 Terms Offered: FaSp Introduction to the field of user experience (UX), with a specific focus on theoretical foundations, research methodology and principles of design. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as PSYC 423

MDA 450 Individual Program of Study
Units: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 Max Units: 18.0 Terms Offered: FaSpSm An individual educational project approved by a faculty committee, combining directed research with internships, service learning, artistic or literary production, and/or other relevant educational activities. Registration Restriction: Open only to sophomore, junior or senior standing. Instruction Mode: Lecture Grading Option: Letter

MDA 460 Collaborative Learning Project
Units: 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm A project approved by a faculty committee, requiring students to collaborate on research or an original work in the literary, plastic, or performing arts. Registration Restriction: Open only to sophomore, junior or senior standing. Instruction Mode: Lecture Grading Option: Credit/No Credit

MDA 475 The Future of California
Units: 4 Challenges facing California; options for governmental and constitutional reform; opportunities for economic growth; demographic and cultural changes; education, environment, and other policy issues. *Recommended Preparation:* junior or senior standing. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-475, PPD-475

MDA 476 Policy Research on California
Units: 4 Terms Offered: Sp Research and proposed solutions concerning problems, policies, structural and constitutional challenges facing California. Open only to upper-division and master's students. *Prerequisite:* MDA 475. Registration Restriction: Open only to upper division and masters students. Instruction Mode: Lecture, Discussion Grading Option: Letter

MDA 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Individual research, reading, writing and project development. Instruction Mode: Lecture Grading Option: Letter

MDA 494 Directed Creative Project
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Individual research, reading, writing and project development, guided by a faculty member with expertise in the area, who may be tenure-track or nontenure- track. Instruction Mode: Lecture Grading Option: Letter

MDA 495 Interdisciplinary Honors Seminar
Units: 2, 3, 4 Max Units: 4.0 Terms Offered: Fa The first part of an eight-unit sequence intended to award academic honors in a thematic area comparable to departmental honors in a single discipline. Instruction Mode: Lecture Grading Option: Letter

MDA 496 Interdisciplinary Honors Thesis
Units: 4 Terms Offered: Sp The second part of an eight-unit sequence intended to award academic honors in a thematic area comparable to departmental honors in a single discipline. *Prerequisite:* MDA 495. Instruction Mode: Lecture Grading Option: Letter

MDA 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Selected topics in Multidisciplinary Activities. Instruction Mode: Lecture Grading Option: Letter

MDA 501 Introduction to Visual Studies: Methods and Debates
Units: 4 A critical introduction to the field of visual studies focusing on interdisciplinary approaches to images, objects, and visual technologies as well as key texts and interpretive debates. Students must be enrolled in a PhD program at USC. Instruction Mode: Lecture Grading Option: Letter

MDA 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit Crosslisted as ANTH-593, COLT-593, EALC-593, ENGL-593, ENST-593, EXSC-593, GEOG-593, GERM-593, IR-593, POSC-593, SLL-593

MDA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Fa The multidisciplinary, team-taught seminar addresses issues at the intersection of literary, visual, and material culture. The faculty team and specific topics studied will change each time the course is offered. Instruction Mode: Lecture Grading Option: Letter

Middle East Studies

MDES 180g The Middle East
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 180)

MDES 301g The Global Middle East
Units: 4 Terms Offered: FaSp Explores the modern Middle East by focusing on the process of globalization. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MDES 312 Shadow of God on Earth: Religion/Politics in Medieval Persia
Units: 4 Terms Offered: FaSp Political and dynastic history of Iran from the Arab conquest in the 7th to the 18th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-310

MDES 313 Modern Iran: Fall of Monarchies and Rise of Islamic Republic
Units: 4 Terms Offered: FaSpSm History and culture of modern Iran from the nineteenth century to present through historical and ethnographic approaches to Iran today, richly contextualizing events and people. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-389

MDES 314p Political Thought in the Middle East
Units: 4 Terms Offered: FaSp Major strands of Islamic political thought from early Islam through the classical Islamic period to contemporary developments and transformations. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

MDES 316p The Great Muslim Empires of the Near East and India
Units: 4 Explores the social, political, and religious forces that helped shape the

Ottoman, Safavid, and the Mughal empires, their intellectual trends, and cultural dynamism. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST 394

MDES 324 Classical Persian Literature in Translation
Units: 4 Terms Offered: FaSp Introduction to literary culture of premodern Persia, from about 800–1800 AD. Emphasis on poetry, the most extensive, prestigious, and influential medium of Persian literature. Instruction Mode: Lecture Grading Option: Letter

MDES 325g Politics of Film and Literature in Modern Iran
Units: 4 Terms Offered: FaSp Explores contemporary Iranian society through the study of social tensions created by poverty-wealth, tradition-modernity, masculinity-femininity, and notions of religio-political authority as reflected in the literature and films of the country. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

MDES 340 Perspectives on US Foreign Policy in the Middle East
Units: 4 Presents critical perspectives to analyze U.S. foreign policy in the Middle East, including the discourses surrounding energy security, military interventionism, globalization, democracy promotion, and terrorism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 359

MDES 342g Modern Arab State and Society I: Media and Intellectual Works
Units: 4 Surveys prominent debates in the Arab world, examining how media and intellectual production reflect, shape, and/or contest prevailing ideas and practices in the public sphere. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MDES 343g Modern Arab State and Society II: Culture and Literature
Units: 4 Examines contemporary Arab state-society relations using literature to illustrate how people construct meanings and portray issues of national, social, and cultural significance. Satisfies New General Education in Category B: Humanistic Inquiry Crosslisted as COLT 347.

MDES 345p Sovereignty in the Middle East
Units: 4 The evolution of the concept and practice of sovereignty in the Middle East, pre-modern to the present, focusing on reciprocal nature of power and authority. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR 350

MDES 349g Ancient Empires
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 349)

MDES 362 The International Relations of the Contemporary Middle East
Units: 4 Terms Offered: Fa (Enroll in IR 362)

MDES 363 Middle East Political Economy
Units: 4 Terms Offered: Sp (Enroll in IR 363)

MDES 378 Ptolemaic Egypt
Units: 4 Terms Offered: FaSp (Enroll in CLAS 378)

MDES 382 The Middle East, 500–1500
Units: 4 (Enroll in HIST 382)

MDES 383 The Modern Middle East
Units: 4 Terms Offered: Sp (Enroll in HIST 383)

MDES 384 Popular Culture in the Middle East
Units: 4 Terms Offered: FaSpSm (Enroll in HIST 384)

MDES 394 Archaeology of Egypt and the Near East
Units: 4 (Enroll in REL 394)

MDES 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa (Enroll in REL 402)

MDES 437 Arabic Autobiography: Writing and Interpreting the Self
Units: 4 Terms Offered: FaSpSm (Enroll in COLT 437)

MDES 447 Traveling Genres: Politics/Poetics of Modern Arabic Prose
Units: 4 Terms Offered: FaSpSm (Enroll in COLT 447)

MDES 448m Islam in France
Units: 4 Terms Offered: FaSp (Enroll in FREN 448)

MDES 454 Classical Arabic
Units: 4 Max Units: 20 Terms Offered: FaSp Introduction to reading and interpretation of pre-modern, classical Arabic, including literature from the 6th to 19th centuries. *Prerequisite:* ARAB 252 or MDES 252 Instruction Mode: Lecture Grading Option: Letter

MDES 461 Topics in Ancient Iranian Languages and Cultures
Units: 4 Max Units: 20 Studies and readings in one or more pre-modern Iranian languages and their cultural and historical contexts. Specific topics vary; may be repeated for credit. Instruction Mode: Lecture Grading Option: Letter

MDES 463 Islam and Arab Nationalism
Units: 4 (Enroll in IR 463)

MDES 480 Seminar in Middle East History
Units: 4 Max Units: max 8 (Enroll in HIST 480)

MDES 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MDES 492 Honors Thesis
Units: 4 Writing of the honors thesis; for students in the Middle East Studies Honors Program. Instruction Mode: Lecture Grading Option: Letter

MDES 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Middle East studies. Instruction Mode: Lecture Grading Option: Letter

Medical Biology

MEDB 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDB 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDB 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Medical Sciences (200–400)

MEDS 220 Preparation for the Clinical Experience
Units: 2 Terms Offered: FaSpSm Discussion and exercises in clinically relevant topics (professional behavior, patient privacy, medical ethics, cultural competency, teamwork, etc.) in preparation for experience in the clinical setting. Instruction Mode: Lecture Grading Option: Letter

MEDS 260 Challenges in the Forefront of Biomedical Ethics
Units: 2 Terms Offered: Sp Examination of fundamental ethical concepts and principles in clinical health care and biomedical research. Use of film, case studies and discussion. *Recommended Preparation:* MDA 110 or MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 280 The History of Medicine: a Doctor's Perspective
Units: 2 Terms Offered: Fa Explores the role of medicine/surgery in society, whose ideas about health and disease have undergone enormous changes from antiquity to the present day. Instruction Mode: Lecture Grading Option: Letter

MEDS 300g Statistical Methods for Biomedical Research

Units: 4 Terms Offered: Fa Fundamental basis for various statistical tests, underlying assumptions, and statistical analyses used in biomedical and clinical research. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

MEDS 315 Human Anatomy, Physiology, and the Technology of Medicine
Units: 2 Introduction to human anatomy and physiology in relation to common disease processes, and an examination of how technology has transformed western medicine throughout history. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 320 Human Cadaveric Anatomy
Units: 4 Terms Offered: FaSp Anatomical structure and function of the major regions of the human body as related to health and disease, using clinical cases, lectures and cadaveric demonstrations. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

MEDS 330 Bionics: Solutions to Enable the Disabled
Units: 2 Terms Offered: FaSp Focused examination of medical bionics with emphasis on solutions that enable the disabled and detailed discussions and evaluations of the social and technological aspects of bionic medical devices. Instruction Mode: Lecture Grading Option: Letter

MEDS 335 Human Development: From Stem to Sternum
Units: 2 Terms Offered: Fa An introduction to transformation of a single cell into a mature organism. *Prerequisite:* BISC 220 or BISC 221. *Recommended Preparation:* BISC 320. Instruction Mode: Lecture Grading Option: Letter

MEDS 340 The Brain in Health and Disease
Units: 4 Terms Offered: Fa Study of the human brain with emphasis on structure-functional relationships, illustrative case studies, current imaging techniques, with illustrative laboratory exercises using specimens and slides. *Prerequisite:* BISC 220 or BISC 221; and CHEM 103 or CHEM 105a or CHEM 115a; *Recommended Preparation:* MEDS 310. Instruction Mode: Lecture Grading Option: Letter

MEDS 350 Neurochemistry of Addiction: Drugs, Brain, and Behavior
Units: 2 Terms Offered: FaSp The neurochemistry of psychiatric illness and addiction, introduction to brain and nervous system biochemistry, anatomy and disease states. Covers prescribed medications and drugs of abuse. *Prerequisite:* (BISC 220Lg or BISC 221Lg) and (CHEM 103Lgx or CHEM 105aLg or CHEM 115aLg) *Recommended Preparation:* BISC 320L or BISC 330L and MEDS 330 Instruction Mode: Lecture Grading Option: Letter

MEDS 355 Skeletal Biology and Pathology: No Bones About It
Units: 2 Terms Offered: FaSp Overview of the cellular make-up of the human skeleton, the functions of bones, clinical application of this knowledge towards bone-related diseases, and introduction to technological advances in orthopedic surgery. *Prerequisite:* BISC 220Lg or BISC 221Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 360 From Bench to Bedside: New Frontiers in Biomedical Research
Units: 2 Terms Offered: Fa A theoretical basis of laboratory approaches that help the biomedical or physician scientist in understanding the etiology of disease and targeting disease processes. *Prerequisite:* BISC 220 or BISC 221; and CHEM 103 or CHEM 105a or CHEM 115a; *Recommended Preparation:* BISC 320 or BISC 330. Instruction Mode: Lecture Grading Option: Letter

MEDS 370 Organ Failure: Non-Communicable Chronic Disease
Units: 2 Terms Offered: Sp An examination of frequently treated diseases with the greatest impact on society. Involvement of medical specialists and actual patients as guests. *Prerequisite:* MEDS 220 and BISC 220 or BISC 221; and CHEM 103 or CHEM 105a or CHEM 115a; *Recommended Preparation:* MEDS 320 or EXSC 301L. Instruction Mode: Lecture Grading Option: Letter

MEDS 380 Stem Cells: Fact and Fiction
Units: 2 Terms Offered: Sp Exploring how stem cells and regenerative medicine are portrayed in culture, the scientific underpinnings of what is currently possible, and visions into the future. *Prerequisite:* BISC 220 or BISC 221. Instruction Mode: Lecture Grading Option: Letter

MEDS 390 Special Problems
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MEDS 420 Clinical Pediatrics
Units: 2 Terms Offered: Sp Explores enduring and fascinating topics in Pediatrics through a modern lens, incorporating first hand patient-care experiences in clinics and hospitals, and didactic case-based discussions. *Prerequisite:* BISC 220Lg or BISC BISC 221Lg and MEDS 220Lg Instruction Mode: Lecture Grading Option: Letter

MEDS 425 Medical Examiner-Coroner: Investigating Death
Units: 2 Terms Offered: Fa Emphasizes the team-based approach used by forensic scientists, medical examiners and coroners to investigate the circumstances and determine the cause/manner of death. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220 Registration Restriction: Open only to sophomores, juniors, and seniors Instruction Mode: Lecture Grading Option: Letter

MEDS 440 Introduction to Surgical Principles
Units: 2 Terms Offered: Sp Introduction to the spectrum of surgical care, taught by surgeons, with the goal of developing an appreciation of the role that surgery plays in society. *Prerequisite:* BISC 220 or BISC 221; and CHEM 103 or CHEM 105a or CHEM 115a; and MEDS 220. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MEDS 445 Cancer: Introduction to Oncology in the Modern Era
Units: 2 Terms Offered: Fa Introduction to the spectrum of clinical and scientific issues surrounding contemporary cancer care – molecular diagnostics, genomic medicine, modern therapeutics, and community/patient engagement. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MEDS 450 OB/GYN: The Medicine and Surgery of Reproduction
Units: 2 Terms Offered: Fa An introduction to the practical realities of modern obstetric and gynecology practice from the point of view of practicing surgeon scientists at USC. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 460 Emergency Health Care
Units: 2 Terms Offered: FaSp Principles of emergency medical services, ranging from prehospital care and advanced life-saving, to minor injuries and illnesses. Interactive experience with ER physicians/emergency health care providers. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. *Recommended Preparation:* MEDS 260. Instruction Mode: Lecture Grading Option: Letter

MEDS 465 Wilderness and Survival Medicine
Units: 4 Terms Offered: Sp Medical physiology principles of people under "extreme" wilderness conditions, factors affecting remote medical care, and basic survival strategies, led by Emergency Medicine physicians. *Prerequisite:* BISC 220 or BISC 221; and MEDS 220. Instruction Mode: Lecture Grading Option: Letter

MEDS 490x Directed Research in Biomedical Science
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. *Prerequisite:* BISC 220 or BISC 221 and CHEM 103 or CHEM 105a or CHEM 115a; *Recommended Preparation:* MEDS 300, MEDS 360. Instruction Mode: Lecture Grading Option: Letter

Medical Sciences (500)

MEDS 500 Basic Concepts in Global Health
Units: 4 Terms Offered: FaSpSm Exploration of global health issues facing resource-poor societies; emphasizes contributing factors including behavioral and physiological bases, economic, social, and political context. Instruction Mode: Lecture Grading Option: Letter

MEDS 501 Critical Issues in Global Health
Units: 4 Terms Offered: FaSpSm Evaluation of government and non-government

organizations' new global health responses, and critical issues affecting global health including: environment, workforce conditions, obesity, nutrition, drugs, poverty. Instruction Mode: Lecture Grading Option: Letter

MEDS 502 Global Epidemiology of Diseases and Risk Factors
Units: 4 Terms Offered: FaSpSm Survey of major populations' crises and risk factors accounting for global health challenges. Evaluation of case studies of global health interventions and effective methodologies. Instruction Mode: Lecture Grading Option: Letter

MEDS 503L Core Principles System I
Units: 4 Terms Offered: FaSpSm Introduction to basic medical concepts and biological system functions; examination of core principles of science and medical treatment. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MEDS 504L Core Principles System II
Units: 4 Terms Offered: Fa Continuation of concepts from MEDS 503. Basic medical concepts and biological system functions; examination of core principles of science and medical treatment. *Prerequisite:* MEDS 503. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MEDS 510 Global Health Modules, Malaria
Units: 2 Terms Offered: FaSpSm Critical issues in international control and treatment of malaria. Exploration of biological and epidemiological fundamentals of human-parasite interaction, including dynamics of transmission among populations. Instruction Mode: Lecture Grading Option: Letter

MEDS 511 Global Health Modules, Tuberculosis
Units: 2 Terms Offered: FaSpSm Exploration of biological and epidemiological fundamentals of tuberculosis including dynamics of transmission among populations. Overview of clinical manifestations, diagnosis, and treatment of infections. Instruction Mode: Lecture Grading Option: Letter

MEDS 512 Global Health Modules, Maternal and Child Health I
Units: 2 Terms Offered: FaSpSm Biopsychosocial, cultural and economic aspects of women's health: pregnancy, childbirth, marriage. Examination of health promotion and policy efforts to improve women's health globally. Instruction Mode: Lecture Grading Option: Letter

MEDS 513 Global Health Modules, Maternal and Child Health II
Units: 2 Terms Offered: FaSpSm In-depth examination of women's health issues; health promotion and policy efforts to improve women's health globally. Instruction Mode: Lecture Grading Option: Letter

MEDS 514 Global Health Modules, Tropical Disease
Units: 2 Terms Offered: FaSpSm Examination of prevalent tropical diseases: epidemiology, clinical manifestations, treatment, impact on economies of tropical countries. Key issues related to these diseases; World Health Organization responses. Instruction Mode: Lecture Grading Option: Letter

MEDS 515 Global Health Modules, HIV/AIDS
Units: 2 Terms Offered: FaSpSm HIV epidemiology, basic biology of transmission and pathophysiology, associated opportunistic infections, and challenges to providing care in the developing world, including government responses. Instruction Mode: Lecture Grading Option: Letter

MEDS 516 Cultural Competence in Health and Medicine
Units: 2 Terms Offered: FaSpSm Practical approach to the development of professional skills for providing culturally sensitive clinical health services to ethnically and linguistically diverse patients. Instruction Mode: Lecture Grading Option: Letter

MEDS 517 Health and Human Rights
Units: 2 Terms Offered: FaSpSm The relationship between health and human rights, and the study of human rights issues relevant to health care professionals. Instruction Mode: Lecture Grading Option: Letter

MEDS 518 Children in Emergency Situations: Global Policies and Programs
Units: 2 Terms Offered: Sp Focuses on children in emergency situations, including natural and man-made disasters, such as floods, earthquakes, conflicts, or war, with an emphasis on the poorest and most vulnerable children. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 519 Global Oral Health
Units: 2 Terms Offered: FaSpSm Better understand the key issues impacting global oral health, how better care can help reduce the disease prevalence, and ways to prepare the next generation of global health leaders to address the key issues. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 520 Medical Spanish for the Health Professions
Units: 2 Terms Offered: FaSpSm Spanish language course for students planning to enter the health professions. Registration Restriction: Open only to digital social media majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 521 Emerging and Re-emerging Infectious Diseases
Units: 2 Terms Offered: FaSpSm Exploration of the threat of major worldwide epidemics and diseases with a focus on the recent emergence of new plagues. Instruction Mode: Lecture Grading Option: Letter

MEDS 522 Human Hepatitis Viruses
Units: 2 Terms Offered: FaSpSm Human hepatitis and the viruses that cause them, how they are spread, symptoms, treatment, and prevention. Instruction Mode: Lecture Grading Option: Letter

MEDS 523 Global Toxicity and Carcinogenesis
Units: 2 Terms Offered: FaSpSm Covers the occurrences of toxic substances and the toxicity/diseases they cause, and chemical carcinogens and the types of cancer they cause worldwide. Instruction Mode: Lecture Grading Option: Letter

MEDS 524 Grantwriting for Non-Government Organizations
Units: 2 Terms Offered: FaSpSm Instruction on the process and methods of writing effective grants from identifying appropriate funders to implementing project upon receipt of funding award. Instruction Mode: Lecture Grading Option: Letter

MEDS 525 Global Mental Health
Units: 2 Terms Offered: FaSpSm Examines the major mental health diagnoses from clinically relevant perspectives and their prevalence in specific geographical regions around the world. Instruction Mode: Lecture Grading Option: Letter

MEDS 526 Alternative and Eastern Medicine: A Biomedical Approach
Units: 2 Terms Offered: FaSpSm Exploration of issues of complementary and alternative medicine (CAM) and traditional Eastern medical views of health and illness from a Western biomedical perspective. Instruction Mode: Lecture Grading Option: Letter

MEDS 527 Zoonotic Infectious Diseases
Units: 2 Terms Offered: SpSm Background information on a group of infections that are transmitted via animal contact. Understanding of the epidemiology, clinical manifestations, treatment, and impact of the diseases on the economies of the countries in which they are found. *Recommended Preparation:* MEDS 500. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

MEDS 528 Global Health Modules, Sexually Transmitted Infections
Units: 2 Terms Offered: SpSm Examines clinically relevant perspectives from distinguished international authors on STI issues and the devastating effect on particular geographical regions around the world. Instruction Mode: Lecture Grading Option: Letter

MEDS 529 Refugee Health Care
Units: 2 Introduction to refugee health care and life events which impact health. Discuss medical needs of long-term displaced populations with specific case studies. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

MEDS 530a Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm Fundamentals of physiology, chemistry, anatomy, biochemistry and microbiology, as well as pharmacological issues, mathematical basis of lab instruments or techniques, and computational modeling. Instruction Mode: Lecture Grading Option: Letter

MEDS 530b Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm The basics of human anatomy (gross anatomy,

histology, radiographic anatomy), physiology (cellular physiology, organ system areas) and pathology (general, systemic, cellular pathology). Instruction Mode: Lecture Grading Option: Letter

MEDS 530c Foundation of Medicine: Anatomy, Physiology, and Pathology
Units: 4 Terms Offered: FaSpSm Continues material from MEDS 530a and MEDS 530b, covering human anatomy (gross anatomy, histology, radiographic anatomy), physiology (cellular physiology, organ systems) and pathology (general, systemic, cellular pathology). Instruction Mode: Lecture Grading Option: Letter

MEDS 531 The Politics of Global Health
Units: 2 Terms Offered: FaSpSm Examines the impact of politics on global health progress and declines. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 532 Non-communicable Diseases
Units: 2 Terms Offered: FaSpSm A conceptual framework for understanding global challenges faced in the management of non-communicable diseases, including heart disease, diabetes, chronic lung disease, and cancer. Instruction Mode: Lecture Grading Option: Letter

MEDS 533 Emerging Cell-based Therapeutics
Units: 2 Examination of microbial and human cells as versatile therapeutic engines, including their novel applications: autologous and allogenic immunotherapies, stem cell technologies, and human microbiome transplantations. *Recommended Preparation:* Two semesters of Introductory Biology, Cell Biology, and Genetics Instruction Mode: Lecture Grading Option: Letter

MEDS 534 Global Biotechnology Entrepreneurship
Units: 2 Examination of the entrepreneurial process in biotechnology, including: industry overview, idea generation, business plan formulation, intellectual property protection, funding, personnel management, and regulatory body interaction. Instruction Mode: Lecture Grading Option: Letter

MEDS 535 Culture, Lifestyle, and Health
Units: 2 Terms Offered: FaSpSm Overview of national and international variations in health status indicators in regard to cultural and lifestyle differences. Instruction Mode: Lecture Grading Option: Letter

MEDS 550 Clinical Medicine and Health Care Reform in Taiwan
Units: 2 Terms Offered: Sm Two-week in-depth study abroad in Taipei, Taiwan, focused on understanding Taiwan's health care system, health priorities, and needs. Instruction Mode: Lecture Grading Option: Letter

MEDS 551 Clinical Medicine and Socioeconomic Factors in Uganda
Units: 2 Terms Offered: Sm Two-week course that provides students with hands-on experience in clinical medicine/public health and exposure to the various socioeconomic factors impacting health in the developing world. Instruction Mode: Lecture Grading Option: Letter

MEDS 552 Clinical Medicine and Health Care Reform in Jordan
Units: 2 Terms Offered: Sm A two-week, in-depth study abroad course that explores the economic, social, political, and health issues in the Middle East region and specifically Jordan. Instruction Mode: Lecture Grading Option: Letter

MEDS 553 Clinical Medicine and Health Care Challenges in India
Units: 2 Terms Offered: Sm Two-week study abroad course that explores the health dynamics and health care settings of India. Instruction Mode: Lecture Grading Option: Letter

MEDS 554 Clinical Medicine and Healthcare Delivery in Panama
Units: 2 Terms Offered: SpSm A two-week course providing students with hands-on experience in the practice of rural medicine as they gain exposure to the various socio-economic factors present in Bocas del Toro, Panama. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 510, MEDS 511, MEDS 514, MEDS 515. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 555 Clinical Medicine and Healthcare Access in Honduras
Units: 2 Terms Offered: Sm A three-week hybrid course providing students with hands-on experience in clinical medicine/ public health and exposure to the various socio-economic factors impacting healthcare delivery in the developing world, specifically in Honduras. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 513, MEDS 514, MEDS 515. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 556 Global Health Field Study, New York
Units: 2 Terms Offered: Sp Two-week course providing students with a solid understanding of the United Nations' major agencies influential in global health, their mandate, their strengths and challenges. Includes field visit to selected UN organizations all located in NYC. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 557 Clinical Medicine and Healthcare Dynamics in Denmark
Units: 2 Terms Offered: SpSm Two-week course that provides a venue for careful examination and assessment of the economic, social, political, and specific health issues currently faced by countries in the European Region. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 558 Clinical Medicine and Translational Research in Argentina
Units: 2 Terms Offered: SpSm Two week in-depth course examining and assessing the economic, social, political and unique health issues faced by the Latin- American Region especially Argentina. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 559 Clinical Medicine and Healthcare Determinants in China
Units: 2 Terms Offered: SpSm A two-week intensive course abroad in Shanghai, China, focused on understanding clinical realities of Chinese medicine, health determinants and healthcare delivery. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 515, MEDS 535. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 560 Innovating in Healthcare in Malaysia
Units: 2 Terms Offered: Sm Two-week study abroad course in Malaysia that examines the capacity of local communities to address health needs and to address health priorities with innovation. Instruction Mode: Lecture Grading Option: Letter

MEDS 561 Global Healthcare Development and Practices in Nepal
Units: 2 Terms Offered: Sm Two-week course providing a multi-faceted understanding of the delivery of essential services to underserved populations, particularly women and children, in the challenging Nepalese healthcare landscape. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 513, MEDS 518. Registration Restriction: Open only to Global Medicine majors. Instruction Mode: Lecture Grading Option: Letter

MEDS 562 Healthcare in Thailand
Units: 2 Terms Offered: Sm Two-week course that provides students opportunities to analyze and gain exposure to public health and health systems infrastructure in Thailand. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 515, MEDS 535. Instruction Mode: Lecture Grading Option: Letter

MEDS 563 Global Healthcare Development and Social Justice in Italy
Units: 2 Terms Offered: Sm A two-week course analyzing global healthcare access and delivery through the lens of development economics, social justice, health advocacy, and Italian medical history and research. Instruction Mode: Lecture Grading Option: Letter

MEDS 564 Health Behavior and Healthcare in Germany
Units: 2 Terms Offered: Sm Two-week course that exposes students to public health and health systems infrastructure in Germany and Switzerland, including analysis of health behaviors. *Recommended Preparation:* MEDS 500, MEDS 501, MEDS 515, MEDS 535. Instruction Mode: Lecture Grading Option: Letter

MEDS 566 Healthcare in Fiji
Units: 2 Two-week study abroad course in Fiji that examines the public health and healthcare systems of Fiji and its neighbors. *Recommended Preparation:* MEDS 500

and MEDS 501 and MEDS 515 and MEDS 535 Instruction Mode: Lecture Grading Option: Letter

MEDS 567 Global Nutrition
Units: 2 A systematic survey of basic and clinical nutrition that provides an overview of critical public health-nutrition issues in both the developing world and industrial society. *Recommended Preparation:* general chemistry, biological chemistry, and/or physiology Instruction Mode: Lecture Grading Option: Letter

MEDS 568 Global Issues: Aging
Units: 2 Terms Offered: FaSpSm Examination of medical issues in aging through a nation-specific survey of how various countries treat the elderly in health policy and healthcare. Instruction Mode: Lecture Grading Option: Letter

MEDS 569 Interdisciplinary Medical Literature Evaluation
Units: 2 Terms Offered: FaSpSm Focus on the importance of evidence-based practice in healthcare. Development of critical thinking and analysis of scientific literature to enable the identification and appropriate implementation of medical, cultural, and ethical interventions in healthcare, particularly through interdisciplinary collaboration. Instruction Mode: Lecture Grading Option: Letter

MEDS 570 Introduction to Narrative Medicine
Units: 2 Terms Offered: FaSpSm Introduction to the field of narrative medicine. Examination of theoretical and literary texts and the practice of narrative and reflective writing to enhance narrative competency and gain an understanding of the role of narrative in people's experiences with illness. Instruction Mode: Lecture Grading Option: Letter

MEDS 571 Primary, Emergency, and Cancer Care in Urban Tanzania
Units: 2 Terms Offered: FaSpSm Two-week study abroad course investigating the spectrum of healthcare, from basic primary care, through acute care, to specialty services, in urban Tanzania. Instruction Mode: Lecture Grading Option: Letter

MEDS 572 Medicine in Film, Television, and the Media
Units: 2 Terms Offered: Sm Introduction to the role that film, television, and the media play in shaping public perceptions of health, including strategies to reach populations with medical insight in non-traditional ways. Instruction Mode: Lecture Grading Option: Letter

MEDS 573 Global Health Entrepreneurship - Ideas into Innovations
Units: 2 Terms Offered: Sm Fundamentals of entrepreneurship applied to global health issues and programming including: idea conception, marketing, global health ethics, and other components related to business start-ups. Instruction Mode: Lecture Grading Option: Letter

MEDS 574 Rural Health in South Africa
Units: 2 Terms Offered: FaSpSm Two-week study abroad course exploring the complexities of the delivery of health care in rural South Africa. Instruction Mode: Lecture Grading Option: Letter

MEDS 580 Interprofessional Team Dynamics in Healthcare
Units: 4 Terms Offered: FaSpSm Examination of typical composition and function of interprofessional healthcare teams. Exploration of roles of team members and purview of care issues and common challenges, including medication management, inpatient/outpatient decision making, and care plan implementation. Instruction Mode: Lecture Grading Option: Letter

MEDS 581 Case Studies in Interprofessional Healthcare
Units: 4 Terms Offered: FaSpSm Survey of the specific roles each member of an interprofessional health team plays in the provision of care, based on their professional training. Application of diverse health professional expertise to case studies in healthcare. Instruction Mode: Lecture Grading Option: Letter

MEDS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 597a Health Technology Internship
Units: 1 Terms Offered: FaSpSm Internship course on the use of new technology based on sensors and wireless communications to the healthcare industry. Registration Restriction: Only open to M.S., Electrical Engineering (Wireless Health Technology) students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MEDS 597b Health Technology Internship
Units: 1 Terms Offered: FaSpSm Internship course on the use of new technology based on sensors and wireless communications to the healthcare industry. Continues material from GM 597a. Registration Restriction: Only open to M.S., Electrical Engineering (Wireless Health Technology) students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MEDS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Lecture and discussion focused on specific topics within global medicine. Course topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

Molecular Microbiology and Immunology

MICB 500L Introductory Medical Microbiology
Units: 4 Terms Offered: Irregular A survey of microorganisms which cause human infectious diseases including mechanisms of pathogenesis, principles of antibiotic usage, pertinent microbial genetics; lectures, laboratories and demonstrations. *Prerequisite:* one year general biology, one semester biochemistry. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MICB 501 Introduction to Immunology
Units: 1 Terms Offered: Irregular Basic introduction into molecular, cellular, and clinical immunology for second year medical students and graduate students in Microbiology. Duplicates Credit in BISC 450. Instruction Mode: Lecture Grading Option: Letter

MICB 502 Molecular and Cellular Immunology
Units: 2 Max Units: 8.0 Terms Offered: Fa Specific topics to be scheduled on a yearly and rotating basis. *Prerequisite:* MICB 501. Instruction Mode: Lecture Grading Option: Letter

MICB 503 Current Topics in Immunology
Units: 1 Max Units: 8.0 Terms Offered: Irregular Discussion forum on the diverse areas of research which constitute modern immunology. *Prerequisite:* MICB 501. Instruction Mode: Lecture Grading Option: Letter

MICB 504 Molecular Biology of Cancer
Units: 4 Terms Offered: Sp (Enroll in INTD 504)

MICB 522 Infection and Host Responses
Units: 4 Terms Offered: Sp (Enroll in INTD 522)

MICB 531 Cell Biology
Units: 4 (Enroll in INTD 531)

MICB 542 Animal Virology
Units: 2 Max Units: 6.0 Terms Offered: Irregular Virus structure and chemistry; virus-cell interactions; aspects of virus genetics; molecular biology; pathogenesis, immunology, and evolution of viral infections. Instruction Mode: Lecture Grading Option: Letter

MICB 549 Student Seminar Series
Units: 1 Max Units: 8.0 Terms Offered: FaSp Microbiology students will present research seminars describing their thesis progress. Instruction Mode: Lecture Grading Option: Letter

MICB 550 Microbial Pathogenesis
Units: 2 Terms Offered: Irregular Critical discussion of recent developments in pathogenesis of select microbial, viral and parasitic agents with particular emphasis on molecular factors and their synergistic (antagonistic) actions. Instruction Mode: Lecture Grading Option: Letter

MICB 551 Procaryotic Molecular Genetics
Units: 4 Terms Offered: Sp Macromolecular processes and their regulation in procaryotes; DNA replication, transcription, and post-transcriptional events in general and as related to operons, phage biology, and eucaryotic organelles. Instruction Mode: Lecture Grading Option: Letter Crosslisted as BIOC-551

MICB 560 Recent Advances in Microbiology
Units: 1 Max Units: 6.0 Terms Offered: Irregular Intensive examination of selected topics in microbiology. Student presentations and critiques. Required for all graduate students. Instruction Mode: Lecture Grading

Option: Letter

MICB 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

MICB 570 Microbiology Research Seminar
Units: 1 Max Units: 10.0 Terms Offered: FaSpSm Critical discussion of current research topics. Students present published and unpublished research results for discussion and critique. *Prerequisite:* current enrollment in Microbiology PhD program. Instruction Mode: Lecture Grading Option: Letter

MICB 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

MICB 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MICB 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MICB 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MICB 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MICB 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MICB 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Marketing

MKT 385x Marketing of Creative Disruption and Innovation
Units: 4 Terms Offered: Fa Learn to use fundamental principles of marketing, branding, and consumer behavior to successfully market disruptively innovative products including goods, services, and ideas. Duplicates Credit in BUAD 307. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-385

MKT 402 Research Skills for Marketing Insights
Units: 4 Terms Offered: FaSp Creating and interpreting qualitative and quantitative research to gain insight into marketplace challenges, such as testing advertising, identifying new product opportunities, and understanding customer decisions. *Prerequisite:* BUAD 307 or MKT 385x *Recommended Preparation:* BUAD 310 or COMM 301 or PSYC 274 or MATH 116 Duplicates Credit in the former MKT 470 Instruction Mode: Lecture Grading Option: Letter

MKT 405 Advertising and Promotion Management
Units: 4 Terms Offered: FaSpSm Role of advertising in the marketing mix: determining objectives, strategies, and plans from situation analysis through research and creative processes, media selection, and sales promotion. *Prerequisite:* BUAD 307 or COMM 200 or COMM 302 or MKT 385x or PR 340 Instruction Mode: Lecture Grading Option: Letter

MKT 406 Practicum in Advertising and Promotion Design
Units: 4.0 Terms Offered: Sp Provides real-life marketing experience as a member of a student managed marketing/advertising/promotions agency. Work with a client organization on the design of an advertising/promotions campaign. Requires market research, creative design, implementation planning, and client presentation. *Prerequisite:* MKT 405 Instruction Mode: Lecture Grading Option: Letter

MKT 410 Professional Selling
Units: 4 Terms Offered: FaSp Learn the principles of business to business selling and its function in marketing strategy and the marketing mix; explore professional selling as a career option. *Prerequisite:* BUAD 307 or MKT 385. Registration Restriction: Open only to sophomores, juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

MKT 415 Sales Force Management
Units: 4 Terms Offered: FaSp Studies the role of managing the selling function as part of the marketing mix; planning, implementing, and controlling sales force operations; critical issues in selecting, training, compensating and supervising salespeople. Instruction Mode: Lecture Grading Option: Letter

MKT 425 Marketing in a Digital World
Units: 4 Terms Offered: FaSp An introduction to the changing world of a connected consumer. Understanding consumer online, social media and mobile behavior using marketing analytics and strategic tools. *Prerequisite:* BUAD 307 or MKT 385x Registration Restriction: Open only to sophomore, junior and senior students Instruction Mode: Lecture Grading Option: Letter

MKT 430 Retail Management
Units: 4 Terms Offered: Fa Introduction to the functions of retail management including location, buying, merchandise management, layout, pricing, and promotion; application of concepts to various retail institutions. Instruction Mode: Lecture Grading Option: Letter

MKT 440 Marketing Analysis and Strategy
Units: 4 Terms Offered: FaSp Synthesis of concepts and applications relating to the analysis of market opportunities and the development of product, promotion, distribution, pricing strategies. Recommended during student's final semesters. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 445 New Product Development and Branding
Units: 4 Terms Offered: FaSp This class examines how new product ideas are developed, test marketed, and, ultimately, brought to the marketplace. Issues about why new products fail and how brand images are managed in the marketplace are discussed. Legal aspects of brand management such as trademark protection and infringement are also addressed. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 446L Practicum in New Product Development
Units: 4 Terms Offered: Sp Provides experience in a student managed product team. Work with R&D organization to design a new product or technology. Involves market research and implementation planning. *Prerequisite:* MKT 445. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

MKT 450 Consumer Behavior and Marketing
Units: 4 Terms Offered: FaSp Examines the relationship of consumer behavior to acquisition, usage, and disposition of products and the psychological, social and cultural influences that affect these decisions. Instruction Mode: Lecture Grading Option: Letter

MKT 463 Pricing Strategies
Units: 4 Examination of role of pricing decisions; innovative pricing theories; Internet and technology impact on pricing, price negotiations, customized pricing, price image and reference prices. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 465 Global Marketing Management
Units: 4 Terms Offered: FaSp Product and service mix in multinational business; promotional alternatives; channel of distribution systems; pricing policies and legal barriers; multinational marketing opportunities; problems and information sources. Instruction Mode: Lecture Grading Option: Letter

MKT 499 Special Topics
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Current developments in the field of Marketing; topics to be selected each semester. *Prerequisite:* BUAD 307 or MKT 385. Instruction Mode: Lecture Grading Option: Letter

MKT 512 Customer Insights and Analysis
Units: 3 Terms Offered: FaSp Use of marketing research techniques and technologies such as databases and statistical tools to collect, analyze and act upon customer information. *Prerequisite:* GSBA 509 or the former GSBA 509a or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 525 Consumer Behavior
Units: 3 Terms Offered: FaSpSm Theories and applications of consumer behavior in marketing; psychological, social, cultural and ethnic factors influencing consumer behavior. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 526 Advertising and Social Media Strategy
Units: 3 Terms Offered: FaSp Helps students understand advertising and social media; critique, develop, and test creative ads; place ads in media; and design, budget, and evaluate profitability of strategies. *Prerequisite:* GSBA 509 or GSBA 528 or GSBA 509a Instruction Mode: Lecture Grading Option: Letter

MKT 528 Sales Management: The Art and Science of Sales
Units: 3 Terms Offered: FaSp Emphasis on creating a sales strategy, planning and delivery of sales presentations, and techniques to persuade people to change their opinions in face-to-face meetings. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 530 New Product Development
Units: 3 Terms Offered: FaSpSm Systematic approach to product development and management; processes, techniques, and concepts firms use to develop, test, and introduce products and to manage products over their lifecycle. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 531 Services Marketing Strategy
Units: 3 Analysis and development of sound marketing strategies and an integrated service management plan for service organizations. Examination of best practices among leading service providers. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 533 Branding Strategy
Units: 1.5, 3 Terms Offered: FaSpSm Comprehensive treatment of the behavioral foundations of brands and brand development. Exploration of alternative branding strategies and marketing tools for brand development. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 534 Retail Strategy
Units: 3 Terms Offered: FaSp Frameworks for analysis of retail strategy and functions of a retail firm, including buying, merchandise management, pricing, promotion, and visual merchandising; application of concepts through case studies and student projects. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 535 Business-to-Business Marketing Management
Units: 1.5, 3 Terms Offered: FaSp Business-to-business marketing strategies (as opposed to consumer targeted marketing) including product management, pricing, market sizing, and other issues of importance for professional marketers. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 536 Pricing Strategies
Units: 3 Terms Offered: Fa The complexity of pricing is increasing due to globalization and the Internet. This course will develop a framework for developing strategic pricing decisions. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 543 Market Demand and Sales Forecasting
Units: 3 Terms Offered: FaSp New product concept testing and life cycle forecasting, pricing and advertising response forecasting, consumer purchase intentions, judgmental marketing decision models, time series and regression analysis, computer methods. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 555 Marketing Channels
Units: 1.5, 3 Terms Offered: Sp Examination of strategic decision making in marketing channels. Intensity of distribution, vertical integration, how roles are formulated, types of intermediaries, and multiple channels of distribution. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 556 Internet Marketing
Units: 3 Terms Offered: FaSp All aspects of Internet marketing. Internet as a tool for marketing communication, sales and distribution, customer management. Role of paid advertising, search engines, Website design. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 560 Marketing Strategy
Units: 3 Terms Offered: FaSpSm Design and implementation of marketing strategies applied to domestic and global business challenges that span multiple industries complimented by a consumer packaged goods marketing strategic plan project. *Prerequisite:* GSBA 509 or GSBA 528 and the former GSBA 509a Instruction Mode: Lecture Grading Option: Letter

MKT 565 Global Marketing
Units: 3 Terms Offered: FaSp Variations in markets and trade patterns around the globe; product development and adaptation, pricing, promotion, and distribution issues across national cultures and international markets. *Prerequisite:* GSBA 509 or GSBA 529 Instruction Mode: Lecture Grading Option: Letter

MKT 566 Marketing Analytics
Units: 3 Terms Offered: FaSp Applications and models of marketing-related data analyses to the development of data-driven marketing strategies and making data-driven marketing decisions. Registration Restriction: Online registration open only to graduate accounting and business students Duplicates Credit in former DSO 566 Instruction Mode: Lecture Grading Option: Letter Crosslisted as DSO 566

MKT 580 Fostering Creativity
Units: 1.5, 3 Terms Offered: Sp An exploration of skills and practices (e.g., getting out of one's comfort zone, discovering one's inner-critic) necessary to develop and cultivate one's personal creativity. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MKT 585 Marketing Radical Innovation
Units: 3 Terms Offered: Fa Study and application of new technology to create new business models, products, and services in world economies. Group projects focused on practical applications of concepts. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 586 Fashion, Luxury and Lifestyle Marketing
Units: 3.0 Terms Offered: FaSp Examination of marketing issues and challenges within a variety of business settings in the fashion, luxury goods and lifestyle sectors in the global marketplace. *Prerequisite:* GSBA 509 or GSBA 528 or the former GSBA 509a Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

MKT 589 CMO on Shareholder Value
Units: 1.5 Terms Offered: Fa Provide an understanding of the role of the Chief Marketing Officer (CMO) in a variety of industries and how he or she influences shareholder value. *Prerequisite:* GSBA 509 or GSBA 509A or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 590 Directed Research

Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 592 Field Research in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12 Terms Offered: FaSpSm Individual or team projects studying the marketing practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. Graded CR/NC. *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 593 Independent Research in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 595 Internship in Marketing
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the field of marketing. (Curricular Practical Training.) Graded CR/NC. *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to master accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 596 Research Practicum in Marketing
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Marketing Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 597 Consulting Project in Marketing
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Graded CR/NC *Recommended Preparation:* completion of required MBA, MAcc, MBT or MSMKT course work Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 598 Special Topics
Units: 1, 1.5, 2 or 3 Max Units: 9.0 Terms Offered: FaSpSm Examination of current literature and emerging and timely topics in marketing, social marketing, consumerism, macro-marketing, marketing of individuals, organizations, and ideas. *Prerequisite:* the former GSBA 509a or GSBA 520 or GSBA 528. Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 9 Terms Offered: FaSpSm Examination of current literature and emerging and timely topics in marketing, social marketing, consumerism, macromarketing, marketing of individuals, organizations, and ideas. *Prerequisite:* GSBA 509 or GSBA 528 Instruction Mode: Lecture Grading Option: Letter

MKT 613 Marketing Models in Consumer and Business-to-Business Markets
Units: 3 Terms Offered: Fa Modeling research on marketing with a focus on channel structure, franchising and sales force compensation, innovation and diffusion, inter-store composition, sales promotions, and market segmentation. Duplicates Credit in former MKT 605 and former MKT 613a. Instruction Mode: Lecture Grading Option: Letter

MKT 614 Advanced Research Methods in Marketing
Units: 3 Terms Offered: Sp Applications of advanced research techniques and designs to marketing problems; review and critique of current literature; development and defense of student's own research proposal. Duplicates Credit in former MKT 661. Instruction Mode: Lecture Grading Option: Letter

MKT 615 Strategic and Marketing Mix Models
Units: 3 Terms Offered: Sp Modeling research on marketing with a focus on discrete choice models, consideration set models, purchase timing models, accounting for consumer heterogeneity, Bayesian models, dynamic models of consumer choice, market entry effects, product quality, advertising and carry over effects, price, and promotion. Duplicates Credit in former MKT 605 and former MKT 613b. Instruction Mode: Lecture Grading Option: Letter

MKT 616 Consumer Behavior Theory and Research
Units: 3 Terms Offered: FaSp Behavioral research and theory on consumer behavior with a focus on emotions, categorization, knowledge, inferences, attitudes, social influences and environmental influences on buying and consumption. Registration Restriction: Open only to doctoral students Duplicates Credit in former MKT 602 and former MKT 612a Instruction Mode: Lecture Grading Option: Letter

MKT 618 Consumer Behavior and Decision Making
Units: 3 A foundation in judgment, decision-making, and choice aspects of consumer behavior and business. Topics include heuristics and biases, information acquisition, time perception, and inter-temporal choice. Instruction Mode: Lecture Grading Option: Letter

MKT 620 Advanced Quantitative Models in Marketing
Units: 3 Terms Offered: FaSp Techniques for building and analyzing advanced quantitative analytical models. Develop and estimate various state-of-the-art models of consumer choice and firm decisions. Registration Restriction: Open only to Doctoral students. Instruction Mode: Lecture Grading Option: Letter

MKT 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Marketing. Presentations by faculty, visiting researchers, and advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MKT 699 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary marketing. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

Management and Organization

MOR 252 The Art of Case Analysis and Presentation
Units: 2 Terms Offered: FaSp (Enroll in BUCO 252)

MOR 331x Influence and Collaboration
Units: 2 Terms Offered: FaSp Issues involved in establishing working relationships, directing the work of others, delegating, enrolling others in one's vision and direction. Collaborative and team behavior. Conflict management. Duplicates Credit in MOR 431. Not for credit toward business majors or minors. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD-331

MOR 385gm Business, Government and Society
Units: 4 Terms Offered: Sp Explores business-government-society interaction. Examines how diverse interests and identities (social class, race, nationality and gender) affect the conduct and organization of business. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

MOR 421 Social and Ethical Issues in Business
Units: 4 Terms Offered: Sp The free-enterprise system examined from the perspective of modern corporations and their critics; business ethics in relation to personal/external values. *Prerequisite:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 431 Interpersonal Competence and Development
Units: 4 Terms Offered: Sp An exploration of the nature of relationships at work; focus on analytical skills and self-assertion necessary to have effective, rewarding relationships. Duplicates Credit in MOR 331x Instruction Mode: Lecture Grading Option: Letter

MOR 451 Mastering Decision Making
Units: 4 Terms Offered: Fa Understand the nature, causes, and consequences of deviations from rational choice. Develop frameworks for controlling biases, improving your decision-making, and influencing other people's decisions. Instruction Mode: Lecture Grading Option: Letter

MOR 461 Design of Effective Organizations
Units: 4 Terms Offered: Fa Designing management systems and practices that lead to organizational excellence; techniques for organizational change. Instruction Mode: Lecture Grading Option: Letter

MOR 462 Management Consulting
Units: 4 Terms Offered: FaSp Role of professional consultants; data gathering methods; consulting approaches from strategy, finance, operations, information systems, marketing, and human resources; action planning; ethical and career issues. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 463 Organization Change and Development
Units: 4 Terms Offered: Sp Theories and methods of introducing change in organizations. Techniques for analyzing organizations, developing change programs, and implementing changes. Ethical and career issues of change management. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 465 Dynamic Strategies for the Business Lifecycle
Units: 4 Terms Offered: Sp Theories and methods for analyzing and developing strategy. Fundamental tools for strategic planning. Advanced methods for analyzing industries and competitors, and determining the scope of the firm. Instruction Mode: Lecture Grading Option: Letter

MOR 466 Business and Environmental Sustainability
Units: 4 Terms Offered: Sp Focuses on how businesses both contribute to and can help address environmental sustainability challenges and the role of the broader political-economy in shaping that interaction. *Recommended Preparation:* university-level course in economics. Duplicates Credit in former ENST 450. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-466

MOR 467 Strategic Management of Innovation
Units: 4 Terms Offered: Sp How firms in different industries manage strategic innovation for competitive advantage. Analysis of industry dynamics. Crafting and implementing innovation strategy. Registration Restriction: Open only sophomores, juniors and seniors Instruction Mode: Lecture Grading Option: Letter Crosslisted as ACAD 467

MOR 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 (Enroll in COMM 468)

MOR 469 Negotiation and Persuasion
Units: 4 Terms Offered: FaSp Theories, strategies, and ethics underlying negotiation and persuasion in contemporary organizations and societies. Emphasizes the knowledge and skills needed for effective negotiation and persuasion. Instruction Mode: Lecture Grading Option: Letter

MOR 470 Global Leadership
Units: 4 Terms Offered: Fa Major theories and practices of leading people in multinational firms. Skills for facilitating cooperation, communication, and motivation among people from different cultures. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 471 Managing and Developing People
Units: 4 Terms Offered: Fa Management of the human resource function for organizational performance. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 472 Power, Politics and Influence
Units: 4 Terms Offered: FaSp Theories and practices about how power, politics and influence affect organizational life. Knowledge and skills for diagnosing and managing these features of an organization. Instruction Mode: Lecture Grading Option: Letter

MOR 473 Designing and Leading Teams
Units: 4 Terms Offered: Sp Theories and practices for developing and leading teams. Skills for creating team structures and facilitating team processes. Knowledge for diagnosing team problems and devising solutions. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 476a The Art of Ethical Leadership
Units: 1 Terms Offered: Fa Development of leadership and ethical reasoning skills critical to addressing pressing global challenges. a: Introduction to Leadership; b: Leadership in the Social Sector; c: Leadership in Politics and Public Service; d: Leadership of Organizations. Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 476b The Art of Ethical Leadership
Units: 1 Terms Offered: Sp Development of leadership and ethical reasoning skills critical to addressing pressing global challenges. a: Introduction to Leadership; b: Leadership in the Social Sector; c: Leadership in Politics and Public Service; d: Leadership of Organizations. *Prerequisite:* MOR 476a Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 476c The Art of Ethical Leadership
Units: 1 Terms Offered: Fa Development of leadership and ethical reasoning skills critical to addressing pressing global challenges. a: Introduction to Leadership; b: Leadership in the Social Sector; c: Leadership in Politics and Public Service; d: Leadership of Organizations. *Prerequisite:* MOR 476b Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 476d The Art of Ethical Leadership
Units: 1 Terms Offered: Sp Development of leadership and ethical reasoning skills critical to addressing pressing global challenges. a: Introduction to Leadership; b: Leadership in the Social Sector; c: Leadership in Politics and Public Service; d: Leadership of Organizations. *Prerequisite:* MOR 476c Registration Restriction: Open only to students in the USC Warren Bennis Scholars Program. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 479 The Business of Sports
Units: 4 Terms Offered: Sp Addresses the business side of the sports industry; examines professional sports franchises, amateur athletics, and collegiate sports and how they relate to corporate America, the media, and the public sector. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 492 Global Strategy
Units: 4 Terms Offered: FaSp Examination of corporate strategy practices in an international context. Effects of cultures, political systems, markets, and economic systems on developing effective global strategies. Instruction Mode: Lecture Grading Option: Letter

MOR 495 International Management and Internship
Units: 2, 3, 4 International internship. Develop general/cross-cultural knowledge and management skills, gain an understanding of cross-cultural issues, and develop insights working in international businesses. *Recommended Preparation:* BUAD 304. Instruction Mode: Lecture Grading Option: Letter

MOR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics reflecting current trends and recent developments in organizational behavior, business strategy and organizational theory. Instruction Mode: Lecture Grading Option: Letter

MOR 542 Strategic Issues for Global Business
Units: 3 Terms Offered: Fa Globalization strategies from entry to maturity; alternative approaches from going alone to alliances; strategy implementation issues in different cultures and political systems. Cases, videos and speakers. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

MOR 543 Leading with Mindfulness and Compassion
Units: 1.5 Terms Offered: Sp Explores mindfulness (non-judgmental awareness), compassion and their relationship to leadership. Focus is on clarity in productivity using evidence-based cases and direct practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 545 Corporate Governance and Board Leadership
Units: 1.5, 3 Terms Offered: Fa Corporate Governance is the system by which corporations are directed and controlled. Includes rights and responsibilities of stakeholders; rules and procedures for decision-making. Registration Restriction:

Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

MOR 548 Competitive Advantage Through People
Units: 3 Terms Offered: Sp How firms develop employee talent as a source of competitive advantage. Strategic implications of contemporary practices in recruitment, work systems, training, compensation, and employee relations. Speakers and cases. Registration Restriction: Online registration open to only graduate business and accounting students. Instruction Mode: Lecture Grading Option: Letter

MOR 551 Human Capital Performance and Motivation
Units: 3 Terms Offered: Sp Frameworks for enhancing human capital performance motivation at work, including pay/incentive systems, job design, employee involvement, leadership behavior and self-managed teams. Cases, project and speakers. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 554 Leading Innovation and Change
Units: 3 Terms Offered: FaSm Practical knowledge on helping organizations develop innovations and lead change to leverage them. Exploration of innovation and change in different organizations and competitive environments. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 555 Designing High Performance Organizations
Units: 3 Terms Offered: Sp Theory and practice of organization design. How to maximize organization performance by aligning structure, rewards, staffing, processes, and culture with strategy and environment. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 557 Strategy and Organization Consulting
Units: 3 Terms Offered: FaSp How consultants assist clients to formulate strategic plans and realign organizations; approaches used by major consulting firms; information about consulting industry, fee-setting and proposals. Consultant speakers and project. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 559 Strategic Renewal and Transformation
Units: 3 Terms Offered: Fa Dynamic strategic planning; how businesses re-invent themselves; why change is difficult; politics of change process; leadership steps for implementing successful strategic changes. Cases and readings. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 560 Managerial Judgment and Decision-Making
Units: 3 Terms Offered: Sm Development of skills and insight into making effective strategic, financial, and management decisions including awareness of hazards of decisions, issues of rationality, and risk taking. Registration Restriction: Online registration open to only graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 561 Strategies in High-Tech Businesses
Units: 3 Terms Offered: Fa How high-tech companies achieve competitive advantage through leveraging technical, management and financial resources. Technology trends and industry evolution. Focus on electronics and bio-technology. Cases and speakers. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 562 Strategic Choice and Valuation Analysis
Units: 3 Terms Offered: Fa Advanced strategic planning using tools of scenario development and activity valuation for assessing market entry, expansion and business portfolio configuration. Exercises, cases and project. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 564 Strategic Innovation: Creating New Markets
Units: 3 Terms Offered: Sp How firms in rapidly changing global environments innovate to develop new markets, products and services, delivery systems and organizational processes and competencies. Registration Restriction: Online registration open only to specified Marshall graduate majors Instruction Mode: Lecture Grading Option: Letter

MOR 565 Alliances and Cooperative Strategy
Units: 3 Terms Offered: Fa Essential issues and problems of cooperative strategy. Recognize and evaluate collaborative opportunities to develop and assess an overall cooperative strategy. Readings, cases and group project. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 566 Environmental Sustainability and Competitive Advantage
Units: 1.5, 3 Terms Offered: Sp How business is changing in order to respond to environmental sustainability challenges — adapting strategy, product design, operations, marketing, and accounting. Cases and speakers. Registration Restriction: Online registration open to only graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

MOR 567 Interpersonal Influence and Power
Units: 3 Terms Offered: Fa Legitimate and effective use of power to resolve conflicts and mobilize action through understanding the talent and self-interest of people involved in decision-making. Readings, cases. Registration Restriction: Online registration open only to graduate accounting and business majors Instruction Mode: Lecture Grading Option: Letter

MOR 568 Power and Politics in Organizations
Units: 3 Terms Offered: Sp Explores current theories of power, politics and leadership within the organizational dynamic. Individual bases of power will be related to assessments of motives and skills. *Recommended Preparation:* (GSBA 522a and GSBA 522b) or GSBA 532 or GSBA 533 or GSBA 543 Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 569 Negotiation and Deal-Making
Units: 3 Terms Offered: FaSpSm Strategies and dynamics of deal-making; practical skills necessary to win in a range of business transactions conducted in domestic and international settings. Cases, role-playing, films and simulations. Registration Restriction: Online registration open only to graduate business and accounting students Instruction Mode: Lecture Grading Option: Letter

MOR 570 Leading Effective Teams
Units: 3 Terms Offered: Sm Analytical and behavioral tools that will enable students to effectively diagnose complex work group dynamics and take action to improve group performance. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 571 Leadership and Executive Development
Units: 3 Terms Offered: FaSp Contemporary approaches to leadership, including corporate practices to develop leaders; examples of successful and derailed executives. Students self-assess personal leadership and draft development plans. Readings, speakers, cases. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 572 Leadership and Self-Management
Units: 3 Terms Offered: Fa Successful leaders are effective at self-managing their thoughts, emotions and actions. Concepts and methods for developing essential self-management skills. Registration Restriction: Online registration open to only graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 573 Corporate Environmental and Social Issues
Units: 3 Terms Offered: Irregular Exploration of competing perspectives on business's role vis-a-vis investors, government, environment, customers, suppliers, employees, unions, NGOs, etc. Registration Restriction: Online registration open only to graduate accounting and business students. Instruction Mode: Lecture Grading Option: Letter

MOR 579 The Business of Sports Entertainment
Units: 3 Terms Offered: FaSp Business practices and issues in different sports markets including growth opportunities and innovative marketing strategies for attracting and retaining fans and corporate sponsors. Industry speakers. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 588 Corporate Strategy and Competitive Dynamics
Units: 1.5, 3 Terms Offered: Sp Central challenges facing executives in multi-business firms; toolkit for analyzing and executing strategic and operational aspects of corporate advantage, M&As and competitive dynamics. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 592 Field Research in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3.0, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Individual or team projects studying the management practices of an industry, company, government agency, country, geographic region, etc. Proposal, data collection, analyses, and written report. *Recommended Preparation:* completion of required MBA, MAcc, or MBT course work. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 593 Independent Research in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4 Max Units: 12.0 Terms Offered: FaSpSm Independent research beyond normal course offerings. Proposal, research and written report/paper required. Registration Restriction: Open only to master students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 595 Internship in Management and Organization
Units: 0.5, 1, 1.5, 2 Max Units: 09 Terms Offered: FaSpSm Supervised on-the-job business experience in the student's area of interest. (Curricular Practical Training.) *Recommended Preparation:* completion of required MBA, MAcc, or MBT course work Registration Restriction: Open only to master students in Accounting and Business Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 596 Research Practicum in Management and Organization
Units: 0.5, 1, 1.5, 2 Max Units: 8.0 Terms Offered: FaSpSm Hands-on practical experience working with a Marshall faculty member in the Management and Organization Department on an ongoing research project. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 597 Consulting Project in Management and Organization
Units: 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 Max Units: 12.0 Terms Offered: FaSpSm Individual or team project solving real business problems for an existing business entity, domestic and/or international. Proposal, field research, analyses and oral and written presentations. Registration Restriction: Open only to master and doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 598 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in management and policy sciences. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 599 Special Topics
Units: 1, 1.5, 2, 3 Max Units: 09 Terms Offered: FaSpSm Selected topics reflecting current trends and recent developments in management and policy sciences. Registration Restriction: Online registration open only to graduate accounting and business students Instruction Mode: Lecture Grading Option: Letter

MOR 601 Seminar in Organizational Behavior
Units: 3 Terms Offered: Fa In-depth review of the theories and empirical research in the discipline of organizational behavior. Topics include: personality, motivation, job design, leadership, and others. Instruction Mode: Lecture Grading Option: Letter

MOR 602 Seminar in Organization Theory
Units: 3 Terms Offered: Fa Survey of organization theory with focus on the history and development of research on organizations. Registration Restriction: Open only to Business Administration and Public Policy and Management doctoral students. Instruction Mode: Lecture Grading Option: Letter

MOR 603 Seminar in Strategic Management
Units: 3 Terms Offered: Sp Survey of strategic management. Topics include historical overview of strategic management, research methods used, current theory, and empirical research on the developing of paradigms. Registration Restriction: Open only to Business Administration doctoral students. Instruction Mode: Lecture Grading Option: Letter

MOR 604 Research Methods in Strategy and Organization
Units: 3 Terms Offered: Irregular Survey of research methods with focus on designing and implementing empirical research projects and critical issues faced by researchers. Instruction Mode: Lecture Grading Option: Letter

MOR 605 Research Methods in Organizational Behavior
Units: 3 Terms Offered: Irregular Design and analysis of behavioral research; methods may include experiments, survey research, qualitative research, statistical analysis, special topics. Emphasis on rigor, validity and statistical power. Instruction Mode: Lecture Grading Option: Letter

MOR 621 Research Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp Seminar. Review and discuss current research in Organizational Theory, Organizational Behavior and Strategy. Presentations by faculty, visiting researchers, and advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MOR 699 Special Topics
Units: 1.0, 1.5, 2.0, 3.0 Max Units: 08 Terms Offered: FaSpSm Exploration of emerging topics, literature and research techniques in contemporary management, strategy, organizational behavior, organization design, and leadership. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

MOR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Registration Restriction: Open only to Marshall Ph.D. students specializing in Management and Organization. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Early Music)

MPEM 201 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instrument for lower division students. Instruction Mode: Lecture Grading Option: Letter

MPEM 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPEM 450 Collegium Workshop
Units: 1 Max Units: 8.0 Terms Offered: FaSp Study and rehearsal of music of the Middle Ages, Renaissance, and Baroque; technique, interpretation, improvisation, and ornamentation. Instruction Mode: Lecture Grading Option: Letter

MPEM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPEM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPEM 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPEM 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered:

FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPEM 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPEM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPEM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPEM 650 Collegium Directing
Units: 2 Max Units: 4.0 Practical training in the direction of a Collegium Musicum or other early music ensemble; program planning, repertory search and preparation, historical instrumentation and arranging, rehearsal procedure, improvisational techniques, and maintenance of instruments. Instruction Mode: Lecture Grading Option: Letter

MPEM 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPEM 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPEM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Guitar)

MPGU 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPGU 120a Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120b Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120c Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 120d Beginning Pop/Rock Guitar
Units: 2 Terms Offered: FaSpSm Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 121 Intensive Beginning Pop/Rock Guitar
Units: 4 Terms Offered: FaSp Introduction to the performance technique of pop/rock guitar as well as music theory fundamentals, exploring repertoire by artists such as The Beatles and Dave Matthews. Instruction Mode: Lecture Grading Option: Letter

MPGU 125 Beginning Fingerstyle/Chord Guitar
Units: 2 Terms Offered: FaSp Basic fingerstyle guitar, learned through the study of such pieces as "Greensleeves," "Malaguena," and "Minuet" (Bach); song accompaniment patterns and music notation for the beginner. Instruction Mode: Lecture Grading Option: Letter

MPGU 126 Easy Fingerstyle Beatles
Units: 2 Terms Offered: FaSp Techniques of classical guitar applied to the study of five to eight Beatles songs, from "Hey Jude" to "Blackbird." No guitar or music background required. Instruction Mode: Lecture Grading Option: Letter

MPGU 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 158 Guitarists in the U.S.
Units: 2 Study of the lives and music of influential guitarists; analysis of musical and technical details. Instruction Mode: Lecture Grading Option: Letter

MPGU 159 Functional Skills for Studio Guitarists I
Units: 2 Study of technique, theory and aural skills as applied to guitar; fingerboard organization of melodic and chordal topics; sight reading. Instruction Mode: Lecture Grading Option: Letter

MPGU 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 257 Classical Guitar Performance Class
Units: 2 Max Units: 8.0 Terms Offered: FaSp Technical problems; solo and ensemble literature; interpretation; professional preparation. Required of first and second year Classical Guitar majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPGU 258 Functional Skills for Studio Guitarists I
Units: 2 Max Units: 4.0 Terms Offered: FaSp Melodic and chordal topics applied to the total fingerboard; successful completion required for junior standing. *Prerequisite:* MPGU 159. Instruction Mode: Lecture Grading Option: Letter

MPGU 259 Functional Skills for Classical Guitarists I
Units: 2 Terms Offered: Fa Fundamentals of music theory experienced through the medium of the classical guitar. Topics include analysis of important guitar works, basso continuo realization, arranging, and improvisation. *Recommended Preparation:* MUCO 232a. Instruction Mode: Lecture Grading Option: Letter

MPGU 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Not available for credit to music majors. *Recommended Preparation:* MPGU 101. Duplicates Credit in former MPGU 201 and MPGU 401. Instruction Mode: Lecture Grading Option: Letter

MPGU 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPGU 201 and MPGU 401. Instruction Mode: Lecture Grading Option: Letter

MPGU 335 Jazz Guitar Master Class
Units: 1 Terms Offered: FaSp Explore the music of Joe Diorio, Wes Montgomery and John Coltrane in a master class setting. Instruction Mode: Lecture Grading Option: Letter

MPGU 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 357 Advanced Classical Guitar Techniques
Units: 2 Terms Offered: Sp An in-depth exploration of the most advanced facets of classical guitar technique. *Recommended Preparation:* MPGU 257. Instruction Mode: Lecture Grading Option: Letter

MPGU 358 Performance Practices for Studio Guitarists
Units: 2 Max Units: 4.0 Rehearsal procedures; stage deportment; interpretation of solo and ensemble literature; preparation for recitals and professional performance. *Prerequisite:* MPGU 258. Instruction Mode: Lecture Grading Option: Letter

MPGU 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more

than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPGU 415 Studio Guitar Pedagogy
Units: 2 Teaching techniques and literature; function of the hands; acoustical properties of instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 416 Evolution of the Guitar in the United States
Units: 3 Historical survey of styles, literature and performance practice; emphasis on playing technique and interpretation. A time-line study relating guitar to popular music and historical events. Duplicates Credit in former MUHL 416. Instruction Mode: Lecture Grading Option: Letter

MPGU 417 Classical Guitar Pedagogy
Units: 2 Teaching techniques and literature; function of the hands; acoustical properties of instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 426 Classical Guitar History and Literature
Units: 3 Terms Offered: Fa A survey of music for the guitar, lute and vihuela from 1500 to the present. *Recommended Preparation:* MUHL 332. Duplicates Credit in former MPGU 426a and former MUHL 426a. Instruction Mode: Lecture Grading Option: Letter

MPGU 427 Advanced Topics in Classical Guitar History and Literature
Units: 3 Terms Offered: Sp An in-depth study of major works for lute, vihuela and classical guitar, with emphasis on early music and the music of the 20th century. *Recommended Preparation:* MPGU 426. Duplicates Credit in former MPGU 426b and former MUHL 426b. Instruction Mode: Lecture Grading Option: Letter

MPGU 428a Improvisation and Arranging for Guitarists
Units: 3 Principles of improvisation and impromptu arranging; comparison and application of techniques and musical styles of the various kinds of guitars and related fretted instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 428b Improvisation and Arranging for Guitarists
Units: 3 Principles of improvisation and impromptu arranging; comparison and application of techniques and musical styles of the various kinds of guitars and related fretted instruments. Instruction Mode: Lecture Grading Option: Letter

MPGU 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 457 Classical Guitar Performance Class
Units: 2 Max Units: 8.0 Terms Offered: FaSp Technical problems; solo and ensemble literature. Required of all third and fourth year classical guitar majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPGU 458 Current Electric Guitar Styles
Units: 2 Analysis and performance of music and techniques currently in use in the recording, TV and motion picture studios; includes study of recordings, videos and guitar equipment. Instruction Mode: Lecture Grading Option: Letter

MPGU 459 Functional Skills for Classical Guitarists II
Units: 2 Terms Offered: Sp Advanced theory and composition on the guitar. Weekly analysis exercises, arranging projects and studies in improvisation and ornamentation are directed toward creating an original solo or chamber work for guitar. *Recommended Preparation:* MUCO 232b, MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MPGU 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPGU 499 Special Topics
Units: 2, 3, 4 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPGU 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPGU 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPGU 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPGU 557 Advanced Classical Guitar Performance Class
Units: 1 Max Units: 4.0 Study of advanced classical guitar solo and ensemble literature; interpretation; professional preparation and other topics appropriate for group study. *Prerequisite:* bachelor's degree with music major; principal instrument, classical guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 558 Advanced Studio Guitar Performance Class
Units: 1 Max Units: 4.0 Study of advanced studio guitar and ensemble literature; interpretation; professional preparation and other topics appropriate for group study. *Prerequisite:* bachelor's degree with music major; principal instrument, studio guitar. Instruction Mode: Lecture Grading Option: Letter

MPGU 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPGU 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPGU 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPGU 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPGU 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Medical Physiology

MPHY 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MPHY 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MPHY 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to master students. Duplicates Credit in former PHBI 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPHY 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPHY 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPHY 594z Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Duplicates Credit in former PHBI 594a. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Performance (Keyboard Studies)

MPKS 150a Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150b Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic

musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150c Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 150d Beginning Piano
Units: 2 Terms Offered: FaSp Techniques of performance, note reading, and basic musicianship. Instruction Mode: Lecture Grading Option: Letter

MPKS 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 160a Functional Skills for Keyboard Majors I
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to intermediate literature; c-clef and open score reading; improvisation and functional harmony. Introduction to standard reference works, periodicals. Required of all keyboard majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 160b Functional Skills for Keyboard Majors I
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to intermediate literature; c-clef and open score reading; improvisation and functional harmony. Introduction to standard reference works, periodicals. Required of all keyboard majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 170a Introduction to Piano Repertoire and Performance
Units: 1 Terms Offered: FaSp Survey of basic piano repertoire and styles through lecture, discussion, and performance. a: Late Baroque through Beethoven; b: Schubert to the present. *Prerequisite:* piano performance major status. Instruction Mode: Lecture Grading Option: Letter

MPKS 170b Introduction to Piano Repertoire and Performance
Units: 1 Terms Offered: FaSp Survey of basic piano repertoire and styles through lecture, discussion, and performance. a: Late Baroque through Beethoven; b: Schubert to the present. *Prerequisite:* piano performance major status. Instruction Mode: Lecture Grading Option: Letter

MPKS 228 Four-Hand Keyboard Repertoire
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of literature for piano duets and duo-piano. Duplicates Credit in former MUEN 228. Instruction Mode: Lecture Grading Option: Letter

MPKS 250a Keyboard Instruction I
Units: 2 Terms Offered: FaSp Beginning and elementary instruction; emphasis on reading skills, harmonization, transposition, score reading, improvisation; group instruction in a keyboard laboratory facility. Instruction Mode: Lecture Grading Option: Letter

MPKS 250b Keyboard Instruction I
Units: 2 Terms Offered: FaSp Beginning and elementary instruction; emphasis on reading skills, harmonization, transposition, score reading, improvisation; group instruction in a keyboard laboratory facility. Instruction Mode: Lecture Grading Option: Letter

MPKS 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 260a Functional Skills for Keyboard Majors II
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to lower advanced literature; extended score reading; improvisation and functional harmony. Mini survey; basic keyboard literature. *Prerequisite:* MPKS 160b. Instruction Mode: Lecture Grading Option: Letter

MPKS 260b Functional Skills for Keyboard Majors II
Units: 2 Terms Offered: FaSp Sight-reading and principles of style as related to lower advanced literature; extended score reading; improvisation and functional harmony. Mini survey; basic keyboard literature. *Prerequisite:* MPKS 160b. Instruction Mode: Lecture Grading Option: Letter

MPKS 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Duplicates Credit in former MPKS 201 and MPKS 401. Instruction Mode: Lecture Grading Option: Letter

MPKS 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPKS 201 and MPKS 401. Instruction Mode: Lecture Grading Option: Letter

MPKS 350a Keyboard Instruction II
Units: 2 Terms Offered: FaSp Intermediate and advanced instruction; development of reading, performance and improvisation skills necessary for proficiency examinations. Group and individualized instruction in a keyboard laboratory facility. *Prerequisite:* MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MPKS 350b Keyboard Instruction II
Units: 2 Terms Offered: FaSp Intermediate and advanced instruction; development of reading, performance and improvisation skills necessary for proficiency examinations. Group and individualized instruction in a keyboard laboratory facility. *Prerequisite:* MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MPKS 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 360a Accompanying
Units: 2 Terms Offered: FaSp Techniques of vocal and instrumental accompanying. Instruction Mode: Lecture Grading Option: Letter

MPKS 360b Accompanying
Units: 2 Terms Offered: FaSp Techniques of vocal and instrumental accompanying. Instruction Mode: Lecture Grading Option: Letter

MPKS 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPKS 431a Piano Pedagogy: Introduction and Practicum
Units: 2 Terms Offered: FaSp The learning process at the keyboard; pedagogy and methodology of beginning methods. Studio/group instruction: children/adults. Survey and observation. *Prerequisite:* MPKS 253, MPKS 260b. Instruction Mode: Lecture Grading Option: Letter

MPKS 431b Piano Pedagogy: Introduction and Practicum
Units: 2 Terms Offered: FaSp The learning process at the keyboard; pedagogy and methodology of beginning methods. Studio/group instruction: children/adults. Practice teaching: beginners. *Prerequisite:* MPKS 253, MPKS 260b. Instruction Mode: Lecture Grading Option: Letter

MPKS 435 Technology of the Pianoforte and Harpsichord
Units: 2 Terms Offered: Irregular Analysis of technical innovations and maintenance of the pianoforte and harpsichord as related to musical performance. Instruction Mode: Lecture Grading Option: Letter

MPKS 450a Piano Pedagogy: Intermediate Literature and Functional Skills
Units: 2 Terms Offered: FaSp Methods, study of college curriculum keyboard classes. Studio/group instruction. Business practices; audition, interview techniques. Survey and observation. Instruction Mode: Lecture Grading Option: Letter

MPKS 450b Piano Pedagogy: Intermediate Literature and Functional Skills
Units: 2 Terms Offered: FaSp Methods, study of college curriculum keyboard classes. Studio/group instruction. Business practices; audition, interview techniques. Practice teaching; secondary piano classes. Instruction Mode: Lecture Grading Option: Letter

MPKS 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 472a Piano History and Literature
Units: 2 Terms Offered: FaSp Solo piano literature; emphasis on composers' influences, performance practices and the development of the pianoforte. Late Baroque through Beethoven. *Prerequisite:* MUHL 331 and MUHL 332. Instruction Mode: Lecture Grading Option: Letter

MPKS 472b Piano History and Literature

Units: 2 Terms Offered: FaSp Solo piano literature; emphasis on composers' influences, performance practices and the development of the pianoforte. Schubert to the present. *Prerequisite:* MPKS 472a. Instruction Mode: Lecture Grading Option: Letter

MPKS 481 Interpretation of Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: FaSp Repertoire and performance practice in music of the period: style, phrasing, embellishments, dynamics, improvisation, tempi. Performance in class of solo and ensemble works, instrumental and vocal. Instruction Mode: Lecture Grading Option: Letter

MPKS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPKS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPKS 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 520 Special Studies in Solo Repertoire for Piano
Units: 2 Max Units: 12.0 Terms Offered: FaSp Historical, stylistic and pedagogical aspects of solo repertoire. Special emphasis to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

MPKS 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPKS 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPKS 560 Song Interpretation Master Class
Units: 2 Max Units: 12.0 Terms Offered: FaSp For advanced singers and pianists. Instruction Mode: Lecture Grading Option: Letter

MPKS 561 Chamber Music Interpretation Master Class
Units: 2 Max Units: 12.0 Terms Offered: FaSp For advanced pianists and instrumentalists. Instruction Mode: Lecture Grading Option: Letter

MPKS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPKS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPKS 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPKS 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPKS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Popular Music)

MPPM 100 Popular Music Forum
Units: 1 Max Units: 4.0 Terms Offered: FaSp A weekly lecture series addressing a wide range of special topics and issues confronting the popular musician. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 120 Popular Music Performance I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Study of musical elements appropriate to the performance of popular music in a collaborative, interactive environment. Instruction Mode: Lecture Grading Option: Letter

MPPM 153 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Weekly individual instruction. Instruction Mode: Lecture Grading Option: Letter

MPPM 240 Drumming Proficiency for the Popular Musician
Units: 2 Terms Offered: FaSp Beginning and elementary instruction in drum set techniques. Instruction Mode: Lecture Grading Option: Letter

MPPM 250 Keyboard Proficiency for the Popular Musician
Units: 2 Terms Offered: FaSp Development of practical keyboard skills, including reading and realizing chord symbols, basics of voice leading, study of various harmonic and rhythmic styles. Instruction Mode: Lecture Grading Option: Letter

MPPM 253 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Weekly individual instruction. Instruction Mode: Lecture Grading Option: Letter

MPPM 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for all majors and minors except MPPM. Instruction Mode: Lecture Grading Option: Letter

MPPM 320 Popular Music Performance II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Development of ensemble and communication skills through the performance and interpretation of American popular music in concert and studio settings. Development of original compositions. *Prerequisite:* MPPM 120. Instruction Mode: Lecture Grading Option: Letter

MPPM 325a Arranging in Popular Music
Units: 2 Principles and techniques of arranging for voice and rhythm section in the popular music idiom. Instruction Mode: Lecture Grading Option: Letter

MPPM 325b Arranging in Popular Music
Units: 2 Writing and arranging for small groups of brass, wind, and/or string instruments with rhythm section in the popular music idiom. *Prerequisite:* MPPM 325a Instruction Mode: Lecture Grading Option: Letter

MPPM 340 Intermediate Drum Set Proficiency
Units: 2 Terms Offered: FaSp Intermediate level instruction in drum set performance including accompaniment techniques, fills, beat and brush patterns in jazz, Afro-Caribbean and Brazilian styles, interpreting drum charts. *Recommended Preparation:* MPPM 240. Instruction Mode: Lecture Grading Option: Letter

MPPM 350g A History of Popular Music
Units: 4 The history of popular music particularly as developed in America in the 20th and early 21st centuries. *Recommended Preparation:* MUHL 250g Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MPPM 370 The Vocal Edge: Contemporary Vocal Performance Techniques
Units: 2 Max Units: 4 A study of the practical aspects of vocal performance and skills necessary to increase one's opportunities within the music industry. Instruction Mode: Lecture Grading Option: Letter

MPPM 420 Popular Music Performance Styles and Genres
Units: 2 Max Units: 8.0 Terms Offered: FaSp The detailed exploration of a specific style or genre in Popular Music through study of repertoire, history and practice with particular emphasis on performance. *Recommended Preparation:* MPPM 120 and MPPM 320. Instruction Mode: Lecture Grading Option: Letter

MPPM 450a Final Project
Units: 1 Terms Offered: FaSp Major collaborative performance project in popular music. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPPM 450b Final Project
Units: 1 Terms Offered: FaSp Major collaborative performance project in popular music. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors. Instruction Mode:

Lecture Grading Option: Letter

MPPM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPPM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the Master's Degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPPM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest Instruction Mode: Lecture Grading Option: Letter

MPPM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Performance (Strings)

MPST 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPST 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 163 Class Harp
Units: 2 Max Units: 04 Basic instruction in the fundamentals of solo harp playing, note reading, and basic musicianship. Instruction Mode: Lecture, Lab Grading Option: Letter

MPST 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 262 Double Bass Performance Class
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study of solo and orchestra repertoire, professional preparation, and teaching techniques. Required of all first and second year double bass majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 263 Harp Performance Class
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study of solo and orchestra repertoire, professional preparation, and teaching technique. Required of all first and second year harp majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. *Recommended Preparation:* MPST 101. Duplicates Credit in former MPST 201 and MPST 401. Instruction Mode: Lecture Grading Option: Letter

MPST 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPST 201 and MPST 401. Instruction Mode: Lecture Grading Option: Letter

MPST 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPST 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 462 Double Bass Performance Class
Units: 1 Max Units: 8.0 Terms Offered: FaSp Continuation of MPST 262. Required of all third and fourth year double bass majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 463 Harp Performance Class
Units: 1 Max Units: 8.0 Terms Offered: FaSp Continuation of MPST 263. Required of all third and fourth year harp majors each semester in residence. *Prerequisite:* music major. Instruction Mode: Lecture Grading Option: Letter

MPST 471a String Pedagogy
Units: 2 Terms Offered: FaSp Survey of teaching literature; techniques of teaching beginning, intermediate, and advanced students. Instruction Mode: Lecture Grading Option: Letter

MPST 471b String Pedagogy
Units: 2 Terms Offered: FaSp Survey of teaching literature; techniques of teaching beginning, intermediate, and advanced students. Instruction Mode: Lecture Grading Option: Letter

MPST 472 Orchestra Repertoire – Strings
Units: 2 Max Units: 8.0 Terms Offered: FaSp Orchestral literature for string players, covering a broad spectrum of the repertoire; emphasis on preparation for auditions. Instruction Mode: Lecture Grading Option: Letter

MPST 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPST 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPST 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPST 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPST 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPST 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPST 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPST 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPST 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPST 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Molecular Pharmacology and Toxicology

MPTX 500 Molecular Pharmacology and Toxicology I
Units: 4 Terms Offered: Fa This is the first part of a two-semester introductory and survey course for the molecular pharmacology and toxicology degree program. *Prerequisite:* knowledge of biochemistry. Instruction Mode: Lecture Grading Option: Letter

MPTX 501 Molecular Pharmacology and Toxicology II
Units: 4 Terms Offered: Sp The second part of the two-semester course covers the general aspects of molecular pharmacology and toxicology on the basis of biochemical, molecular, biological and environmental approaches. *Prerequisite:* MPTX 500. Instruction Mode: Lecture Grading Option:

Letter

MPTX 502 Pharmacology
Units: 4 Terms Offered: Fa Fundamentals of pharmacology in the context of the rapidly developing knowledge of related disciplines. Instruction Mode: Lecture Grading Option: Letter

MPTX 510 Topics in Pharmacology: the Other Side of Drugs
Units: 2, 3 Terms Offered: Fa Nexus of pharmacology and toxicology; therapeutic use and toxicology of common drugs; and prescribing these drugs in clinical practice. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHRD 678

MPTX 511 Introduction to Medical Product Regulation
Units: 3 Terms Offered: Sm Introduction to regulatory environments surrounding medical product development, manufacturing and marketing; operation of federal, state and international regulatory bodies. *Recommended Preparation:* undergraduate degree in pharmacy,medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 512 Regulation of Pharmaceutical and Biological Products
Units: 3 Terms Offered: Sm Ensuring safety and effectiveness of new drugs and biologics; marketing and monitoring approved pharmaceutical/biological products; management of genetically engineered products. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 513 Regulation of Medical Devices and Diagnostics
Units: 3 Terms Offered: Sm Development and testing of new medical products according to U.S. and international regulatory requirements. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 514 Regulation of Food and Dietary Supplements
Units: 3 Terms Offered: Sm Regulation and testing of foods, food additives and dietary supplements in the U.S. and abroad. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 515 Quality Systems and Standards
Units: 3 Terms Offered: Sm Principles of quality assurance and quality control for medical-product development and manufacture. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 516 Medical Products and the Law
Units: 3 Terms Offered: Fa Legal issues affecting intellectual property, medical product development, marketing and safety, taught through case studies and lectures. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

MPTX 517 Structure and Management of Clinical Trials
Units: 4 Terms Offered: FaSpSm Development and execution of clinical trials: bioethical principles, good clinical practices, project management and documentation. Instruction Mode: Lecture Grading Option: Letter

MPTX 518 Writing Regulatory Drug Submissions
Units: 3 Terms Offered: Sp Developing form and content for investigational drug applications, new drug applications, biologic licensing applications to FDA; common technical documents; considerations of writing style. Instruction Mode: Lecture Grading Option: Letter

MPTX 519 Global Regulation of Medical Products
Units: 3 Terms Offered: Fa Regulatory requirements governing medical products in European Union, Asia and other global markets. Instruction Mode: Lecture Grading Option: Letter

MPTX 520 Toxicology and the Media
Units: 2, 3 Terms Offered: Sp Increase knowledge of toxicology relevance in everyday life through the reading, critical analysis and discussion of articles about current toxicological issues in the media. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHRD 679

MPTX 522 Introduction to Clinical Trial Design and Statistics
Units: 3 Clinical designs and statistics commonly used to test medical products in general populations and special patient groups. Instruction Mode: Lecture Grading Option: Letter

MPTX 524 Introduction to Food Science and Technology
Units: 3 Terms Offered: Sm Discusses the basic and applied concepts of food science and food safety, and demonstrates the principles of food chemistry, sensory evaluation, and product development. *Recommended Preparation:* undergraduate degree in biological sciences or related disciplines. Instruction Mode: Lecture Grading Option: Letter

MPTX 526 Chemistry Manufacturing and Controls
Units: 3 Terms Offered: Fa Provides a firm foundation in the domestic and international CMC process, from concept to commercialization of new active pharmaceutical ingredients and products. *Recommended Preparation:* undergraduate degree in pharmacy, medicine or independent health science, engineering or equivalent. Instruction Mode: Lecture Grading Option: Letter

MPTX 531 Cell Biology
Units: 4 (Enroll in INTD 531)

MPTX 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

MPTX 571 Biochemistry
Units: 4 Terms Offered: Sp (Enroll in INTD 571)

MPTX 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

MPTX 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

MPTX 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in Molecular Pharmacology and Toxicology. Instruction Mode: Lecture Grading Option: Letter

MPTX 602 Science, Research and Ethics
Units: 2 Terms Offered: Fa A discussion of the unique technological and philosophical issues that challenge modern scientists and a discernment of ethical responses to those challenges. Instruction Mode: Lecture Grading Option: Letter

MPTX 630 Directed Field-Research Project
Units: 6 Terms Offered: FaSpSm Research/policy analysis conducted under preceptor supervision in an industrial or governmental setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 700 Seminar in Molecular Pharmacology and Toxicology
Units: 1 Max Units: 8.0 Terms Offered: FaSp Contemporary advances in molecular pharmacology and toxicology research.

Registration required during each year of residency. Instruction Mode: Lecture Grading Option: Letter

MPTX 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPTX 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPTX 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Performance (Vocal Arts)

MPVA 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPVA 141 Class Voice
Units: 2 Max Units: 4.0 Terms Offered: FaSp Introduction to the fundamental principles of singing: breath control, tone production, diction, and the use of appropriate song material. Instruction Mode: Lecture Grading Option: Letter

MPVA 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 203a Acting for Singers I
Units: 2 Terms Offered: FaSp Use of dramatic techniques in the interpretation and performance of music; basic acting techniques for the operatic and recital stages; sensory exercises, movement, improvisation, relaxation and make-up. *Recommended Preparation:* MPVA 153. Duplicates Credit in former MPVA 303. Instruction Mode: Lecture Grading Option: Letter

MPVA 203b Acting for Singers I
Units: 2 Terms Offered: FaSp Use of dramatic techniques in the interpretation and performance of music; basic acting techniques for the operatic and recital stages; sensory exercises, movement, improvisation, relaxation and make-up. *Recommended Preparation:* MPVA 153. Duplicates Credit in former MPVA 303. Instruction Mode: Lecture Grading Option: Letter

MPVA 241 Intermediate Class Voice
Units: 2 Max Units: 4.0 Terms Offered: FaSp Continued development of the fundamentals of singing, diction, and repertoire building. *Prerequisite:* MPVA 141. Instruction Mode: Lecture Grading Option: Letter

MPVA 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. *Recommended Preparation:* MPVA 101. Duplicates Credit in former MPVA 201 and MPVA 401. Instruction Mode: Lecture Grading Option: Letter

MPVA 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction: secondary emphasis for music majors, principal emphasis for music minors and all BA music majors. Duplicates Credit in former MPVA 201 and MPVA 401. Instruction Mode: Lecture Grading Option: Letter

MPVA 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPVA 402 Musical Theatre Workshop I
Units: 3 Study of the acting, musical and movement elements involved in the performance of the Broadway musical repertoire. Instruction Mode: Lecture Grading Option: Letter

MPVA 403 Acting for Singers II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Continuation of MPVA 203a, MPVA 203b. Acting of operatic roles in different periods and styles; specific recital and audition techniques. *Recommended Preparation:* MPVA 203a, MPVA 203b. Instruction Mode: Lecture Grading Option: Letter

MPVA 404 Word and Music in Opera
Units: 2 Max Units: 8.0 Terms Offered: Irregular Performance class for singers and pianists; analysis of recitatives, arias, and ensembles of various operatic styles; study of the technique of effective musical delivery. By audition only. *Recommended Preparation:* MPVA 203a, MPVA 203b. Instruction Mode: Lecture Grading Option: Letter

MPVA 405 USC Opera
Units: 2 Max Units: 12.0 Terms Offered: FaSp Preparation, rehearsal, and performance of operatic works and excerpts; study of different operatic styles; public appearances. By audition only. Instruction Mode: Lecture Grading Option: Letter

MPVA 406 Opera Coaching Techniques
Units: 2 Max Units: 8.0 Terms Offered: Irregular Score study for pianists, coaches, and conductors; role analysis; transcription techniques for one or two pianos of an orchestral score. Instruction Mode: Lecture Grading Option: Letter

MPVA 407 Directing for the Operatic Stage
Units: 2 Max Units: 8.0 Terms Offered: FaSp Various approaches to operatic style; basic blocking; stage management. Student direction of scenes produced in USC Opera. Instruction Mode: Lecture Grading Option: Letter

MPVA 412 Musical Theatre Workshop II
Units: 3 Max Units: 06 Stylistic and technical features of dramatic and musical elements involved in performance of the Broadway musical and standard operetta repertory; staging of scenes. *Prerequisite:* MPVA 402 Instruction Mode: Lecture Grading Option: Letter

MPVA 438 Foundations of Vocology
Units: 2 Voice physiology, voice hygiene, voice acoustics, and the cognitive substrates of Motor Learning. Instruction Mode: Lecture Grading Option: Letter

MPVA 440 Italian and French Diction
Units: 2 Principles of pronunciation and enunciation; use of international phonetic alphabet. Duplicates Credit in former MPVA 442a. Instruction Mode: Lecture Grading Option: Letter

MPVA 441 English and German Diction
Units: 2 Principles of pronunciation and enunciation; use of international phonetic alphabet. Instruction Mode: Lecture Grading Option: Letter

MPVA 442 Introduction to the International Phonetic Alphabet
Units: 2 Terms Offered: Fa Principles of pronunciation and enunciation; basic application of the International Phonetic Alphabet symbols and sounds to English, German, Italian, French and Latin. Instruction Mode: Lecture Grading Option: Letter

MPVA 443 Cantata and Oratorio
Units: 2, 2 years Terms Offered: Fa Historical survey of literature, style and performance practice; emphasis on performing solo and small ensemble sections of larger works. Instruction Mode: Lecture Grading Option: Letter

MPVA 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 479 Song Literature
Units: 2 Max Units: 04 Song literature of Italy, France, Germany, Russia, Norway,

Sweden, England, America; comparative analysis of various composers and their influence on song literature. Duplicates Credit in former MUHL 479 Instruction Mode: Lecture Grading Option: Letter

MPVA 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPVA 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPVA 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPVA 540 Special Studies in Vocal Literature
Units: 2 Max Units: 6.0 Terms Offered: Sp Art song, concert and operatic repertoire. Emphasis to be determined by the department. Instruction Mode: Lecture Grading Option: Letter

MPVA 541 Advanced Vocology
Units: 2 Voice physiology, both classical and non-classical vocal techniques, voice hygiene, advanced voice acoustics, survey of literature from expertise studies, and the cognitive substrates of motor learning. Instruction Mode: Lecture Grading Option: Letter

MPVA 542 Vocal Pedagogy Teaching Practicum
Units: 2 Applying principles learned in vocology and/or pedagogy through practice voice teaching in both classical and non-classical singing styles. *Prerequisite:* MPVA 438 or MPVA 541 Instruction Mode: Lecture Grading Option: Letter

MPVA 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPVA 560 Graduate Italian Diction
Units: 2 A review of the rules of pronunciation, International Phonetic Alphabet (IPA) and grammatical structure of the Italian language through the texts of select repertoire in both Italian song and operatic arias. Instruction Mode: Lecture Grading Option: Letter

MPVA 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPVA 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPVA 653 Individual Instruction
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Weekly individual instruction and vocal performance forum. Instruction Mode: Lecture Grading Option: Letter

MPVA 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPVA 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Professional Writing Program

MPW 500 Survey of Professional Writing
Units: 3 Analysis of genres, characteristics of narration, stylistic editing, and the role of the writer in contemporary society. Required of all MPW majors. Duplicates Credit in former MPW 900. Instruction Mode: Lecture Grading Option: Letter

MPW 510 Writers and their Influences
Units: 3 Exploration of the notion of influence and its effect on generating new writing. Instruction Mode: Lecture Grading Option: Letter

MPW 511 Oral History: Witness and Writing
Units: 1 Max Units: 3.0 Transforming oral history into works of fiction and nonfiction, with emphasis on honoring the source material in the construction of an original narrative. Instruction Mode: Lecture Grading Option: Letter

MPW 512 Writer's Marketplace
Units: 3 A cross-genre investigation of publishing and the marketplace, with the goal of familiarizing students with the practical aspects of writing and selling creative work. Duplicates Credit in former MPW 910. Instruction Mode: Lecture Grading Option: Letter

MPW 515 Functional Writing for the Marketplace
Units: 3 Practical writing and editing skills, language mechanics, and document development techniques that can be applied to reports, grants/proposals, brochures, résumés, and other workplace materials. Duplicates Credit in former MPW 950. Instruction Mode: Lecture Grading Option: Letter

MPW 520 Writing Humor: Literary and Dramatic
Units: 3 Analysis of the specifics of humor — wit, irony, satire, parody and farce — through examples taken from various genres; discussion/workshop on incorporating humor in students' work. Duplicates Credit in former MPW 915. Instruction Mode: Lecture Grading Option: Letter

MPW 525 Nonfiction Strategies in Poetry and Prose
Units: 3 A workshop devoted to shared concerns and possibilities in poems and essays, and to the development of skills as enhanced by nonfiction techniques. Instruction Mode: Lecture Grading Option: Letter

MPW 526 Writing the Review
Units: 1 Max Units: 3.0 An investigation of the evolving role of the critic, focused on reviews as essays, and criticism as essential to a rich popular culture and conversation. Instruction Mode: Lecture Grading Option: Letter

MPW 527 Mash-Ups: New Ways to Tell Stories
Units: 1 Max Units: 3.0 An examination of innovative storytelling, in which old and new media in tandem can extend our narrative capabilities, and connect us across the world. Instruction Mode: Lecture Grading Option: Letter

MPW 530 Techniques of Fiction Writing
Units: 3 A nuts and bolts approach to craft, aiming to identify the requisite tools, and to develop skills necessary for writing vivid and convincing fiction. Instruction Mode: Lecture Grading Option: Letter

MPW 535 Literature and Approaches to Writing the Novel
Units: 3 Discussion and analysis of literary classics and their influences as applicable to the writing of today's novel; development of book-length fiction. Duplicates Credit in former MPW 940. Instruction Mode: Lecture Grading Option: Letter

MPW 537 Fiction Writing Workshop
Units: 3 Max Units: 9.0 Development and analysis of book-length fiction; concentration on narration, characterization, point of view, and clarity of style. Duplicates Credit in former MPW 960. Instruction Mode: Lecture Grading Option: Letter

MPW 538 Approaches to Writing the Novel
Units: 1 Max Units: 3.0 A survey of literary classics, focusing on recurring techniques, with the goal of identifying strategies to inform the student's approach to narrative and craft. Instruction Mode: Lecture Grading Option: Letter

MPW 540 Nonfiction Writing
Units: 3 Max Units: 6.0 The investigation of various forms in the genre, with attention to the literary value of thinking and making connections on the page. Instruction Mode: Lecture Grading Option: Letter

MPW 541 The Nonfiction Experience
Units: 3 Max Units: 6.0 Introduction to nonfiction from reviewing to reporting to the personal essay, with a view towards creating the community essential in the solitary writer's life. Instruction Mode: Lecture Grading Option: Letter

MPW 542 Writing About Place
Units: 3 Max Units: 6.0 An exploration of environment as it informs literature, fiction and nonfiction, with the understanding that

a vivid evocation of place will enrich prose across genres. Instruction Mode: Lecture Grading Option: Letter

MPW 543 Writing Science
Units: 3 Max Units: 6.0 Introduction to science writing with a view towards broadening approaches to story-telling in all genres. Instruction Mode: Lecture Grading Option: Letter

MPW 544 New Media: Writing Online
Units: 3 Max Units: 6.0 An examination of literary forms online. Students will emulate great print stylists, shaping narrative and cultivating voice with the possibilities of new media in mind. Instruction Mode: Lecture Grading Option: Letter

MPW 545 Memoir Writing
Units: 3 Max Units: 6.0 A workshop designed to hone voice, and determine the best way to approach personal narrative in cultural and historical contexts. Instruction Mode: Lecture Grading Option: Letter

MPW 546 The Personal Essay
Units: 3 Max Units: 6.0 A look at first-person narrative, from memoir to criticism, with a view towards cultivating favorite writerly strategies, and then trying less comfortable forms. Instruction Mode: Lecture Grading Option: Letter

MPW 547 Selling the Nonfiction Book
Units: 3 Max Units: 6.0 From the proposal to the outline, a comprehensive look at selling a book-length work of nonfiction, including the completion of a first chapter and promotional précis. Instruction Mode: Lecture Grading Option: Letter

MPW 552 Principles of Poetic Techniques
Units: 3 Max Units: 6.0 Beginning analysis and practice of poetic technique, including language and imagery; forms, devices, and conventions; developing voice; use of both traditional and open forms. Duplicates Credit in former MPW 970. Instruction Mode: Lecture Grading Option: Letter

MPW 554 Poetry Hybrids
Units: 3 Max Units: 6.0 Writing and reading poetry in combination with other genres. Forms may include prose poem, verse drama, verse novel, and epic. Instruction Mode: Lecture Grading Option: Letter

MPW 557 Advanced Poetry Writing
Units: 3 Max Units: 6.0 Advanced topics in poetry, including wide reading in contemporary poets. Emphasis on the development of the individual voice and subject matter. Duplicates Credit in former MPW 980. Instruction Mode: Lecture Grading Option: Letter

MPW 560 Principles of Dramatic Structure
Units: 3 Max Units: 6.0 Analysis of techniques in preparing scripts for various media; practice in adapting materials from non-dramatic forms. Duplicates Credit in former MPW 920. Instruction Mode: Lecture Grading Option: Letter

MPW 561 Writing for Stage and Screen
Units: 3 Max Units: 6.0 A workshop that examines the art and craft of writing for stage and screen. Instruction Mode: Lecture Grading Option: Letter

MPW 562 Story Conference
Units: 3 Max Units: 6.0 Writing the play, teleplay or screenplay, focusing on character development and scene structure, in collaboration with the workshop. Duplicates Credit in former MPW 930. Instruction Mode: Lecture Grading Option: Letter

MPW 567 Screenplay Workshop
Units: 3 Max Units: 6.0 Reading and viewing films with an eye toward the development and completion of the first 45–60 pages of an original screenplay. Instruction Mode: Lecture Grading Option: Letter

MPW 568 Screenwriting across Genres
Units: 3 Max Units: 6.0 An investigation of varieties of storytelling through creative responses to both screenplay and non-screenplay forms. Instruction Mode: Lecture Grading Option: Letter

MPW 575 In the Room: The Craft of Television Writing
Units: 1, 3 Max Units: 6.0 Introduction to television writing, from pitching to polishing, with all the responsibilities of a staff writer. Instruction Mode: Lecture Grading Option: Letter

MPW 585 Seminar in Professional Writing
Units: 1 or 3 Max Units: 6.0 Seminar and workshop with adjustable focus on aspects of professional and creative writing in relation to the literary marketplace. Instruction Mode: Lecture Grading Option: Letter

MPW 589 Internship: Writers in the Field
Units: 1, 2, 3 Max Units: 3.0 Practical experience in the writing world. Enables students to acquire skills and knowledge that cannot be gained in the classroom. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPW 590 Directed Research
Units: 1, 2, 3 Max Units: 9.0 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the program director. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPW 592a Professional Writing Project
Units: 3 Supervised preparation of a full-length manuscript in student's major concentration: fiction, nonfiction, poetry, or writing for stage and screen. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 592b Professional Writing Project
Units: 3 Supervised preparation of a full-length manuscript in student's major concentration: fiction, nonfiction, poetry, or writing for stage and screen. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 592z Professional Writing Project
Units: 0 Supervised preparation of a full-length manuscript in student's major concentration: fiction, nonfiction, poetry, or writing for stage and screen. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MPW 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Studies in specific genres, techniques or aspects of the writing craft. Instruction Mode: Lecture Grading Option: Letter

Performance (Wind and Percussion)

MPWP 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MPWP 153 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 252 Individual Instrument Performance Class I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all first and second year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPWP 253 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. *Recommended Preparation:* MPWP 101. Duplicates Credit in former MPWP 201 and MPWP 401. Instruction Mode: Lecture Grading Option: Letter

MPWP 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction on secondary instrument for music majors, on principal instrument for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MPWP 201 and MPWP 401. Instruction Mode: Lecture Grading Option: Letter

MPWP 353 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 390 Special Problems
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: Irregular Supervised, individual

studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MPWP 440 Drum Set for Classical Percussionists
Units: 1 Max Units: 2.0 Terms Offered: Fa A progressive course for Classical Percussion majors as it pertains to drum set in the symphony orchestra and other classical settings. Registration Restriction: Open only to percussion, and performance (wind instrument or percussion). Instruction Mode: Lecture Grading Option: Letter

MPWP 452 Individual Instrument Performance Class II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all third and fourth year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MPWP 453 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 481 Interpretation of Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: FaSp Repertoire and performance practice in music of the period: style, phrasing, embellishments, dynamics, tempi. Performance in class of solo and ensemble works, instrumental and vocal. Instruction Mode: Lecture Grading Option: Letter

MPWP 482 Interpretation of Classic, Romantic, and 20th Century Wind and Percussion Music
Units: 2 Analysis and performance of 18th, 19th, and 20th century ensemble music, octet through symphonic band; historical perspectives of instruments including technical developments. Instruction Mode: Lecture Grading Option: Letter

MPWP 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MPWP 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPWP 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 551 Individual Instrument Performance Class III
Units: 1 Max Units: 2.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Intended for MM wind and percussion majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MPWP 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MPWP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MPWP 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MPWP 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MPWP 754 Artist Diploma Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Artist Diploma students. Instruction Mode: Lecture Grading Option: Letter

MPWP 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Military Science

MS 101 Foundations of Officership
Units: 1 Terms Offered: Fa Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. Establish framework for understanding officership, leadership, and Army values followed and "life skills" such as physical fitness and time management. Duplicates Credit in former MS 100. Instruction Mode: Lecture Grading Option: Letter

MS 102 Basic Leadership
Units: 1 Terms Offered: Sp Establishes foundation of basic leadership fundamentals such as problem solving, communications, briefings and effective writing, goal setting, techniques for improving listening and speaking skills and an introduction to counseling. Duplicates Credit in former MS 110. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 201 Individual Leadership Studies
Units: 2 Terms Offered: Sp Students identify successful leadership characteristics through observation of others and self through experimental learning exercises. Students record observed traits (good and bad) in a dimensional leadership journal and discuss observations in small group settings. Duplicates Credit in former MS 200. Instruction Mode: Lecture Grading Option: Letter

MS 202 Leadership and Teamwork
Units: 2 Terms Offered: Sp Study examines how to build successful teams, various methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem solving process, and obtaining team buy-in through immediate feedback. Duplicates Credit in former MS 210. Instruction Mode: Lecture Grading Option: Letter

MS 301 Leadership and Problem Solving
Units: 3 Terms Offered: Fa Students conduct self-assessment of leadership style, develop personal fitness regimen, and learn to plan and conduct individual/small unit tactical training while testing reasoning and problem-solving techniques. Students receive direct feedback on leadership abilities. Duplicates Credit in former MS 300. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 302 Leadership and Ethics
Units: 3 Terms Offered: Sp Examines the role communications, values, and ethics play in effective leadership. Topics include ethical decision-making, consideration of others, spirituality in the military, and survey Army leadership doctrine. Emphasis on improving oral and written communication abilities. Duplicates Credit in former MS 310. Instruction Mode: Lecture Grading Option: Letter

MS 401 Leadership and Management I
Units: 3 Terms Offered: Fa Develops student proficiency in planning and executing complex operations, functioning as a member of a staff, and mentoring subordinates. Students explore training management, methods of effective staff collaboration, and developmental counseling techniques. Duplicates Credit in former MS 400. Instruction Mode: Lecture Grading Option: Letter

MS 402 Leadership and Management II
Units: 3 Terms Offered: Sp Study includes case study analysis of military law and practical exercises on establishing an ethical command climate. Students must complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze, and demonstrate their leadership skills. Duplicates Credit in former MS 410. Instruction Mode: Lecture, Lab Grading Option: Letter

MS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in military science. Instruction Mode: Lecture Grading Option: Letter

Sacred Music

MSCR 390 Special Problems
Units: 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former MUCH 390. Instruction Mode: Lecture Grading Option: Letter

MSCR 473 Hymnology
Units: 2 Study of hymns and hymn tunes, and their functions, from the formation of the Christian Church to the present; historical survey of the literature. Duplicates Credit in former MUCH 473. Instruction Mode: Lecture Grading Option: Letter

MSCR 474 The Organ in Worship and Congregational Life
Units: 2 Accompanying; hymn playing, transposition, improvisation, vocal score reading; conducting from the console; service repertoire. Basic knowledge of the organ as an instrument and planning for and purchase of an organ. Duplicates Credit in former MUCH 474. Instruction Mode: Lecture Grading Option: Letter

MSCR 475 Introduction to Jewish Music
Units: 2 Development of Jewish music from biblical times to the present, with emphasis on liturgical practices, traditions of itinerant musicians and the adaptability of community song. Instruction Mode: Lecture Grading Option: Letter

MSCR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Registration Restriction: Open only to juniors and seniors. Duplicates Credit in former MUCH 490. Instruction Mode: Lecture Grading Option: Letter

MSCR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MSCR 570 Foundations of Sacred Music
Units: 2 An introduction to the history of sacred music, liturgical practices and worship traditions from antiquity to present day. Duplicates Credit in former MUCH 570. Instruction Mode: Lecture Grading Option: Letter

MSCR 571 Music of the Great Liturgies
Units: 2 Comparison of the Jewish, Eastern Orthodox, Roman Catholic, Lutheran, and Anglican liturgies and their music; relation to music in the nonliturgical service; the church year. Duplicates Credit in former MUCH 571. Instruction Mode: Lecture Grading Option: Letter

MSCR 572 Sacred Music Administration
Units: 2 Terms Offered: FaSpSm Developing, maintaining and administering the music program of the church or other religious institutions. Programming, staffing, developing budgets, techniques and repertoire for the graded choir program, handbell choir and other ensembles. Duplicates Credit in former MUCH 572. Instruction Mode: Lecture Grading Option: Letter

MSCR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUCH 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSCR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MSCR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUCH 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSCR 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSCR 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Duplicates Credit in former MUCH 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Molecular Structure and Signaling

MSS 574 Molecular Structure and Signaling Seminar Series
Units: 1 Max Units: 12.0 Terms Offered: FaSp Selected topics in Molecular Structure and Signaling. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

MSS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

MSS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MSS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Technology

MTEC 175 Fundamentals of Audio Recording
Units: 2 Introduction to the principles and techniques of audio recording. Students will gain a basic understanding of signal flow, gain structure, microphones, monitoring systems, signal processing, mixing. Duplicates Credit in former MTEC 275a. Instruction Mode: Lecture Grading Option: Letter

MTEC 176 Critical Listening
Units: 2 Introductory course where students will develop an understanding of audio quality, the musical aspects of audio production and the vocabulary necessary to offer audio critique. *Recommended Preparation:* MTEC 175. Duplicates Credit in former MTEC 275a. Instruction Mode: Lecture Grading Option: Letter

MTEC 237a Music Production I
Units: 2 Study of small ensemble (rhythm section, vocal, background vocals) music production in a variety of popular music styles. Instruction Mode: Lecture Grading Option: Letter

MTEC 237b Music Production I
Units: 2 Study of large ensemble (rhythm section, vocal, background vocal with horn section and or strings) music production in a variety of popular music styles. Instruction Mode: Lecture Grading Option: Letter

MTEC 245 Introduction to MIDI Sequencing
Units: 1 Terms Offered: FaSp Introductory course where students will learn to use professional MIDI sequencing software to sequence, edit, and realize music compositions. Instruction Mode: Lecture Grading Option: Letter

MTEC 246 Introduction to Audio Recording and Editing
Units: 1 Terms Offered: FaSp Introduction to the techniques and applications of recording, editing and mixing sound on personal computers. Instruction Mode: Lecture Grading Option: Letter

MTEC 248 Introduction to Music Notation
Units: 1 Terms Offered: FaSp Introduction to the skills and techniques required to prepare musical scores and parts using industry

standard music notation software. Instruction Mode: Lecture Grading Option: Letter

MTEC 249 Introduction to Web Design for Musicians
Units: 1 Terms Offered: FaSp Introductory course where students will learn to use professional web languages, tools, and techniques to create musical artist and band websites. Instruction Mode: Lecture Grading Option: Letter

MTEC 275 Fundamentals of Audio Engineering
Units: 4 Fundamentals of Audio Engineering is an intermediate course in the principles and techniques of professional audio production as related to music. *Recommended Preparation:* MTEC 175 and MTEC 176. Duplicates Credit in former MTEC 275b. Instruction Mode: Lecture, Lab Grading Option: Letter

MTEC 277x Introduction to Music Technology
Units: 4 Terms Offered: FaSpSm A survey of the technology used to create, prepare, perform, and distribute music, with an emphasis on recording, MIDI, music production, mastering and Internet technologies. Duplicates Credit in former MUIN 277. Instruction Mode: Lecture Grading Option: Letter

MTEC 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSp Intermediate and advanced instruction in the applications of technology to the creation and performance of music. *Recommended Preparation:* experience with audio recording and synthesizers. Instruction Mode: Lecture Grading Option: Letter

MTEC 337a Music Production II
Units: 2 Small group instruction to develop the student's arranging, production and project management skills as related to small budget music and multimedia projects. *Prerequisite:* MTEC 237b. Instruction Mode: Lecture Grading Option: Letter

MTEC 337b Music Production II
Units: 2 Small group instruction to develop the student's arranging, production and project management skills as related to medium budget music and multimedia projects. Instruction Mode: Lecture Grading Option: Letter

MTEC 378 Introduction to Mixing and Mastering
Units: 2 Fundamental principles and techniques used to fuse multiple audio elements into clear, comprehensive final products. *Prerequisite:* MTEC 446a Instruction Mode: Lecture Grading Option: Letter

MTEC 379a Recording Studio Theory
Units: 2 Basic electronic concepts needed to understand operational parameters of a state-of-the-art recording studio; schematics, interface, capacitance, resistance and problem solving. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 379ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 379b Recording Studio Theory
Units: 2 Basic electronic concepts needed to understand operational parameters of a state-of-the-art recording studio; schematics, interface, capacitance, resistance and problem solving. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 379ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 389 Digital Equipment and Recording
Units: 2 Digital equipment including computers, sequencers, digital signal synthesis, MIDI, and rotary and stationary digital recording. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 389. Instruction Mode: Lecture Grading Option: Letter

MTEC 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSpSm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former MUEA 390. Instruction Mode: Lecture Grading Option: Letter

MTEC 392a Acoustics and Speaker Design
Units: 2 Principles of acoustics relating to studio construction, wall treatment, and furnishings; natural reverberation, speaker materials, passive and active crossovers and time alignment. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 392ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 392b Acoustics and Speaker Design
Units: 2 Principles of acoustics relating to studio construction, wall treatment, and furnishings; natural reverberation, speaker materials, passive and active crossovers and time alignment. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 392ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 430 Advanced Instrumental Recording
Units: 2 An in-depth study of the standard practices and techniques used in contemporary multi-track recording. *Prerequisite:* (MTEC 175 and MTEC 176) or MTEC 277 or MTEC 575 Instruction Mode: Lecture Grading Option: Letter

MTEC 437 Advanced Music Production for Non-Majors
Units: 2 Max Units: 4 The study of small music production in a variety of popular music styles with the goal of developing the students' arranging, production and project management skills. *Recommended Preparation:* MTEC 275, MTEC 443 or MTEC 444, MTEC 446ab, MUSC 255, MUSC 355 Instruction Mode: Lecture Grading Option: Letter

MTEC 442 Operation of the Radio Studio
Units: 2 Terms Offered: FaSpSm An in-depth study of radio studio technical operations. Topics include consoles, microphones, transmission considerations, networks, satellites, and digital and analog production situations. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 442. Instruction Mode: Lecture Grading Option: Letter

MTEC 443 Desktop Music Production
Units: 2 Intermediate course where students will learn to use professional MIDI sequencing and digital audio software to compose, edit, and mix songs and other music compositions. *Recommended Preparation:* MTEC 245. Duplicates Credit in in former MUIN 305. Instruction Mode: Lecture Grading Option: Letter

MTEC 444 Non-Linear MIDI Sequencing
Units: 2 Terms Offered: FaSp An in-depth course focusing on the principles and techniques of sequencing and performing musical compositions using a non-linear sequencer. *Recommended Preparation:* MTEC 245. Instruction Mode: Lecture Grading Option: Letter

MTEC 445 Advanced Desktop Music Production
Units: 2 Students will learn to apply their musical and technical skills to create professional quality computer-based arrangements in a variety of musical styles. *Recommended Preparation:* MTEC 443 or MTEC 444 and MTEC 474a. Instruction Mode: Lecture Grading Option: Letter

MTEC 446a Computer Assisted Recording and Editing
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording and editing sound on personal computers. Hardware, software, editing for song, sound effects and dialog for film. Duplicates Credit in former MUIN 446ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 446b Computer Assisted Recording and Editing
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording and editing sound on personal computers. Hardware, software, editing for song, sound effects and dialog for film. Duplicates Credit in former MUIN 446ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 448 Computer Music Notation and Preparation
Units: 2 Techniques and principles of computer music notation including conventions of music notation, idiomatic practices, preparation of significant score types, and MIDI basics. Duplicates Credit in former MUIN 448. Instruction Mode: Lecture Grading Option: Letter

MTEC 474a Electronic Synthesizer Techniques
Units: 2, 3, 4 Terms Offered: FaSpSm Electronic music procedures in a multi-track studio. Duplicates Credit in former MUEA 474abx. Instruction Mode: Lecture Grading Option: Letter

MTEC 474b Electronic Synthesizer Techniques
Units: 2, 3, 4 Terms Offered: FaSpSm Electronic music procedures in a multi-track studio. Computer applications. Duplicates Credit in former MUEA 474abx. Instruction Mode: Lecture Grading Option: Letter

MTEC 477 Remote Recording Techniques
Units: 2 Special problems of location recording; specialized equipment; microphone design and operation.

Prerequisite: MTEC 275. Duplicates Credit in former MUIN 477. Instruction Mode: Lecture Grading Option: Letter

MTEC 478 Advanced Multichannel Remix
Units: 2 Special problems of multi-channel re-mixing with simultaneous audio re-processing. Album, film, television and multimedia formats will be covered. *Prerequisite:* MTEC 446a. Duplicates Credit in former MUIN 478. Instruction Mode: Lecture Grading Option: Letter

MTEC 479 Audio Mastering
Units: 2 A survey of the final creative steps of an audio CD. Concepts of acoustics, mastering suite design, critical listening, frequency, dynamics and sequencing. *Prerequisite:* MTEC 275; *Recommended Preparation:* MTEC 446a. Duplicates Credit in former MUIN 479. Instruction Mode: Lecture Grading Option: Letter

MTEC 486 Computer-Assisted Music Editing for Picture
Units: 2 Terms Offered: FaSpSm Techniques and applications of recording, editing and synchronizing music and sounds to film, video or games, using time code and personal computers. *Prerequisite:* MTEC 446b. Duplicates Credit in former MUIN 486. Instruction Mode: Lecture Grading Option: Letter

MTEC 488a Recording Studio Maintenance
Units: 2 Fundamentals needed to perform maintenance on professional audio equipment including trouble-shooting, interface, and alignment procedures. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 488ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 488b Recording Studio Maintenance
Units: 2 Fundamentals needed to perform maintenance on professional audio equipment including trouble-shooting, interface, and alignment procedures. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 488ab. Instruction Mode: Lecture Grading Option: Letter

MTEC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Duplicates Credit in former MUEA 490x. Instruction Mode: Lecture Grading Option: Letter

MTEC 491 The Recording Console
Units: 4 Introduction to professional analog audio consoles and their use in recording and mixing music for records, video and film. *Prerequisite:* MTEC 275 and MTEC 446a. Duplicates Credit in former MTEC 291. Instruction Mode: Lecture Grading Option: Letter

MTEC 493 Audio Signal Processing Equipment
Units: 2 Principles and design characteristics of digital and analog signal processing equipment including plate reverb, digital reverbs, synchronizers, digital editing systems and mastering systems. *Prerequisite:* MTEC 275. Duplicates Credit in former MUIN 493. Instruction Mode: Lecture Grading Option: Letter

MTEC 494 Classical Music Recording
Units: 4 Principles of classical music recording with emphasis on history, equipment, techniques, and locations. Differences in orchestral, choral, opera, and small ensemble recording. Duplicates Credit in former MUIN 494. Instruction Mode: Lecture Grading Option: Letter

MTEC 498a Senior Project
Units: 1 Culmination of the four-year course of study intended to afford students the opportunity to pursue a mentored project to advance their future careers. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MTEC 498b Senior Project
Units: 1 Culmination of the four-year course of study intended to afford students the opportunity to pursue a mentored project to advance their future careers. Instruction Mode: Lecture Grading Option: Credit/No Credit

MTEC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Duplicates Credit in former MUEA 499. Instruction Mode: Lecture Grading Option: Letter

MTEC 501 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSp Intermediate and advanced instruction in the applications of technology to the creation and performance of music. *Recommended Preparation:* experience with audio recording and synthesizers. Instruction Mode: Lecture Grading Option: Letter

MTEC 550 Technology and the Collegiate Music Curriculum
Units: 2 Prepares the college-level music instructor for assuming a technological leadership role within a music department. Examines traditional, experimental, and pedagogical aspects of technology. *Recommended Preparation:* computer, Internet, and basic music software literacy. Instruction Mode: Lecture Grading Option: Letter

MTEC 575 Music Technology and Production
Units: 4 Terms Offered: FaSpSm Fundamentals of audio recording. Focuses on the principles and applications of sound and hearing, recording systems and their components, and production techniques. Duplicates Credit in former MUIN 575. Instruction Mode: Lecture Grading Option: Letter

MTEC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUEA 590. Instruction Mode: Lecture Grading Option: Credit/No Credit

MTEC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MTEC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUEA 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

Conducting

MUCD 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction secondary emphasis for music majors and minors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MUCD 401. Instruction Mode: Lecture Grading Option: Letter

MUCD 340 Choral Conducting I
Units: 2 Terms Offered: FaSpSm Basic conducting techniques; score analysis; conducting patterns; problems of tempo, dynamics, articulation and text. Instruction Mode: Lecture Grading Option: Letter

MUCD 343 Instrumental Conducting I
Units: 2 Terms Offered: FaSp Communicating musical ideas to instrumental ensembles; reading and conducting from full score of orchestral compositions. *Prerequisite:* ability to read a music score. Instruction Mode: Lecture Grading Option: Letter

MUCD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCD 441 Choral Conducting II
Units: 2 Refinement of techniques developed in MUCD 340; study of styles and interpretations of choral music from the Renaissance to the present. *Prerequisite:* MUCD 340, MUCD 343. Instruction Mode: Lecture Grading Option: Letter

MUCD 443 Instrumental Conducting II
Units: 2 Terms Offered: FaSpSm Principal composers and representative instrumental works since the 18th century; studies of styles and interpretations based on scores and the performance of works in class. Instruction Mode: Lecture Grading Option: Letter

MUCD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCD 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MUCD 541 Choral Conducting III
Units: 2 Max Units: 6.0 Problems of preparing and conducting contemporary

choral music and major choral-orchestral works from full score; special projects according to student's development and interests. *Prerequisite:* MUCD 441. Instruction Mode: Lecture Grading Option: Letter

MUCD 543 Instrumental Conducting III
Units: 2 Max Units: 4.0 Terms Offered: FaSp Problems in advanced conducting. *Prerequisite:* MUCD 443. Instruction Mode: Lecture Grading Option: Letter

MUCD 550 Orchestral Conducting Seminar
Units: 2 Max Units: 8.0 Terms Offered: FaSp Advanced instrumental conducting techniques. Literature drawn from music of all periods. *Prerequisite:* MUCD 441, MUCD 443, and admission as candidate for MM degree in conducting. Instruction Mode: Lecture Grading Option: Letter

MUCD 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MUCD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCD 641 Choral Conducting IV
Units: 2 Max Units: 8.0 Continuation of MUCD 541, including choral conducting pedagogy. *Prerequisite:* MUCD 541. Instruction Mode: Lecture Grading Option: Letter

MUCD 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Duplicates Credit in former MUPF 653. Instruction Mode: Lecture Grading Option: Letter

MUCD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Choral Music

MUCM 320 Introduction to Choral Music
Units: 2 An introduction to the many facets of choral music. Grounding in the intellectual and practical issues of choirs, singing, and choral literature. *Recommended Preparation:* ability to read music. Instruction Mode: Lecture Grading Option: Letter

MUCM 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration is permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCM 440 Choral Development
Units: 2 Problems of achieving proper balance, blend, intonation, diction, precision, etc., in choral groups; criteria for selection of repertoire for particular groups. Instruction Mode: Lecture Grading Option: Letter

MUCM 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCM 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCM 541 Choral Literature I
Units: 2 Choral composition from c. 1500 to 1800. Performance and analysis of representative works. Instruction Mode: Lecture Grading Option: Letter

MUCM 542 Choral Literature II
Units: 2 19th and 20th century choral works; criteria for program building. Instruction Mode: Lecture Grading Option: Letter

MUCM 543 Seminar in Choral Music
Units: 2 Max Units: 4.0 Advanced choral techniques; historical, analytical and performance problems. *Prerequisite:* MUCM 641. Instruction Mode: Lecture Grading Option: Letter

MUCM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Supervised research in preparation for the Master's recital. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCM 641 Choral Literature III
Units: 2 Detailed study of selected major choral works; historical context, score analysis, performance practices. *Prerequisite:* MUCM 541, MUCM 542. Instruction Mode: Lecture Grading Option: Letter

MUCM 643 Seminar in Choral Music II
Units: 2 Max Units: 4.0 Terms Offered: Sp Continuation of MUCM 543, with concentration on the conducting problems in major choral-orchestral works. Instruction Mode: Lecture Grading Option: Letter

MUCM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCM 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCM 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCM 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

MUCM 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

MUCM 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Composition

MUCO 101x Fundamentals of Music Theory
Units: 2 Terms Offered: FaSp An introductory course in music theory required for those majors in need of remedial training, and available to the general student who wishes to develop music writing skills. *Recommended Preparation:* ability to read music. Instruction Mode: Lecture Grading Option: Letter

MUCO 130ax Basics of Music Theory
Units: 3 Terms Offered: FaSp Introduction to music theory; scales, intervals, principles of common practice and popular music harmony; melodic, harmonic, and structural analysis; 20th century developments. Instruction Mode: Lecture Grading Option: Letter

MUCO 130bx Basics of Music Theory
Units: 3 Terms Offered: FaSp Introduction to music theory; scales, intervals, principles of common practice and popular music harmony; melodic, harmonic, and structural analysis; 20th century developments. Instruction Mode: Lecture Grading Option: Letter

MUCO 131a Harmony in Popular Music
Units: 2 Terms Offered: FaSpSm Study of harmony used in the popular music idiom, as well as diminished chord patterns, modulation techniques, basic modal theory, and principles of melodic construction. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 131b Harmony in Popular Music
Units: 2 Terms Offered: FaSpSm Study of harmony used in the popular music idiom, as well as diminished chord patterns, modulation techniques, basic modal theory, and principles of melodic construction. *Prerequisite:* MUCO 131a. Instruction Mode: Lecture Grading Option: Letter

MUCO 132a Aural Skills I
Units: 2 Terms Offered: FaSp Sight-singing, dictation, related keyboard application. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 132b Aural Skills I
Units: 2 Terms Offered: FaSp Sight-singing, dictation, related keyboard application. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 133a Theory I
Units: 3 Terms Offered: FaSp Notation, scales, intervals; introduction to counterpoint; harmonic principles of the common practice period; analysis, written work. *Concurrent Enrollment:* Concurrent registration in Aural Skills required. Instruction Mode: Lecture Grading Option: Letter

MUCO 133b Theory I
Units: 3 Terms Offered: FaSp Continuation of MUCO 133a; elements of form; application of analysis to performance. *Concurrent Enrollment:* Concurrent registration in Aural Skills required. Instruction Mode: Lecture Grading Option: Letter

MUCO 135 Counterpoint I
Units: 2 Terms Offered: FaSpSm The study of the techniques of modal counterpoint; exercises in two-, three- and four-part writing in 16th century style. *Corequisite:* MUCO 137a. Instruction Mode: Lecture Grading Option: Letter

MUCO 137a Composition I
Units: 4 Beginning exercises in composing, initial composition projects, study, lectures and class discussions of selected compositions from the repertory. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 137b Composition I
Units: 4 Beginning exercises in composing, initial composition projects, study, lectures and class discussions of selected compositions from the repertory. *Prerequisite:* MUCO 137a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 140 Music for Dancers
Units: 2 Practical understanding and perception of music coupled with the ability to follow a score and understand the work in relation to dance. Instruction Mode: Lecture Grading Option: Letter

MUCO 221ax Composition for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to the composition of concert music. Includes set exercises, free composition, study of selected compositions. Intended for interested, qualified students not majoring in composition. *Prerequisite:* MUCO 221a; *Recommended Preparation:* MUCO 130b, MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 221bx Composition for Non-Majors
Units: 2 Terms Offered: FaSp Introduction to the composition of concert music. Includes set exercises, free composition, study of selected compositions. Intended for interested, qualified students not majoring in composition. *Prerequisite:* MUCO 221a; *Recommended Preparation:* MUCO 130b, MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 232a Aural Skills II
Units: 2 Terms Offered: FaSp Continuation of MUCO 132a, MUCO 132b. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 232b Aural Skills II
Units: 2 Terms Offered: FaSp Continuation of MUCO 132a, MUCO 132b. Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 233a Theory II
Units: 3 Terms Offered: Fa Analysis of representative pieces from the classic and romantic periods; exercises in composition. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 233b Theory II
Units: 3 Terms Offered: Sp Survey of 20th century developments; composition utilizing 20th century techniques. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 235 Counterpoint II
Units: 2 Terms Offered: Sp Studies in tonal counterpoint; two-, three- and four-part counterpoint in 18th century style; polyphonic variations; inventions. *Prerequisite:* MUCO 137b. Instruction Mode: Lecture Grading Option: Letter

MUCO 236 Orchestration I
Units: 2 Terms Offered: Fa Introduction to the principles of instrumentation; ranges techniques, timbres; transpositions of orchestral instruments; beginning exercises in orchestration. *Prerequisite:* MUCO 137b. Instruction Mode: Lecture Grading Option: Letter

MUCO 237a Composition II
Units: 4 Composition in shorter forms, continuation of score analysis and listening assignments. *Prerequisite:* MUCO 137b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 237b Composition II
Units: 4 Composition in shorter forms, continuation of score analysis and listening assignments. *Prerequisite:* MUCO 237a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 300 Theory Review
Units: 1 Terms Offered: FaSpSm Review of materials covered in Theory I and II. For students whose entrance examination in music theory indicates the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 321x Composition for Non-Majors II
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Individual instruction in composition for non-composition majors. Continuation of MUCO 221a, MUCO 221b. *Prerequisite:* MUCO 221b. Instruction Mode: Lecture Grading Option: Letter

MUCO 333 Aural Skills Review
Units: 1 Terms Offered: FaSp Review of the materials covered in Aural Skills I, II, and III. For students whose entrance examination in aural skills indicates the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 336a Orchestration II
Units: 2 Terms Offered: FaSp Intermediate exercises in orchestration, including scoring for chamber ensembles and orchestra; study of the history of orchestration. *Prerequisite:* MUCO 236. Instruction Mode: Lecture Grading Option: Letter

MUCO 336b Orchestration II
Units: 2 Terms Offered: FaSp Intermediate exercises in orchestration, including scoring for chamber ensembles and orchestra; study of the history of orchestration. *Prerequisite:* MUCO 236. Instruction Mode: Lecture Grading Option: Letter

MUCO 337a Composition III
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 237b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 337b Composition III
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 337a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 338x Elementary Orchestration
Units: 2 Terms Offered: Fa Range, techniques, timbre, transposition of orchestral instruments; exercises in orchestration. *Recommended Preparation:* MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 339 Orchestration Review
Units: 1 Terms Offered: FaSm Review of materials covered in elementary orchestration; for students whose entrance examination in orchestration indicates a need for further study. Instruction Mode: Lecture Grading Option: Letter

MUCO 341 Counterpoint Review
Units: 1 Terms Offered: SpSm Review of materials covered in tonal counterpoint. For students whose entrance examination in counterpoint indicates the need for further study. For graduate students only. Instruction Mode: Lecture Grading Option: Letter

MUCO 360 Music Notation and Copying
Units: 1 Development of skills in music calligraphy. Instruction Mode: Lecture Grading Option: Letter

MUCO 370a Arranging for the Recording Media
Units: 2 Arranging and composing for studio recording ensembles. Instruction Mode: Lecture Grading Option: Letter

MUCO 370b Arranging for the Recording Media
Units: 2 Arranging and composing for studio recording ensembles. Instruction Mode: Lecture Grading Option: Letter

MUCO 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUCO 406a Contemporary Notation
Units: 2 Notating new music; study and comparison of representative scores. Instruction Mode: Lecture Grading Option: Letter

MUCO 406b Contemporary Notation
Units: 2 Notating new music; study and comparison of representative scores. Instruction Mode: Lecture Grading Option: Letter

MUCO 422 Composers and Interdisciplinary Art Studies
Units: 2 Max Units: 6.0 A structured collaboration between composers and artists outside of music to explore an interdisciplinary area in an environment of practical collaborative creation. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUCO 425 Instrumental Music of Debussy and Ravel
Units: 2 Critical examination of the piano, chamber, and orchestral scores; comparison of styles, techniques and aesthetics of these "Impressionist" composers. *Prerequisite:* MUCO 336a or MUCO 338; MUHL 331; MUHL 332. Instruction Mode: Lecture Grading Option: Letter

MUCO 432a Advanced Theory
Units: 1 or 2 Special problems in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 432b Advanced Theory
Units: 1 or 2 Special problems in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 434 Analytical Techniques
Units: 2 Selected analytical topics. *Prerequisite:* MUCO 232b, MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 435 Counterpoint III
Units: 2 Terms Offered: Fa Canon and fugue; 19th and 20th century developments. *Prerequisite:* MUCO 235. Instruction Mode: Lecture Grading Option: Letter

MUCO 436 Orchestration III
Units: 2 Terms Offered: Sp Continuation of Orchestration II. *Prerequisite:* MUCO 336a, MUCO 336b. Instruction Mode: Lecture Grading Option: Letter

MUCO 437a Composition IV
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 337b Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 437b Composition IV
Units: 2 Individual instruction in composition; preparation for the senior recital. *Prerequisite:* MUCO 437a Instruction Mode: Lecture, Lab Grading Option: Letter

MUCO 438 Arranging for Marching Band
Units: 2 Fundamental concepts; instrumental capabilities; notation; color and scoring; modulation; percussion writing. *Prerequisite:* MUCO 336b or MUCO 338. Instruction Mode: Lecture Grading Option: Letter

MUCO 439 Band Arranging
Units: 2 Max Units: 4.0 Characteristics and use of individual instruments; writing for separate choirs; chamber and solo writing; scoring piano, organ, and orchestral music for band. *Prerequisite:* MUCO 237b, MUCO 336b or MUCO 338. Instruction Mode: Lecture Grading Option: Letter

MUCO 441 Choral Arranging
Units: 1, 2 Max Units: 4.0 Terms Offered: FaSpSm Arranging and composing for chorus. *Prerequisite:* MUCO 233b. Instruction Mode: Lecture Grading Option: Letter

MUCO 470 Electroacoustic Composition
Units: 2 Electronic music for the composer: history of means and styles, aesthetic issues and practical problems, computer usages, bibliography and repertoire. *Recommended Preparation:* MTEC 474a. Instruction Mode: Lecture Grading Option: Letter

MUCO 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUCO 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUCO 501 Introduction to the Analysis of Tonal Music
Units: 2 Terms Offered: FaSp Survey of common practice period (1650–1900) approaches to phrase design, tonal organization and type-forms (binary, ternary, rondo, sonata). Instruction Mode: Lecture Grading Option: Letter

MUCO 502 Introduction to the Analysis of Post-Tonal Music
Units: 2 Terms Offered: FaSp Introductory survey of 20th/21st century approaches to the organization of pitch (serial, modal, extended tonal, etc.), rhythm, texture and form. Instruction Mode: Lecture Grading Option: Letter

MUCO 521x Composition for Non-Majors III
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Individual instruction in composition. *Prerequisite:* submission of portfolio of musical compositions. Instruction Mode: Lecture Grading Option: Letter

MUCO 533a Analytical Approaches to Tonal Music
Units: 2 Terms Offered: FaSp Introducing to essential structural and prolongational aspects of Schenkerian theory. *Prerequisite:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 533b Analytical Approaches to Tonal Music
Units: 2 Terms Offered: FaSp Application of the Schenkerian methods to individual movements and short pieces. *Prerequisite:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 536 Advanced Orchestration I
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSp Continuation of Orchestration III with emphasis on contemporary techniques. Instruction Mode: Lecture Grading Option: Letter

MUCO 537 Advanced Composition I
Units: 1 or 2 Max Units: 8.0 For graduates with evidence of preparation for advanced work. Instruction Mode: Lecture Grading Option: Letter

MUCO 538a Analytical Approaches to Post-Tonal Music from 1908–1950
Units: 2 Terms Offered: FaSp The breakdown of tonality, rise of atonal/pantonal pitch organization, new and extended approaches to tonality, modality. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 538b Analytical Approaches to Post-Tonal Music from 1908–1950
Units: 2 Terms Offered: FaSp Continuation of MUCO 538a; twelve-tone methods, just tuning systems, new approaches to rhythm, texture, timbre. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 539a Theoretical and Aesthetic Issues in Music from 1950 to the Present
Units: 2 Terms Offered: FaSp Anti-rationality and indeterminancy, ultra-rationality and integral serialism, new performance procedures, electronic music and new technologies, minimalism. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 539b Theoretical and Aesthetic Issues in Music from 1950 to the Present
Units: 2 Terms Offered: FaSp Post-modernism of reaction, post-modernism of resistance, mannerist minimalism, anti-modernism. *Prerequisite:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 548 Writer and Composer
Units: 3 Terms Offered: Sp Structured collaboration among composers and poets. Activities include fundamentals of poetry, comparative analysis, creative projects. Instruction Mode: Lecture Grading Option: Letter

MUCO 550 Teaching Music Theory
Units: 2 Comparative study of curricula, text materials, and teaching strategies in music theory. Instruction Mode: Lecture Grading Option: Letter

MUCO 571 Comparative Analytical Studies: Traditional Forms
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical survey of the development of a specific form or genre. Specific emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 572 Comparative Analytical Studies: 20th/21st Century and Non-Traditional Forms
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm In-depth analysis of characteristic forms and genres of 20th century music or of other forms and genres that do not figure largely in the "common practice" tradition. Specific emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 573 Special Studies in Contrapuntal Music
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm In-depth analytical and historical study of contrapuntal techniques and styles. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 574 Special Studies in Tonal Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical study of major composers and/or problems in tonal music. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 501. Instruction Mode: Lecture Grading Option: Letter

MUCO 575 Special Studies in Post-Tonal Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Analytical study of major composers and/or problems in post-tonal music. Emphasis to be determined by the department. *Recommended Preparation:* MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 576 Special Studies in Musical Aesthetics
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm An investigation of aesthetics in general and the application of aesthetic theories to music; readings will be selected from pre-modern, modern, and post-modern texts. *Recommended Preparation:* MUCO 501 and MUCO 502. Instruction Mode: Lecture Grading Option: Letter

MUCO 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCO 592 Selected Topics in Graduate Composition
Units: 2 Max Units: 8.0 Terms Offered: Irregular Seminar for graduate students in composition that addresses aesthetic, technical and analytical issues from a composer's perspective. Registration Restriction: Open only to theory and composition majors. Instruction Mode: Lecture Grading Option: Letter

MUCO 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminars in selected areas of study. Instruction Mode: Lecture Grading Option: Letter

MUCO 633a Advanced Analysis of Tonal Music
Units: 2 Application of Schenkerian techniques to large works. *Prerequisite:* MUCO 533b. Instruction Mode: Lecture Grading Option: Letter

MUCO 633b Advanced Analysis of Tonal Music
Units: 2 Criticisms and extensions of Schenker, semiotic approaches, theories of rhythmic structure. *Prerequisite:* MUCO 533b. Instruction Mode: Lecture Grading Option: Letter

MUCO 636 Advanced Orchestration II
Units: 1 or 2 Max Units: 4.0 Terms Offered: FaSp Continuation of Advanced Orchestration I with emphasis on historical survey of orchestral compositions and advanced orchestration projects. *Prerequisite:* MUCO 536. Instruction Mode: Lecture Grading Option: Letter

MUCO 637 Advanced Composition II
Units: 1, 2 Max Units: 4.0 Continuation of MUCO 537. For students holding the MM degree in composition. *Prerequisite:* MUCO 536, MUCO 637. Instruction Mode: Lecture Grading Option: Letter

MUCO 737 Advanced Composition III
Units: 1 or 2 Max Units: 8.0 Continuation of MUCO 637. *Prerequisite:* MUCO 536, MUCO 637. Instruction Mode: Lecture Grading Option: Letter

MUCO 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUCO 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUCO 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Teaching and Learning

MTAL 330 Fundamentals of Music
Units: 4 Introduction to the content of music through an investigation of its melodic, rhythmic, and harmonic structure. Duplicates Credit in former MUED 330x Instruction Mode: Lecture Grading Option: Letter

MTAL 440a Music and Movement: The Orff Approach
Units: 2 Orff Schulwerk techniques in rhythmic and melodic training through speech, singing, body percussion, playing Orff instruments, improvisation, and elemental movement. Certification available. Duplicates Credit in former MUED 440a Instruction Mode: Lecture Grading Option: Letter

MTAL 440b Music and Movement: The Orff Approach
Units: 2 Orff Schulwerk techniques in rhythmic and melodic training through speech, singing, body percussion, playing Orff instruments, improvisation, and elemental movement. Certification available. *Prerequisite:* MTAL 440a Duplicates Credit in former MUED 440b Instruction Mode: Lecture Grading Option: Letter

MTAL 443 Teaching Vocal Jazz
Units: 2 Strategies for teaching the principles of vocal jazz; historical perspective, repertoire, recordings, improvisation, scat, accompaniment, amplification, rehearsing, teaching sequences. No prior jazz experience necessary. Duplicates Credit in former MUED 443 Instruction Mode: Lecture Grading Option: Letter

MTAL 449 Teaching Marching Band
Units: 2 Modern school marching band techniques; precision drill; administration; rehearsal techniques. Duplicates Credit in former MUED 449 Instruction Mode: Lecture Grading Option: Letter

MTAL 470 Improvisation and Composition for Teaching and Learning
Units: 2 An introduction to the craft of musical improvisation and composition, developing personal and idiomatic vocabulary in a variety of traditional and contemporary musical styles. Instruction Mode: Lecture Grading Option: Letter

MTAL 475 Teaching and Learning: Children
Units: 2 Applied study of developmental, contextual, pedagogical and philosophical issues that underlie children's music learning experiences. Instruction Mode: Lecture Grading Option: Letter

MTAL 476 Teaching and Learning: Youth
Units: 2 Applied study of developmental, contextual, pedagogical and philosophical issues that underlie musical experiences of adolescents and young adults. Instruction Mode: Lecture Grading Option: Letter

MTAL 477 Cultural Diversity in Music Teaching and Learning
Units: 1 Study of cultural issues in music teaching and learning. Instruction Mode: Lecture Grading Option: Letter

MTAL 480 Contemporary Pedagogy, Small Instrumental Ensembles
Units: 3 Designed to cover traditional approaches to small group teaching in schools with contemporary techniques. Percussion, guitar, keyboard, informal instruments are featured. Also features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 481 Contemporary Pedagogy, Larger Instrumental Ensembles
Units: 3 Traditional approaches to large group teaching in schools with contemporary techniques. Brass, woodwind and string instruments are featured. Features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 482 Contemporary Pedagogy, Vocal and General Music
Units: 2 Designed to cover traditional approaches to vocal/general music group teaching in schools with contemporary techniques. Vocal and general music techniques are featured. Also features a fieldwork component. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research and readings. Registration Restriction: Open only to juniors and seniors Duplicates Credit in

former MUED 490x Instruction Mode: Lecture Grading Option: Letter

MTAL 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest reflective of changing trends in music education. Duplicates Credit in former MUED 499 Instruction Mode: Lecture Grading Option: Letter

MTAL 500 Research Foundations in Music Teaching and Learning
Units: 3 Introductory exploration of types of research linked to research literature in music teaching and learning; interpreting research reports; organizing and writing research proposals and reports. Duplicates Credit in former MUED 500 Instruction Mode: Lecture Grading Option: Letter

MTAL 501 Historical Foundations of Music Education
Units: 3 A contextual exploration of the historical development of American music education. Duplicates Credit in former MUED 501 Instruction Mode: Lecture Grading Option: Letter

MTAL 502 Sociological Foundations of Music Teaching and Learning
Units: 3 Study of interdependent relationship between society, music and music education. Duplicates Credit in former MUED 502 Instruction Mode: Lecture Grading Option: Letter

MTAL 503 Philosophical and Advocacy Issues in Music Teaching and Learning
Units: 3 Exploration of philosophical thinking in the field of music with emphasis on philosophical foundations for teaching and learning. Duplicates Credit in former MUED 503 Instruction Mode: Lecture Grading Option: Letter

MTAL 504 Psychological Foundations of Music
Units: 3 Exploration of theories, research and practice in psychological foundations of music teaching and learning. Duplicates Credit in former MUED 504 Instruction Mode: Lecture Grading Option: Letter

MTAL 505 Teaching and Learning Music
Units: 2 Studies of the latest resources concerning the teaching and learning of music so that musicians can function more effectively as both teachers and performers. Duplicates Credit in former MUED 505 Instruction Mode: Lecture Grading Option: Letter

MTAL 510 Leading a Music Program in a Public School Setting
Units: 2 The philosophy and purposes of music programs combined with early field experiences, varied teaching strategies, and music learning assessment. Duplicates Credit in former MUED 510 Instruction Mode: Lecture Grading Option: Letter

MTAL 535 Community Engagement Through Music
Units: 2 Explores the essential role of community and arts partnerships in music education with implications for the expanding entrepreneurial role of musician/educators. Instruction Mode: Lecture Grading Option: Letter

MTAL 537 Community Engagement Models and Frameworks in Music
Units: 1 Explores frameworks of partnerships and community organizations to inform innovative design, negotiate complexity and problem-solve in community music organizations. Instruction Mode: Lecture Grading Option: Letter

MTAL 538 Music in the Community, Program Development and Evaluation
Units: 2 Explores the design and development of community music programs, including community needs assessment, program delivery and strategies and applications for program evaluation. Instruction Mode: Lecture Grading Option: Letter

MTAL 550 Teaching Music Fundamentals and Appreciation Courses
Units: 2 Purpose and objectives of music in general education. Survey of current approaches and materials. Duplicates Credit in former MUED 550 Instruction Mode: Lecture Grading Option: Letter

MTAL 552 Music Education Courseware Development
Units: 2 Development of music education courseware using current technology. Two lecture hours per week. Duplicates Credit in former MUED 552 Instruction Mode: Lecture Grading Option: Letter

MTAL 576 Using Technology in the Classroom
Units: 2 Study of the tools and knowledge necessary to the music educator to facilitate the application of computers and electronic music in music education. Duplicates Credit in former MUED 515 Instruction Mode: Lecture Grading Option: Letter

MTAL 584 Early Childhood Music
Units: 2 An overview of significant developmental issues, current research, and appropriate practices for children from birth to age eight. Professor-guided practicum teaching. Duplicates Credit in former MUED 520 Instruction Mode: Lecture Grading Option: Letter

MTAL 585 Research and Practice in Orff Schulwerk
Units: 2 Exploring research on the philosophical and historical bases of the Orff Schulwerk approach and acquiring skills in pedagogical applications in early childhood through collegiate settings. Duplicates Credit in former MUED 640 Instruction Mode: Lecture Grading Option: Letter

MTAL 588 Guided Practice
Units: 3 Student teachers observe and teach under the guidance of a university supervisor (USC professor) and a master teacher. Instruction Mode: Lecture, Lab Grading Option: Letter

MTAL 589 Community Music Practicum
Units: 2 Max Units: 04 Provides structure and support as students design, develop and execute a community music project as part of an existing organization or a new endeavor. Instruction Mode: Lecture Grading Option: Letter

MTAL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUED 590 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 592 Final Project
Units: 2 Required for the Master of Music, Teaching and Learning degree. Credit upon acceptance. *Prerequisite:* MTAL 500 Duplicates Credit in former MUED 592 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Registration Restriction: Open only to master students Duplicates Credit in former MUED 594a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. *Prerequisite:* MTAL 594a Registration Restriction: Open only to master students Duplicates Credit in former MUED 594b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. *Prerequisite:* MTAL 594b Registration Restriction: Open only to master students Duplicates Credit in former MUED 594z Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 599 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest reflective of changing trends in music education. Duplicates Credit in former MUED 599 Instruction Mode: Lecture Grading Option: Letter

MTAL 605 College Teaching in Music Education
Units: 2 Exploration of music education faculty duties at the collegiate level, such as teaching general/secondary methods, working with student teachers, leading professional organizations, and conducting research. Duplicates Credit in former MUED 605 Instruction Mode: Lecture Grading Option: Letter

MTAL 606 Internship in Collegiate Music Education
Units: 3 Students intern with USC professors in training music teachers in traditional and alternative music education practices. Duplicates Credit in former MUED 606 Instruction Mode: Lecture Grading Option: Letter

MTAL 607 Alternative Models in Music Teaching and Learning
Units: 2 Exploration of community music programs in the U.S. and beyond with emphasis on philosophical, sociological, structural and cultural bases for the diverse programs. Duplicates Credit in former MUED 607 Instruction Mode: Lecture Grading Option: Letter

MTAL 608 Creative Thinking in Music
Units: 3 Review of important developments in research and practice for the encouragement of creative thinking in music for music teaching and learning. Instruction

Mode: Lecture Grading Option: Letter

MTAL 615 Assessment and Reflective Practice
Units: 2 Examination of major aspects of measurement and evaluation that comprise the art of assessment of music teaching and learning. *Recommended Preparation:* MTAL 500 Instruction Mode: Lecture Grading Option: Letter

MTAL 650 Pedagogy for Collegiate Music Appreciation and Fundamentals
Units: 2 Design and teaching strategies for collegiate music appreciation and fundamentals classes developed for the adult, non music major student. Duplicates Credit in former MUED 650 Instruction Mode: Lecture Grading Option: Letter

MTAL 652 Pedagogy for Collegiate Teaching
Units: 2 A preparation for teaching in the modern university environment, examining the role of the professor, and focusing on the development of innovative collegiate teaching skills. Duplicates Credit in former MUED 610 Instruction Mode: Lecture Grading Option: Letter

MTAL 720 Quantitative Research in Music Teaching and Learning
Units: 3 Survey of theories, concepts and procedures for designing, conducting and evaluating quantitative research studies in music teaching and learning. *Prerequisite:* Duplicates Credit in former MUED 792 Instruction Mode: Lecture Grading Option: Letter

MTAL 721 Qualitative Research in Music Teaching and Learning
Units: 3 Survey of theories, concepts and tools for designing, conducting and evaluating qualitative studies in music teaching and learning. *Prerequisite:* Duplicates Credit in former MUED 793 Instruction Mode: Lecture Grading Option: Letter

MTAL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former MUED 790 Instruction Mode: Lecture Grading Option: Credit/No Credit

MTAL 791 Pedagogical Writing and Media in Music Education
Units: 3 Development of skills in pedagogical writing for professional journals, text books, and multimedia publications, and knowledge of publishing procedures for compositions and arrangements. Duplicates Credit in former MUED 791 Instruction Mode: Lecture Grading Option: Letter

MTAL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Duplicates Credit in former MUED 794a Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794a Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794b Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794c Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794c Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794d Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

MTAL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. *Prerequisite:* MTAL 794d Registration Restriction: Open only to doctoral students Duplicates Credit in former MUED 794z Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Music Ensemble

Large ensemble requirements in undergraduate curricula must be fulfilled by the following ensembles: University Chorus (MUEN 307); Men's Chorus (MUEN 308); Oriana Choir (MUEN 311); University Concert Choir (MUEN 310); Chamber Choir (MUEN 312); USC Symphony (MUEN 320); USC Concert Orchestra (MUEN 321); University Wind Ensemble (MUEN 323); or University Band (MUEN 324).
Exceptions to the above policies include: Contemporary Music Ensemble and Early Music Ensemble may fulfill the large ensemble requirement for instrumental majors, with the approval of the conductor of University Symphony or Wind Ensemble and the chair of the student's major department.
Music Education majors with an instrumental emphasis must take one semester of a choral ensemble.
Composition majors must register for at least 2 units in a choral ensemble.
Students majoring in Strings, Vocal Arts, or Wind and Percussion may not count USC Concert Orchestra toward their large ensemble requirement.
Vocal Arts majors must register for University Concert Choir, USC Chamber Choir, or USC Oriana Choir to fulfill their large ensemble requirement.
Further exceptions may be made subject to departmental approval and approval of the conductor of the appropriate large ensemble.

MUEN 222 Trojan Marching Band
Units: 1 Rehearsal and participation in performances for athletic and other university functions. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 305 Vocal Jazz Ensemble
Units: 1 Terms Offered: FaSp Study and performance of vocal ensemble literature from the Jazz idiom, with emphasis on improvisational techniques. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 307 University Chorus
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of choral literature from all periods of music history. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 308 USC Men's Chorus
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of choral repertoire from all periods written for male voices. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 310 University Concert Choir
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of choral works of all styles and periods. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 311 USC Oriana Choir
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of advanced chamber music written for women's voices. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 312 Chamber Singers
Units: 1 Max Units: 08 Performance of choral music and choral masterworks from the 16th century to the present. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 314 Opera Chorus
Units: 1 Max Units: 8.0 Terms Offered: FaSp Study and performance of operatic choruses and extended ensembles of all styles and periods. Duplicates Credit in former MUEN 214 and MUEN 414. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 320 USC Symphony
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Duplicates Credit in former MUEN 220 and MUEN 420. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 321 USC Concert Orchestra
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 322 Trojan Marching Band
Units: 1 Max Units: 4.0 Continuation of MUEN 222. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 323 University Wind Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and participation in concert programs. Duplicates Credit in former MUEN 223 and MUEN 423. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 324 University Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of standard repertoire. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 325 Wind and Percussion Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of chamber music for wind and percussion instruments. Duplicates Credit in former MUEN 225 and MUEN 425. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 326 Guitar Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of literature composed, transcribed and arranged for small ensembles, including literature for small ensembles of guitar and other instruments, as well as voice. Duplicates Credit in former MUEN 226 and MUEN 426. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 327 String Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of small ensemble literature for strings. Duplicates Credit in former MUEN 227 and MUEN 427. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 328 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of literature for piano with voice and string, woodwind, brass and percussion instruments. Duplicates Credit in former MUEN 428. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 329 Jazz Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of literature written for large jazz ensemble. Duplicates Credit in former MUEN 229 and MUEN 429. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 330 Contemporary Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Performance of 20th-century music; readings of student and faculty compositions; experimental music; guest conductors, composers, performers; annual concert series. Duplicates Credit in former MUEN 230 and MUEN 430. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 331 Guitar Big Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and preparation of big band literature adapted for large guitar ensemble. Guitarists perform in place of the traditional trumpet, trombone and sax sections. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 332 Jazz Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of literature for jazz chamber groups. Duplicates Credit in former MUEN 232 and MUEN 432. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 335 University Brass Band
Units: 1 Max Units: 8.0 Terms Offered: FaSp The study, rehearsal and performance of standard brass choir and brass band literature. Duplicates Credit in former MUEN 235 and MUEN 435. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 344 Vocal Chamber Music
Units: 1 Max Units: 8.0 Terms Offered: Fa Study of solo ensemble vocal literature such as duets, trios, quartets, madrigals, etc. Duplicates Credit in former MUEN 244 and MUEN 444. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 350 Early Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of vocal and instrumental ensemble music of the Renaissance and Baroque, with emphasis on chamber music for solo voices and bowed and plucked strings. Instrumentalists are required to perform on either their own or the school's historical instruments. Duplicates Credit in former MUEN 250 and MUEN 450. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUEN 505 Vocal Jazz Ensemble
Units: 1 Terms Offered: FaSp Study and performance of vocal ensemble literature from the Jazz idiom, with emphasis on improvisational techniques. Instruction Mode: Lecture Grading Option: Letter

MUEN 507 University Chorus
Units: 1 Terms Offered: FaSp Rehearsal and performance of choral literature from all periods of music history. Instruction Mode: Lecture Grading Option: Letter

MUEN 508 USC Men's Chorus
Units: 1 Terms Offered: FaSp Rehearsal and performance of choral repertoire from all periods written for male voices. Instruction Mode: Lecture Grading Option: Letter

MUEN 510 University Concert Choir
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of choral works of all styles and periods. Instruction Mode: Lecture Grading Option: Letter

MUEN 511 USC Oriana Choir
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of advanced chamber music written for women's voices. Instruction Mode: Lecture Grading Option: Letter

MUEN 512 Chamber Singers
Units: 1 Max Units: 04 Performance of Choral Music and choral masterworks from the 16th century to the present. Instruction Mode: Lecture Grading Option: Letter

MUEN 514 Opera Chorus
Units: 1 Max Units: 4.0 Terms Offered: FaSp Study and performance of operatic choruses and extended ensembles of all styles and periods. Duplicates Credit in former MUEN 414. Instruction Mode: Lecture Grading Option: Letter

MUEN 520 USC Symphony
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire Duplicates Credit in former MUEN 420. Instruction Mode: Lecture Grading Option: Letter

MUEN 521 USC Concert Orchestra
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of orchestra repertoire. Instruction Mode: Lecture Grading Option: Letter

MUEN 523 University Wind Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and participation in concert programs. Duplicates Credit in former MUEN 423. Instruction Mode: Lecture Grading Option: Letter

MUEN 525 Wind and Percussion Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of chamber music for wind and percussion instruments. Duplicates Credit in former MUEN 425. Instruction Mode: Lecture Grading Option: Letter

MUEN 526 Guitar Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of literature composed, transcribed and arranged for small ensembles, including literature for small ensembles of guitar and other instruments, as well as voice. Duplicates Credit in former MUEN 426. Instruction Mode: Lecture Grading Option: Letter

MUEN 527 String Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of small ensemble literature for strings. Duplicates Credit in former MUEN 427. Instruction Mode: Lecture Grading Option: Letter

MUEN 528 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Continuation of MUEN 328. Instruction Mode: Lecture Grading Option: Letter

MUEN 529 Jazz Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of literature written for large jazz ensemble. Duplicates Credit in former MUEN 429. Instruction Mode: Lecture Grading Option: Letter

MUEN 530 Contemporary Music Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Performance of 20th-century music; readings of student and faculty compositions; experimental music; guest conductors, composers, performers; annual concert series. Duplicates Credit in former MUEN 430. Instruction Mode: Lecture Grading Option: Letter

MUEN 531 Guitar Big Band
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and preparation of big band literature adapted for large guitar ensemble. Guitarists perform in place of the traditional trumpet, trombone and sax sections. Instruction Mode: Lecture Grading Option: Letter

MUEN 532 Jazz Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: FaSp Preparation and performance of advanced literature for jazz chamber groups. Instruction Mode: Lecture Grading Option: Letter

MUEN 535 University Brass Band
Units: 1 Max Units: 4.0 The study, rehearsal and performance of standard brass choir and brass band literature. Duplicates Credit in former MUEN 435. Instruction Mode: Lecture Grading Option: Letter

MUEN 544 Vocal Chamber Music
Units: 1 Max Units: 4.0 Terms Offered: Fa Study of solo ensemble vocal literature such as duets, trios, quartets, madrigals, etc. Duplicates Credit in former MUEN 444. Instruction Mode: Lecture Grading Option: Letter

MUEN 550 Early Music Ensemble
Units: 1 Max Units: 4.0 Terms Offered: FaSp Rehearsal and performance of vocal

and instrumental ensemble music of the Renaissance and Baroque, with emphasis on chamber music for solo voices and bowed or plucked strings. Instrumentalists are required to perform on either their own or the school's historical instruments. Duplicates Credit in former MUEN 450. Instruction Mode: Lecture Grading Option: Letter

MUEN 628 Keyboard Collaboration
Units: 1 Max Units: 4.0 Terms Offered: FaSp Continuation of MUEN 328. Instruction Mode: Lecture Grading Option: Letter

MUEN 650 Early Music Ensemble
Units: 1 Max Units: 8.0 Terms Offered: FaSp Rehearsal and public performance of vocal and instrumental music of the Renaissance and Baroque era; emphasis is on large- and small-scale chamber works. Instrumentalists are required to perform on historical instruments. Instruction Mode: Lecture Grading Option: Letter

Music History and Literature

MUHL 231 Music History
Units: 3 Terms Offered: Fa A study of the musical styles and genres from antiquity to c. 1680 within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b , MUHL 385a Duplicates Credit in MUHL 385a. Instruction Mode: Lecture Grading Option: Letter

MUHL 232 Music History II
Units: 3 Terms Offered: Sp A study of the musical styles and genres from c. 1680 to c. 1850 within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b. Duplicates Credit in MUHL 385b. Instruction Mode: Lecture Grading Option: Letter

MUHL 250g Music and Ideas
Units: 4 A topical study of critical issues and cultural relationships found in music from antiquity to the present and across musical genres and styles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

MUHL 331 Music History III
Units: 3 A study of the musical styles and genres from c. 1850 to the present within their historical context. Detailed analysis of selected works. *Prerequisite:* MUCO 132b, MUCO 133b; *Recommended Preparation:* MUCO 232b, MUCO 233b. Duplicates Credit in former MUHL 280a. Instruction Mode: Lecture Grading Option: Letter

MUHL 332 Studies in Musical Culture
Units: 3 Special musical repertoires, issues, and critical problems; emphasis determined by the department. *Recommended Preparation:* MUHL 231, MUHL 232, MUEN 331, MUCO 232b, MUCO 233b. Duplicates Credit in former MUHL 280b. Instruction Mode: Lecture Grading Option: Letter

MUHL 333 Music History Review
Units: 1, 2 Terms Offered: FaSpSm Supervised review of the materials covered in undergraduate music history courses for students whose music history examinations indicate the need for further study. Instruction Mode: Lecture Grading Option: Letter

MUHL 350g Western Art Music History I
Units: 4 A study of the musical styles and genres from antiquity through early modern periods within their historical context. Detailed analysis of selected works. *Recommended Preparation:* MUHL 250g Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUHL 351 Western Art Music History II
Units: 4 A study of the musical styles and genres in the late modern and contemporary eras within their historical context. Detailed analysis of selected works. *Recommended Preparation:* MUHL 250g and MUHL 350 Instruction Mode: Lecture Grading Option: Letter

MUHL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUHL 403 Armenian Musical Culture
Units: 2 Study of the four branches of Armenian music within the context of past and present Armenian culture. Instruction Mode: Lecture Grading Option: Letter

MUHL 476 Music Criticism
Units: 2 Procedure and practice in forming critical judgments of music and in writing music criticism; practical journalism; professional and community ethics. Instruction Mode: Lecture Grading Option: Letter

MUHL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUHL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUHL 550 Music and the Holocaust
Units: 2 Study of the creation and performance of Holocaust-related music from 1933 to the present, including interaction with other arts. *Prerequisite:* MUHL 570 Instruction Mode: Lecture Grading Option: Letter

MUHL 560 Studies in World Music I
Units: 2 Terms Offered: Fa The indigenous and syncretic musics of Africa, India, Indonesia, and the Balkan countries. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 561 Studies in World Music II
Units: 2 Terms Offered: Sp The indigenous and syncretic musics of the post-Soviet political landscape, the Far East, the Middle East, and Latin America. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 570 Research Materials and Techniques
Units: 2 Terms Offered: FaSpSm Introduction to music research, information science and technical writing. Required of all graduate students majoring in music. Instruction Mode: Lecture Grading Option: Letter

MUHL 572 Seminar in Historical Musical Notation
Units: 2 Terms Offered: Fa Performing, reading, and editing historical notation from original sources. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 573 Music of the Middle Ages
Units: 2, 2 years Terms Offered: SpSm Chief musical developments in Western Europe from the beginning of the Christian era to the middle of the 14th century. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 574 Music of the Renaissance
Units: 2, 2 years Terms Offered: SpSm Chief musical developments in Western Europe from the middle of the 14th century to the end of the 16th. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 575 Music of the Baroque Era
Units: 2, 2 years Terms Offered: FaSm Styles, forms, composers, and compositions of the Baroque era. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 576 Music of the Classical Period
Units: 2, 2 years Terms Offered: SpSm Development of classical style in symphonic music, opera, and chamber music. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 577 Music of the 19th Century
Units: 2, 2 years Terms Offered: FaSm Vocal and instrumental music of the Romantic era from late Beethoven through Brahms. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 578 Music since 1900
Units: 2 Terms Offered: FaSpSm Musical developments in Europe and the Americas from 1900 to the present. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 579 Studies in Music History
Units: 4 Max Units: 16.0 Terms Offered: FaSp Intensive study of major problems, issues, and interpretations in the history of music. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 580 Historical Perspectives in Jazz
Units: 2 Chief musical developments in the principal styles of Jazz from their inception to the present. *Prerequisite:* graduate standing or departmental approval. Instruction Mode: Lecture Grading Option: Letter

MUHL 583 Special Studies in Medieval Music
Units: 2 Max Units: 4.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture

Grading Option: Letter

MUHL 584 Special Studies in Renaissance Music
Units: 2 Max Units: 4.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 585 Special Studies in Baroque Music
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 586 Special Studies in the Music of the Classical Period, 1730–1800
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 587 Special Studies in the Music of the 19th Century
Units: 2 Max Units: 6.0 Terms Offered: Irregular Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 588 Special Studies in Music since 1900
Units: 2 Max Units: 6.0 Music problems and composers of the period. Specific emphasis to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 589 Seminar in Renaissance Repertories and Performance Practice
Units: 2 Terms Offered: Sp Study and discussion of Renaissance music sources and performance practice treatises. *Corequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUHL 591 Seminar in Baroque Repertories and Performance Practice
Units: 2 Study and discussion of Baroque music sources and performance practice treatises. *Corequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 595 Seminar in Performance Practices
Units: 2 Max Units: 4.0 Scholarly preparation and authentic performance of music written before c. 1770. Ornamentation and improvisation, tunings and temperaments, early language pronunciation, historical instruments, etc. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUHL 681 Studies in Musicology
Units: 4 Max Units: 16.0 Terms Offered: FaSp Close study of musical repertories and issues (particularly ones transcending period divisions), with emphasis on recent scholarship and methodologies. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 683 Seminar in Medieval Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 684 Seminar in Renaissance Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 685 Seminar in Baroque Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 686 Seminar in Classical Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 687 Seminar in Romantic Music
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 688 Seminar in Music since 1900
Units: 2, 3 Max Units: 6.0 Terms Offered: Irregular Problems and composers of the period; specific emphasis determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Letter

MUHL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. *Prerequisite:* MUHL 570. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUHL 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUHL 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Music Industry

MUIN 270 Introduction to the Music Industry
Units: 4 Terms Offered: FaSp A survey of the music business with emphasis on distribution of recorded music, music publishing, performance rights societies, record companies, agents, personal managers and contracts. Instruction Mode: Lecture Grading Option: Letter

MUIN 272x Basics of the Music Industry
Units: 4 Terms Offered: FaSp Introductory survey of the music business. Topics include: copyright, record companies, contracts, music publishing, performance rights societies, managers, agents, and other artist team/income considerations. Duplicates Credit in former MUIN 372ax. Instruction Mode: Lecture Grading Option: Letter

MUIN 280 Communications in the Music Industry
Units: 4 A survey of the music industry communications including radio, television, film, satellite communications, records, compact disc, cassette, cable and any future forms of transmission and delivery systems. Instruction Mode: Lecture Grading Option: Letter

MUIN 286 Record Production Management
Units: 2 Terms Offered: FaSp Function of the record producer, studio procedures, music business law, union relations, artist management, copyright and publishing agreements, record company structure. Instruction Mode: Lecture Grading Option: Letter

MUIN 287 The Business and Economics of

the Recording Industry
Units: 2 Terms Offered: Fa Economic considerations of home, studio and location recording. Equipment, labor, facilities, media, legal and tax considerations will be explored. Instruction Mode: Lecture Grading Option: Letter

MUIN 320 Critical Listening, Acoustics and Audio Perception
Units: 4 Development of perceptual skills for detailed analysis and awareness of the timbral, dynamic, temporal and spatial attributes of sound as they relate to audio production. Instruction Mode: Lecture, Lab Grading Option: Letter

MUIN 340 Introduction to Sound Reinforcement
Units: 4 Terms Offered: FaSpSm An introduction to the practical application of large scale sound reinforcement for concerts, sporting events, church services and convention situations. Instruction Mode: Lecture Grading Option: Letter

MUIN 360 Introduction to Music Law
Units: 4 Terms Offered: FaSp A study of entertainment law with a focus on the music industry. Areas of study include contracts, domestic practices, international practices, copyright protection, trademarks. *Prerequisite:* MUIN 270. Instruction Mode: Lecture Grading Option: Letter

MUIN 370 Music Publishing and Licensing
Units: 2 Terms Offered: Sp A contemporary survey of the methods used to monetize music through licensing/media placement, covering music publishing, songwriter agreements, performance rights and licenses for traditional/new media. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 372 Business and Legal Aspects of the Music Industry
Units: 4 An intermediate/advanced-level survey of music copyright law, artist contract analysis, infringement case studies as they affect modern/emerging business models and global music licensing. *Prerequisite:* MUIN 270 or MUIN 272x Duplicates Credit in former MUIN 372b Instruction Mode: Lecture Grading Option: Letter

MUIN 385 Radio in the Music Industry
Units: 4 Terms Offered: Fa A survey of radio; its operation and effect on the music industry. Topics include advertising, playlists, program direction, FCC, networks, news, promotion, payola and format development. Instruction Mode: Lecture, Discussion Grading Option: Letter

MUIN 410 Marketing, Branding and Strategic Alliances in Music
Units: 2 Terms Offered: FaSp An in-depth study of music marketing, non-traditional revenue streams for artists, musicians, and labels including artist endorsements, artist tour sponsorships, digital music programs, music licensing, merchandise, and a primary focus on brand partnership deals in the music space. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 420 DIY Music Marketing
Units: 2 Terms Offered: FaSp An exploration of the most current and effective marketing strategies and online branding tools for promoting, monetizing, and sustaining the career of the independent creative artist. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 425 Live Music Production and Promotion
Units: 4 A survey of the presentation of the live musical experience. Both classical and popular concert presentation will be examined including venue selection, promotion and security. Instruction Mode: Lecture Grading Option: Letter

MUIN 430 Artist Management and Development
Units: 4 A study of issues relating to the personal management of music artists including negotiating contracts, image, career development, agents, touring, merchandising, fees and duties. Instruction Mode: Lecture, Discussion Grading Option: Letter

MUIN 435 Manufacture and Distribution of Musical Products
Units: 4 Terms Offered: Sp An in-depth study of musical instrument manufacture and distribution in the United States. Topics covered include sheet music, instrument rentals, lessons and band operations. Instruction Mode: Lecture Grading Option: Letter

MUIN 440 Arts Management
Units: 4 Terms Offered: Fa A survey of the management of non-profit and for-profit arts organizations with emphasis on funding, donor development tax status and promotion. Instruction Mode: Lecture Grading Option: Letter

MUIN 443 The Business of Music for Visual Media
Units: 4 Terms Offered: FaSpSm Introduction to music designed for synchronization to picture including history of music in cinema, music editing, supervision, performance rights licensing, production, and music scoring procedures. *Prerequisite:* MUIN 360 or MUIN 372. Instruction Mode: Lecture Grading Option: Letter

MUIN 444 Music Supervision
Units: 4 An advanced focus on the music supervisor's role, working with directors, producers, licensing representatives and executives to select, budget and clear songs for broadcast/new media. *Prerequisite:* MUIN 360 or MUIN 372 Instruction Mode: Lecture Grading Option: Letter

MUIN 445 International Music Industry
Units: 4 Terms Offered: Sp A survey of international operations of music distribution, publishing, touring, law, promotion, customs and practices. *Prerequisite:* MUIN 360. Instruction Mode: Lecture Grading Option: Letter

MUIN 450 Practicum in Music Industry Issues (Internship)
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Field application of music industry theories and practices; part-time employment. Project jointly defined by student, employer and professor. *Prerequisite:* MUIN 360 or MUIN 372. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 475 Advanced Concert Management
Units: 4 Terms Offered: Sp Application of theories, technologies, and practices of the live music industry. Focus on the business, management, marketing, promotion, and production of professional concert events. *Prerequisite:* MUIN 425. Instruction Mode: Lecture Grading Option: Letter

MUIN 476a Advanced Sound Reinforcement
Units: 2 Terms Offered: FaSp Special problems of multimedia mixing with simultaneous audio re-processing for live performance situations including rigging, house mix, monitor mix, venues and power distribution. Instruction Mode: Lecture Grading Option: Letter

MUIN 476b Advanced Sound Reinforcement
Units: 2 Terms Offered: FaSp Special problems of multimedia mixing with simultaneous audio re-processing for live performance situations including rigging, house mix, monitor mix, venues and power distribution. Instruction Mode: Lecture Grading Option: Letter

MUIN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUIN 495 Web Design for the Music Industry
Units: 4 Terms Offered: FaSp A hands-on experience in which students work in teams to create web sites specifically designed to promote, market, and sell musical artists' products online. Instruction Mode: Lecture Grading Option: Letter

MUIN 496 Music Media Solutions
Units: 4 Terms Offered: FaSp Group study of one current music media issue, focusing on possible solutions with practical applications. Stress on leadership, critical thinking, and professional practices. Instruction Mode: Lecture Grading Option: Letter

MUIN 497 Current Topics, Case Studies, and Analysis
Units: 2 Max Units: 6.0 Terms Offered: FaSp Exploration of emerging topics and trends in business and technology in the music and entertainment industries. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Letter

MUIN 498a Final Capstone Project
Units: 1 Terms Offered: FaSp Culmination of the four-year course of study. Affords students the opportunity to experience guided work to meet the professional demands of the industry. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

MUIN 498b Final Capstone Project
Units: 1 Terms Offered: FaSp Culmination of the four-year course of study. Affords

students the opportunity to experience guided work to meet the professional demands of the industry. *Prerequisite:* MUIN 270 or MUIN 272. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUIN 510 The Music Industry: Careers, Rights and Income Streams
Units: 4 History, procedures, economics and evolving technologies involved with careers, rights and income connected with artists, songwriters, producers, labels, music publishing, performance rights and visual media. Instruction Mode: Lecture Grading Option: Letter

MUIN 511 Music Industry History: Entrepreneurs, Moguls and Catalogs
Units: 2 Focus on recorded music's sounds and innovators. Includes in-depth research, discussion, presentations and memorization for greater cultural context. Instruction Mode: Lecture Grading Option: Letter

MUIN 512 The Management of Live Performances
Units: 2 Focus on the Artist, Promoter and Venue, and the roles they play in the Live Performance space, applying theory, technology, and practice. Instruction Mode: Lecture Grading Option: Letter

MUIN 515 Live Touring Strategy
Units: 2 Part of an emphasis track that focuses on advanced live touring strategies, methods and practices. Projects will apply theory and practice in a directed team oriented approach. Instruction Mode: Lecture Grading Option: Letter

MUIN 520 Artist Management: Campaign Planning, Pitching, Partnerships
Units: 2 Lecture and experiential learning focused on the role of an artist's personal manager including developing their story, assets and strategy for various product release campaigns. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 521 Music Industry/Producers Forum
Units: 1 Student-driven discussion, networking and Q&A with guest industry leaders and role models, including producers, artists, music supervisors, concert promoters, agents, label executives, managers and attorneys. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 522 Music Marketing, Branding and Campaigns
Units: 3 An overview of music specific concepts and opportunities spanning various roles, tools, forms of music consumption, and campaign stages as it pertains to music marketing. Instruction Mode: Lecture Grading Option: Letter

MUIN 523 Survey/Analysis of Music Agreements
Units: 4 Focus on demystifying "legalese" and music industry standards by assessing actual contract examples for context, including recording, songwriter, producer, media licensing, sponsorship and band partnerships. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 525 Concert Promotion, Venue Management and Event Planning
Units: 3 Overview of the three areas that comprise most of the live performance spaces, and focuses on the artist, promoter and venue ("Circle of Live") and the roles they play in the performance. Instruction Mode: Lecture Grading Option: Letter

MUIN 526 Music Supervision, Production and Creative Licensing
Units: 3 A comprehensive look at contemporary music supervision for all visual media. Students will creatively apply guided lessons using real world example cases and projects. *Prerequisite:* MUIN 510 and MUIN 511 Instruction Mode: Lecture Grading Option: Letter

MUIN 530 Mentorship
Units: 1 A semester bridge for students working on job preparation, career skills, and continued efforts before launching their final campaign projects and graduation portfolio. *Prerequisite:* MUIN 520 Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 540 Artist Management: Campaign Execution and Hindsight Analysis
Units: 2 Lecture and experiential learning focused on the role of an artist's personal manager including executing various release campaigns and hindsight assessment to inform future endeavors. *Prerequisite:* MUIN 520 Instruction Mode: Lecture Grading Option: Letter

MUIN 541 Data Analytics: Music Marketing Decisions and Presentations
Units: 2 The when, why and how data analysis tools are used to assist music professionals and better support marketing decisions, beyond the realm of intuition and aesthetic appeal. *Prerequisite:* MUIN 522 Instruction Mode: Lecture Grading Option: Letter

MUIN 542 Developing Copyright Laws and Business Models
Units: 3 Study of advanced copyright law, conflicts and entrepreneurial opportunities to gain insight into what is evolving for the globalized digital music industry. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Letter

MUIN 570 The Music Industry
Units: 4 Terms Offered: FaSpSm A graduate level survey of the music business with emphasis on distribution of recorded music, music publishing, performance rights societies, musical products and live music. Instruction Mode: Lecture Grading Option: Letter

MUIN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 598 Internship
Units: 1 Max Units: 04 Students gain insight, experience and networking opportunities within the industry areas they wish to consider as a career. *Prerequisite:* MUIN 510 Instruction Mode: Lecture Grading Option: Credit/No Credit

MUIN 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUIN 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Jazz Studies

MUJZ 100mx Jazz: America's Music
Units: 4 Music of the jazz greats. Experience through live performances, field trips, readings, recordings, videos and guest lectures. Instruction Mode: Lecture Grading Option: Letter

MUJZ 101x Non-Major Beginning Individual Instruction
Units: 1, 2 Max Units: 2.0 Terms Offered: FaSpSm Individual instruction at the beginning level designed for non-music majors with no previous experience. Instruction Mode: Lecture Grading Option: Letter

MUJZ 105a Jazz Theory
Units: 2 Terms Offered: FaSp Study of basic and advanced concepts of jazz melody, harmony and form. Includes functional chord idioms and relationships, compositional and improvisational devices, and song forms. Instruction Mode: Lecture Grading Option: Letter

MUJZ 105b Jazz Theory
Units: 2 Terms Offered: FaSp Study of basic and advanced concepts of jazz melody, harmony and form. Includes functional chord idioms and relationships, compositional and improvisational devices, and song forms. Instruction Mode: Lecture Grading Option: Letter

MUJZ 141a Basic Keyboard Skills for the Improviser
Units: 2 Terms Offered: FaSp Reading skills related to jazz accompanying, including the ability to identify and play chords on the piano utilizing different voicings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 141b Basic Keyboard Skills for the Improviser
Units: 2 Terms Offered: FaSp Reading skills related to jazz accompanying, including the ability to identify and play chords on the piano utilizing different voicings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 142a Jazz Ear Training
Units: 2 Terms Offered: FaSp Sight-singing and melodic/rhythmic reading and dictation applied to jazz repertoire. Includes vocalization of scales and chord patterns and study of rhythmic reading and jazz articulation. Instruction Mode: Lecture Grading Option: Letter

MUJZ 142b Jazz Ear Training

Units: 2 Terms Offered: FaSp Sight-singing and melodic/rhythmic reading and dictation applied to jazz repertoire. Includes vocalization of scales and chord patterns and study of rhythmic reading and jazz articulation. Instruction Mode: Lecture Grading Option: Letter

MUJZ 150 Beginning Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of beginning improvisational skills including underlying principles of theory, harmony, jazz ear training, and jazz style. Instruction Mode: Lecture Grading Option: Letter

MUJZ 153 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 180 Techniques of Jazz Improvisation
Units: 2 Max Units: 4.0 Development of improvisational skills through instrumental performance. Instruction Mode: Lecture Grading Option: Letter

MUJZ 195L Jazz Elements I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Study of compositional, improvisational, performance, and arranging elements found in jazz. Students will model influential groups and jazz artists. Instruction Mode: Lecture, Lab Grading Option: Letter

MUJZ 196 Jazz Combo I
Units: 2 Max Units: 8.0 Terms Offered: FaSp Rehearsal and performance of literature for jazz chamber groups. Duplicates Credit in MUEN 332. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUJZ 200a Jazz Styles Analysis
Units: 2 Theoretical skills and analytical techniques related to jazz styles from Dixieland to the present. Styles through Progressive Swing. Duplicates Credit in former MUCO 200ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 200b Jazz Styles Analysis
Units: 2 Theoretical skills and analytical techniques related to jazz styles from Dixieland to the present. Bebop to the present. Duplicates Credit in former MUCO 200ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 218a Afro-Latin Percussion Instruments
Units: 2 Instruction in the performance of percussion instruments associated with African, South American, and Caribbean music traditions, with special emphasis on adaptation to jazz music. Instruction Mode: Lecture Grading Option: Letter

MUJZ 218b Afro-Latin Percussion Instruments
Units: 2 Instruction in the performance of percussion instruments associated with African, South American, and Caribbean music traditions, with special emphasis on adaptation to jazz music. Instruction Mode: Lecture Grading Option: Letter

MUJZ 252 Individual Instrument Performance Class I
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all first and second year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MUJZ 253 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 286a The History of Jazz
Units: 3 Terms Offered: FaSpSm A study of the evolution of American jazz music from its roots in Africa to the present day. Includes an introduction to world music elements. *Prerequisite:* MUCO 132b and MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 286b The History of Jazz
Units: 3 Terms Offered: FaSpSm A study of the evolution of American jazz music from its roots in Africa to the present day. Includes an introduction to world music elements. *Prerequisite:* MUCO 132b and MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 300x Non-Major Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction designed for non-music majors. Duplicates Credit in former MUJZ 201 and MUJZ 401. Instruction Mode: Lecture Grading Option: Letter

MUJZ 301 Individual Instruction
Units: 1, 2 Max Units: 16.0 Terms Offered: FaSpSm Intermediate and advanced instruction: secondary emphasis for music majors, principal emphasis for music minors and BA music majors. Registration Restriction: Open only to music majors and minors. Duplicates Credit in former MUJZ 201 and MUJZ 401. Instruction Mode: Lecture Grading Option: Letter

MUJZ 305a Advanced Jazz Theory
Units: 2 Terms Offered: FaSpSm Analysis and transcription of jazz performances and scores, encompassing questions of style, form, harmonic and melodic language, and considerations of rhythm. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 305b Advanced Jazz Theory
Units: 2 Terms Offered: FaSpSm Analysis and transcription of jazz performances and scores, encompassing questions of style, form, harmonic and melodic language, and considerations of rhythm. *Prerequisite:* MUCO 133b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 311 Vocal Jazz Techniques
Units: 2 Max Units: 4.0 Development of skills needed for the professional vocal jazz musician. Study of the standard jazz repertoire, vocal improvisation, lead sheet writing, and working with rhythm sections. *Prerequisite:* MUJZ 180. Instruction Mode: Lecture Grading Option: Letter

MUJZ 341 Keyboard Skills for Improvisers
Units: 2 Reading skills related to jazz accompanying; "fake" books, chord progressions commonly used in jazz. *Prerequisite:* MPKS 250a, MPKS 250b. Instruction Mode: Lecture Grading Option: Letter

MUJZ 342a Aural Skills for Improvisers
Units: 1 Terms Offered: FaSp Sight-singing and dictation applied to jazz repertoire. Vocalization of modal and synthetic jazz scales and chordal qualities. *Prerequisite:* MUCO 132b. Duplicates Credit in former MUCO 342ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 342b Aural Skills for Improvisers
Units: 1 Terms Offered: FaSp Sight-singing and dictation applied to jazz repertoire. Vocalization of modal and synthetic jazz scales and chordal qualities. *Prerequisite:* MUCO 132b. Duplicates Credit in former MUCO 342ab. Instruction Mode: Lecture Grading Option: Letter

MUJZ 347 Jazz Composition
Units: 2 Max Units: 4.0 Composing in the jazz medium. Duplicates Credit in former MUCO 347. Instruction Mode: Lecture Grading Option: Letter

MUJZ 350g A History of Jazz Music
Units: 4 A history of jazz music and the styles of music considered antecedents to jazz. *Recommended Preparation:* MUHL 250 Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUJZ 353 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Duplicates Credit in former PLDV 410. Instruction Mode: Lecture Grading Option: Letter

MUJZ 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: Irregular Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

MUJZ 395 Jazz Elements II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Advanced study of compositional, improvisational, performance, conducting, and arranging elements found in the jazz repertory. Students will be encouraged to forge individual musical expressions. Instruction Mode: Lecture, Lab Grading Option: Letter

MUJZ 396 Jazz Combo II
Units: 2 Max Units: 8.0 Terms Offered: FaSp Preparation and performance of literature for jazz combos. *Prerequisite:* MUJZ 195. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUJZ 400 Arranging for Jazz Ensemble
Units: 2 Scoring for jazz ensemble with emphasis on writing for sections of like and mixed instruments as well as full ensemble.

Duplicates Credit in former MUCO 400. Instruction Mode: Lecture Grading Option: Letter

MUJZ 403 Studio Singing Techniques
Units: 2 Terms Offered: FaSp Study of technique, theory and aural skills as applied to studio singing; critical listening; study of various styles; ear training and sight singing as these apply to working in a studio. *Recommended Preparation:* jazz background; can read music and sing well. Instruction Mode: Lecture Grading Option: Letter

MUJZ 419m The Jazz Experience: Myths and Culture
Units: 4 Terms Offered: FaSp An examination of the music, culture, and mythology of jazz revealed through the study of jazz fiction, film, poetry, and recorded examples. Instruction Mode: Lecture Grading Option: Letter

MUJZ 443 Jazz Pedagogy
Units: 2 Terms Offered: Sp Concepts, methods, and resources; examination and comparison of textbooks, recordings, tapes, and materials related to the study and teaching of jazz. Duplicates Credit in former MUED 443. Instruction Mode: Lecture Grading Option: Letter

MUJZ 450 Intermediate Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: FaSp Development of intermediate improvisational skills including underlying principles of theory, harmony, jazz ear training, and jazz style. *Recommended Preparation:* MUJZ 150. Instruction Mode: Lecture Grading Option: Letter

MUJZ 451 Advanced Jazz Improvisation
Units: 2 Max Units: 4.0 Terms Offered: Sp Development of advanced improvisational skills, including Lydian-chromatic and bi-modal techniques, through instrumental performance. Instruction Mode: Lecture Grading Option: Letter

MUJZ 452 Individual Instrument Performance Class II
Units: 1 Max Units: 4.0 Terms Offered: FaSp Solo and orchestra repertoire, professional preparation, reed making, and other matters appropriate to group study. Required of all third and fourth year wind and percussion majors each semester in residence. Instruction Mode: Lecture Grading Option: Letter

MUJZ 453 Individual Instruction
Units: 1, 2 Max Units: 8.0 Terms Offered: FaSpSm Weekly individual instruction and performance forum. Registration Restriction: Open only to jazz studies majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 486 Jazz Masters from World War II to the Present
Units: 2 Examination of major jazz artists from World War II to the present with emphasis on the innovators of each period. Detailed analysis of selected repertoire. *Recommended Preparation:* MUJZ 419. Duplicates Credit in former MUHL 486. Instruction Mode: Lecture Grading Option: Letter

MUJZ 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

MUJZ 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUJZ 501 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Secondary instruction for graduate music majors or instruction for graduate non-music majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 545 Jazz Ensemble Development
Units: 2, 2 years Terms Offered: Sp Techniques, approaches, teaching materials, and music useful in developing jazz ensembles in educational settings, from junior high school through college. Duplicates Credit in former MUED 547. Instruction Mode: Lecture Grading Option: Letter

MUJZ 547 Jazz Composition
Units: 2 Max Units: 4.0 Terms Offered: Fa Application of theoretical and compositional techniques used in jazz to written music. Analysis and performance of historical and contemporary examples will be included. Duplicates Credit in former MUCO 547. Instruction Mode: Lecture Grading Option: Letter

MUJZ 551 Graduate Jazz Improvisation
Units: 2 Terms Offered: Sp Development of proficiency in improvising to advanced jazz concepts, including transposition, substitute harmony, superimposed harmony, atypical harmonic schemes and contemporary chord and scale types. *Prerequisite:* MUJZ 451. Instruction Mode: Lecture Grading Option: Letter

MUJZ 553 Individual Instruction
Units: 1 or 2 Max Units: 8.0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Letter

MUJZ 554 Graduate Certificate Performance
Units: 4 Max Units: 16.0 Terms Offered: FaSpSm Individual instruction and related lab participation for Graduate Certificate students. Instruction Mode: Lecture Grading Option: Letter

MUJZ 588 Special Studies in Jazz Performance
Units: 2 Max Units: 6.0 Performance problems, composers and/or stylistic analysis of music from the jazz idiom. Specific emphasis to be determined by the Jazz Studies department. Instruction Mode: Lecture Grading Option: Letter

MUJZ 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUJZ 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUJZ 653 Performance
Units: 1 or 2 Max Units: 12.0 Terms Offered: FaSpSm Individual or master class instruction for DMA Performance majors. Instruction Mode: Lecture Grading Option: Letter

MUJZ 688 Special Topics in Jazz Performance
Units: 2 Max Units: 4.0 Terms Offered: Fa Examination and analysis of solo and compositional repertory of the jazz idiom through transcription and comparative research. Specific emphasis to be determined by the Jazz Studies department. Instruction Mode: Lecture Grading Option: Letter

MUJZ 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

School of Music

MUSC 102gw World Music
Units: 4 Exploration of music and cultures of the world. Engagement with international musicians, global issues, field work and musical diasporas in Los Angeles. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUHL 302 Instruction Mode: Lecture Grading Option: Letter

MUSC 110 Freshman Forum
Units: 1 Terms Offered: FaSp Introduction to issues and skills relevant to the professional musical world of today. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 115gp Western Music as Sounding History
Units: 4 An introduction to Western art music and culture from the Medieval, Renaissance, Baroque, Classical, Romantic and Modern eras through reading, listening, analyzing and writing about music. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category H: Traditions and Historical Foundations Duplicates Credit in former MUHL 315 Instruction Mode: Lecture Grading Option: Letter

MUSC 200gmw The Broadway Musical: Reflections of American Diversity
Units: 4 A uniquely American genre, the Broadway musical serves as a catalyst for inquiry into human diversity, cross-culturalism, and significant social and political issues. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUSC 400 Instruction Mode: Lecture Grading Option: Letter

MUSC 210g Electronic Music and Dance Culture
Units: 4 The origins and development of EDM and its relatives such as disco, house, techno, rave and electronica, focusing

on cultural and technological influences. Satisfies New General Education in Category A: The Arts Duplicates Credit in former MUSC 410 Instruction Mode: Lecture Grading Option: Letter

MUSC 250gmw The Music of Black Americans
Units: 4 A chronicle of the musical contribution of Africans and African Americans to American society and to the foundations of musical genres and styles throughout the world. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUSC 450 Instruction Mode: Lecture Grading Option: Letter

MUSC 255 Songwriting I
Units: 2 Terms Offered: FaSp Development of musical and lyrical skills, composing, listening, analysis, and critiques of popular original music. Instruction Mode: Lecture Grading Option: Letter

MUSC 320gmw Hip-hop Music and Culture
Units: 4 A history of hip-hop music from its inception to the present: its musical processes and styles, as well as attendant social, political and cultural issues. Satisfies New General Education in Category A: The Arts Satisfies Global Perspective in Category G: Citizenship in a Diverse World Duplicates Credit in former MUSC 420 Instruction Mode: Lecture Grading Option: Letter

MUSC 355 Songwriting II
Units: 2 Terms Offered: FaSp Continuation of Songwriting I; particular emphasis on the analysis of the techniques of important popular songwriters and the application of these techniques to original songs. *Prerequisite:* MUSC 255. Duplicates Credit in former MUCO 252. Instruction Mode: Lecture Grading Option: Letter

MUSC 371g Musical Genre Bending
Units: 4 The aesthetic and ethical issues of genre-bending music in 20th and 21st century rock, classical, jazz, and folk music. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 372g Music, Turmoil and Nationalism
Units: 4 An exploration of musical practices and styles which reflect and shape national identities and which focus on those created in response to political turmoil in many forms. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 373g Writing About Popular Music
Units: 4 Immerses students in criticism, scholarship, and creative writing dealing with popular music. Students participate in that discourse through developing their own authorial voices. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

MUSC 422 The Beatles: Their Music and Their Times
Units: 4 Music, lyrics, recordings, production techniques, career strategy, social ramifications, and especially the technological impact of the musical group known as The Beatles. Instruction Mode: Lecture Grading Option: Letter

MUSC 423 Classic Rock: Popular Music of the Sixties and Seventies
Units: 2 Critical examination of the lyrics, structure, associated mythology, technology, and evolving styles of popular music reflecting the turbulent societal changes during the Sixties and Seventies. Instruction Mode: Lecture Grading Option: Letter

MUSC 424 Iconic Figures of Popular Music
Units: 2 Max Units: 8.0 Terms Offered: FaSp Music, life, recordings, and attendant musical, cultural and political influences of a seminal musician or group in 20th or 21st century popular music. Instruction Mode: Lecture Grading Option: Letter

MUSC 430m Music and the Holocaust
Units: 4 Terms Offered: FaSp Study of the creation and performance of Holocaust related music from 1933 to the present, including interaction with other arts. Instruction Mode: Lecture Grading Option: Letter

MUSC 444 American Roots Music: History and Culture
Units: 4 Terms Offered: Irregular The history, genre, styles, songs, lyrics, and influences of American vernacular music in the 20th century, including the background that spawned these musical genres. Instruction Mode: Lecture Grading Option: Letter

MUSC 455 Songwriting III: The Performing Songwriter
Units: 2 Continuation of Songwriting I and II with emphasis on the development of performance skills of original popular music in preparation for songwriting showcases. *Prerequisite:* MUSC 355. Duplicates Credit in former MUCO 254. Instruction Mode: Lecture Grading Option: Letter

MUSC 460 Film Music: History and Function from 1930 to the Present
Units: 4 Terms Offered: Fa A survey of the art and craft of film music as practiced by outstanding composers in motion pictures. Instruction Mode: Lecture Grading Option: Letter

MUSC 465 Music, Television and American Culture
Units: 4 Terms Offered: Sp An exploration of the social and cultural impact of music written for, popularized by, or exploited by American television from the 1950s through today. Instruction Mode: Lecture Grading Option: Letter

MUSC 470 Contemporary Popular Music: A Global Perspective
Units: 2 Terms Offered: Sm Contemporary popular music in global culture; includes performance and collaboration opportunities with local musicians. Instruction Mode: Lecture Grading Option: Letter

MUSC 496 Careers in Music
Units: 2 Terms Offered: Sp A study of the practical aspects of the music business, including the history, procedures, standard practices, economics and technologies employed by the music industry. Instruction Mode: Lecture Grading Option: Letter

MUSC 498x Internship in Music
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Registration Restriction: Open only to Bachelor of Music and Bachelor of Arts, Music majors only. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUSC 598 Internship in Music
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

MUSC 798 Internship in Music
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Practical work experience in the student's field of study, at an off-campus location. Students are individually supervised by faculty. Registration Restriction: Open only to doctoral students in music. Instruction Mode: Lecture Grading Option: Credit/No Credit

MUSC 800 Studies for the Qualifying Examination in Music
Units: 0 Terms Offered: FaSpSm Studies for the qualifying examination. Duplicates Credit in GRSC 800 Instruction Mode: Lecture Grading Option: Credit/No Credit

Nautical Science

NAUT 001ax Deepwater Cruising
Units: 2 Terms Offered: FaSp An experiential approach to the sailing ship and seafaring, introducing offshore sailing theory and techniques, navigation, and basic oceanography as relevant to seamanship. Instruction Mode: Lecture Grading Option: Letter

NAUT 001bx Deepwater Cruising
Units: 2 Terms Offered: FaSp An experiential approach to the sailing ship and seafaring, introducing offshore sailing theory and techniques, navigation, and basic oceanography as relevant to seamanship. Instruction Mode: Lecture Grading Option: Letter

NAUT 002ax Advanced Deepwater Cruising
Units: 2 Responsibilities and operations commanding an offshore sailing vessel including sailing theory and advanced techniques, advanced navigation, ships engineering, and oceanography relevant to seamanship. *Prerequisite:* NAUT 001a. Duplicates Credit in former NAUT 302ab.

Instruction Mode: Lecture Grading Option: Letter

NAUT 002bx Advanced Deepwater Cruising
Units: 2 Responsibilities and operations commanding an offshore sailing vessel including sailing theory and advanced techniques, advanced navigation, ships engineering, and oceanography relevant to seamanship. *Prerequisite:* NAUT 001b. Duplicates Credit in former NAUT 302ab. Instruction Mode: Lecture Grading Option: Letter

Neuroscience (Undergraduate)

NEUR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

NEUR 407 Cellular and Molecular Neuroscience
Units: 4 Terms Offered: FaSp (Enroll in BISC 407)

NEUR 408 Systems Neuroscience: From Synapses to Perception
Units: 4 Terms Offered: Sp (Enroll in BISC 408)

NEUR 421 Neurobiology
Units: 4 Terms Offered: Fa (Enroll in BISC 421)

NEUR 423 Epilepsy to Ecstasy: Biological Basis of Neurological Disord
Units: 4 Terms Offered: Sp (Enroll in BISC 423)

NEUR 424 Brain Architecture
Units: 4 Terms Offered: Sp (Enroll in BISC 424)

NEUR 425 Functional Imaging of the Human Brain
Units: 4 Terms Offered: Irregular (Enroll in PSYC 425)

NEUR 426 Principles of Neural Development
Units: 4 Terms Offered: Sp (Enroll in BISC 426)

NEUR 440 Introduction to Cognitive Neuroscience
Units: 4 (Enroll in PSYC 440)

NEUR 450 Neural Network Models of Social and Cognitive Processes
Units: 4 Terms Offered: Irregular (Enroll in PSYC 450)

NEUR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

NEUR 493x Neuroscience Honors Seminar
Units: 1 Max Units: 4.0 Terms Offered: FaSp Students attend lectures of distinguished neuroscientists visiting USC and give short, chalk-talk presentations summarizing the lecture. The presentations are critiqued by the students. *Prerequisite:* BISC 220 or BISC 221; *Recommended Preparation:* BISC 421. Instruction Mode: Lecture Grading Option: Letter

NEUR 494x Honors Thesis
Units: 2 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

NEUR 533 Cognitive Neuroscience
Units: 4 Terms Offered: Sp (Enroll in PSYC 540)

NEUR 534L Computational Neuroengineering
Units: 3 (Enroll in BME 575)

NEUR 535 Brain Theory and Artificial Intelligence
Units: 3 (Enroll in CSCI 564)

NEUR 542 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp (Enroll in BISC 521)

Neuroimaging and Informatics

NIIN 500 Neuroimaging and Systems Neuroscience
Units: 3 Terms Offered: Fa Overview of elemental neuroanatomy and brain systems with an emphasis on a neuroimaging perspective in the human and mouse. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 510 Fundamentals of Human Neuroimaging
Units: 3 Terms Offered: Fa Survey of anatomical and functional neuroimaging approaches and their use to explore the healthy as well as diseased human brain. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 520 Experimental Design for Neuroimaging
Units: 3 Terms Offered: Fa Examine experimental design approaches for experimental and clinical neuroimaging investigation. Topics on how to develop rigorous experiments to test theories of cognitive and clinical neuroscience. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 530 Neuroimaging Data Acquisition w/ Magnetic Resonance Imaging
Units: 3 Terms Offered: Fa Introduces the various approaches used to image the living brain using MR-based techniques. Covers neuroimaging scanning technologies, pulse sequence design, and sources of image artifact. *Recommended Preparation:* familiarity with Matlab. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 540 Neuroimaging Data Processing Methods
Units: 3 Terms Offered: Sp Comprehensive investigation of data processing methods, software strategies, and workflow design and execution methodologies. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 550 Computational Modeling in Neuroimaging
Units: 3 Terms Offered: Sp Addresses the current neuroinformatics approaches to large-scale data representations, mining, and visualization in brain imaging. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 560 Brain Architecture and Neuroanatomic Exploratory Techniques
Units: 3 Terms Offered: Sp Introduction to basic theories and methodological approaches to neuroanatomy in animal models including histology, microscopy, behavioral investigations, and neuroinformatics. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture, Lab Grading Option: Letter

NIIN 570 Neuroimaging Genetics
Units: 3 Terms Offered: Sp Lectures on human genetics and epigenetics. Discuss how applying these concepts to brain imaging advances our understanding of healthy development and neurological disease. Emphasis on critical thinking applied both to designing neuroimaging genetics studies and to constructively assessing peer work and existing neuroimaging genetics literature. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 597 Current Topics in Neuroimaging Informatics
Units: 1 Terms Offered: Fa Leading researchers in the areas of basic and clinical brain imaging, computational methods, and informatics formally discuss their work for which students provide written critical review and comment. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

NIIN 598 Neuroimaging and Informatics External Speaker Seminar Series
Units: 1 Terms Offered: Sp Reading and discussion of recent papers by the INI speaker of the week and attendance at the speaker's seminar. Registration Restriction: Open only to Neuroimaging and Informatics majors. Instruction Mode: Lecture Grading Option: Letter

Naval Science

NSC 135 Introduction to Naval Science
Units: 2 Terms Offered: Fa Introduction to the structure, principles, and practices, lines of command and control, and functions of the various components of the naval service. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 137 Seapower and Maritime Affairs
Units: 4 Terms Offered: Sp Analysis of U.S. Navy development and campaigns; evolution of strategic, tactical, and maritime doctrines; interaction of naval affairs with national security and domestic policies. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 251 Seamanship and Ship Operations
Units: 3 Terms Offered: Fa Vector solutions

of relative motion, tactical problems; tactical communications, instructions; fleet communications, organizations; rules of the Nautical Road; aviation and maritime meteorology; operation plans and orders. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 283 Naval Ships Systems I (Engineering)
Units: 3 Terms Offered: Sp Types, structure, and purpose of Naval ships, compartmentation, propulsion systems, auxiliary power systems, interior communications, ship control; ship design and stability. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 335 Navigation
Units: 3 Terms Offered: Fa Purposes, methods, and instruments of navigation; terrestrial and celestial navigation and nautical astronomy; time diagrams; lines of position by observation of celestial bodies. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 337 Naval Ships Systems II (Weapons)
Units: 3 Terms Offered: Sp Systems approach to naval weapons; linear analysis of ballistics; weapons control systems configurations and dynamics. Field trips. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 343 Evolution of Warfare
Units: 3 Terms Offered: Fa Causes and practice of warfare from ancient times; impact of changes in strategy, tactics, and technology; modern revolutionary warfare, global conflict, and politico-military relationships. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 392 Amphibious Warfare
Units: 3 Terms Offered: Fa Concepts of seaborne military operations; relationship of factors involved; characteristic operations of World War II; amphibious operation planning. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 453 Leadership and Management I
Units: 2 Terms Offered: Fa Principles of human relationships; principles of decisionmaking and management at the junior officer level; theory and techniques of leadership. Instruction Mode: Lecture, Lab Grading Option: Letter

NSC 454 Leadership and Management II
Units: 2 Terms Offered: Sp Introduction to primary duties of junior naval officers; counseling and interviewing techniques; review of basic administrative responsibilities at the division officer level. Instruction Mode: Lecture, Lab Grading Option: Letter

Neuroscience (Graduate)

NSCI 521 Hearing and Communication Neuroscience
Units: 4 Terms Offered: Sp (Enroll in BISC 521)

NSCI 524 Advanced Overview of Neurosciences
Units: 4 Terms Offered: Fa Study of the nervous system at multiple levels through the analysis of four themes: motor control; emotion, motivation, and decision-making; memory and learning; and vision. *Prerequisite:* BISC 421. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 524. Instruction Mode: Lecture Grading Option: Letter Crosslisted as PHBI 524

NSCI 525 Advanced Overview of Neurosciences II
Units: 4 Terms Offered: Sp Sensory and motor systems, cognitive neuroscience, behavioral systems, computational neuroscience. *Prerequisite:* BISC 421. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 525. Instruction Mode: Lecture Grading Option: Letter

NSCI 531 Molecular and Cellular Neurobiology
Units: 4 Terms Offered: FaSpSm Introduces fundamental principles of advanced molecular and cellular neurobiology including proteins and nucleic acids, cell biology of neurons and glia, synaptic transmission and neuronal signaling. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 531. Instruction Mode: Lecture Grading Option: Letter Crosslisted as INTD-567

NSCI 532 Systems and Behavioral Neurobiology
Units: 3 Terms Offered: Fa Systems and behavioral neurobiology: hierarchical mechanisms controlling behavior, experimental techniques; perceptual (visual, auditory, somatosensory) systems; sensorimotor systems; motivated behavior; learning, memory and adaptation. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

NSCI 533 Cognitive Neuroscience
Units: 4 Terms Offered: Sp (Enroll in PSYC 540)

NSCI 539 Seminar in Neurobiology
Units: 1 Max Units: 4 Terms Offered: FaSp Seminar in Neurobiology. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 539. Instruction Mode: Lecture Grading Option: Letter

NSCI 540 Advanced Seminars in Neuroscience
Units: 1 Max Units: 8.0 Terms Offered: FaSpSm Advanced topic based seminarstyle courses in the diverse areas of Neuroscience. *Recommended Preparation:* NSCI 524. Registration Restriction: Open only graduate students. Instruction Mode: Lecture Grading Option: Letter

NSCI 541 Advanced Seminars in Neuroscience
Units: 2 Max Units: 12 Terms Offered: FaSpSm Advanced topic-based, seminar-style courses in the diverse areas of Neuroscience. *Prerequisite:* NSCI 524. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former NEUR 541. Instruction Mode: Lecture Grading Option: Letter

NSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics providing background for instruction and research in neuroscience through lectures, discussions, assigned readings and student presentations. Instruction Mode: Lecture Grading Option: Letter

NSCI 790 Research
Units: 1, 2, 3, 4, 5, 6 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

NSCI 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

NSCI 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

NSCI 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Registration Restriction: Open only to doctoral students in Neuroscience Graduate and Neuroscience majors. Duplicates Credit in former NEUR 794abcdz. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

Nursing

NURS 500 Bridge Course
Units: 2 Key concepts from chemistry, biochemistry, genetics, cell biology, metabolism, microbiology, and immunology in an 8-week format. Successful completion of this unique preparatory course is expected to position students for success in the graduate level pathophysiology and pharmacology courses. Registration Restriction: Open only to master students in

Nursing Instruction Mode: Lecture Grading Option: Credit/No Credit

NURS 501 Pathophysiology for Advanced Nursing Practice
Units: 4 Advanced physiology/ pathophysiology including general principles that apply across the lifespan. *Recommended Preparation:* Recent (within five years), satisfactory completion of undergraduate courses that include Organic Chemistry, Nutrition, Anatomy and Physiology. It is expected that enrolled students have reviewed their undergraduate course work in human anatomy and physiology, and possess a working knowledge of cell biology, biochemistry, nutrition, and human genetics at the undergraduate level. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 502 Advanced Health Assessment Across the Life Span
Units: 3 Development of advanced critical thinking and clinical judgement skills through comprehensive health assessment. Health promotion and health maintenance content is utilized to assess health status and evaluate health risk among individuals and groups. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 503 Theory: Clinical Management of Adult Patients
Units: 3 The scope of practice and responsibilities of the family nurse practitioner in prevention of disease, health maintenance, and the diagnosis and management of patients with common illnesses are explored. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 504 Pharmacology for Advanced Practice Nursing
Units: 3 Advanced pharmacology including pharmacodynamics, pharmacokinetics, and pharmacotherapeutics of all broad categories of agents. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 505 Clinical Practicum: Management of Adult Patients
Units: 3 Primary health care to patients throughout the life cycle with a focus on the prevention of disease, health maintenance, and the diagnosis and management of patients with common illnesses. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 507 Theory: Clinical Management of the Childbearing/Childrearing Family
Units: 3 Diagnosing and managing childbearing women from preconception through uncomplicated pregnancy and postpartum periods and providing primary care to children and their families from newborn through adolescence periods. *Prerequisite:* NURS 503 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 600 Theory: Clinical Management of Adult Patients with Complex Medical Issues
Units: 3 The scope of practice and responsibilities of the family nurse practitioner in the diagnosis and management of patients with acute, complex and chronic illnesses are explored. *Prerequisite:* NURS 503 and NURS 507 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 601 Clinical Practicum: Management of the Childbearing/ Childrearing Family
Units: 3 Clinical practicum is intended to prepare FNP students to provide primary health care to childbearing/ childrearing families from preconception through adolescent phase of the life cycle. *Prerequisite:* NURS 600 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 602 Research/Analytical Methods
Units: 3 Understanding and applying commonly used research methodologies and data analysis techniques in healthcare research. *Recommended Preparation:* statistics Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 603 Transforming Research Evidence into Practice
Units: 3 Preparing the advanced practice nursing student to critically evalute knowledge, research and evidence for implementation of best practices in healthcare in order to deliver safe, ethical, culturally senstive evidence based care for patients in diverse settings. *Prerequisite:* NURS 602 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 604 Clinical Practicum: Management of Adult Patients with Complex Medical Issues
Units: 3 Application of theoretical concepts studied in NURS 600. Comprehsive assessments, formulation of differential diagnoses, and the development of plans of care to manage acute and chronic complex in a variety of practice settings. *Prerequisite:* NURS 600 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 605 Professional Issues in Advanced Practice Nursing
Units: 2 The professional role and legal responsibilities of the nurse practitioner at entry to clinical practice and throughout a career are explored. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 606 Health Policy Principles in Changing Health Care Contexts
Units: 2 Foundation for leadership in interprofessional collaborative endeavors to address health policy that prepares learners to analyze and influence health policy and explores the role of nurse practitioners in the creation and modification of health policy. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 607 Theory: Family Primary Care
Units: 2 Capstone course draws on material and concepts learning throughout the FNP program and explores additional complex issues including management of pain, caregiver burden, palliative care, and end of life. *Prerequisite:* NURS 503 and NURS 507 and NURS 600 and NURS 602 and NURS 603 Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

NURS 608 Clinical Practicum: Family Primary Care
Units: 3 Prepares the family nurse practitioner student for entry into practice in the diagnosis and managment of patients with acute, complex, and chronic illnesses in the primary care setting. Registration Restriction: Open only to master students in Nursing Instruction Mode: Lecture Grading Option: Letter

Occlusion

OCCL 310 Fundamentals of Dental Morphology
Units: 1 Fundamentals of tooth form; carving of the permanent teeth. Instruction Mode: Lecture Grading Option: Letter

OCCL 502 Occlusion
Units: 1 Principles of occlusion as related to clinical application of techniques and procedures to diagnose and treatment plan malfunctions of the stomatognathic system. Instruction Mode: Lecture Grading Option: Letter

OCCL 521a Dental Morphology and Function
Units: 3 Fundamentals of tooth form; principles of occlusion. Instruction Mode: Lecture Grading Option: Letter

OCCL 521b Dental Morphology and Function
Units: 2 Fundamentals of tooth form; principles of occlusion. Instruction Mode: Lecture Grading Option: Letter

OCCL 522 Occlusion Laboratory
Units: 1 Laboratory experience in functional analysis and correction of occlusal disharmonies. Instruction Mode: Lecture Grading Option: Letter

OCCL 601 Advanced Concepts of Occlusion
Units: 1 Historical perspective of occlusion; occlusal equilibration, effect of occlusal adjustment, instrumentation useful in occlusal therapy. Includes clinic and laboratory experience. Instruction Mode: Lecture Grading Option: Letter

Orofacial Pain Oral Medicine

OFPM 701 CPR, Blood and Airborne

Infections and Common Emergencies for Dental Residents
Units: 1 Terms Offered: Sm CPR training, review of common dental emergencies, and blood and airborne pathogens in dental patients. Instruction Mode: Lecture Grading Option: Letter

OFPM 702a Soft Tissue Disease for Dental Residents
Units: 1 Terms Offered: Sm Seminars on the various mucosal, cutaneous, gingival and salivary diseases and lesions in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 702b Soft Tissue Disease for Dental Residents
Units: 2 Terms Offered: Fa Seminars on the various mucosal, cutaneous, gingival and salivary diseases and lesions in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 703 Local Anesthesia, Minor Surgery and Biopsy Procedures for Dental Residents
Units: 1 Terms Offered: Sm Seminars on local anesthesia methods and minor surgical procedures appropriate for the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 704 Bony Pathology, Radiology and Advanced Imaging for Dental Residents
Units: 1 Terms Offered: Sm Review of the oral and maxillofacial region osseous and odontogenic pathologies and the various imaging methods used to examine this anatomic region. Instruction Mode: Lecture Grading Option: Letter

OFPM 705 Neurogenic Based Oral and Facial Pains for Dental Residents
Units: 2 Terms Offered: Sp Seminars on the diagnostic and therapeutic procedures appropriate for chronic neurogenic based pain disorders that occur in the orofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 706 TMD, Orthopedics, Rheumatology and Physical Therapy for Dental Residents
Units: 2 Terms Offered: Fa Seminars on various topics relating to the diagnosis and management of Temporomandibular disorders. Instruction Mode: Lecture Grading Option: Letter

OFPM 707 Pharmacology Series for Dental Residents
Units: 2 Terms Offered: Fa Seminars on common medications used in the practice of oral medicine and chronic orofacial pain. Instruction Mode: Lecture Grading Option: Letter

OFPM 709 Headaches for Dental Residents
Units: 1 Terms Offered: Sp Seminars on the diagnosis, prevention and management (including pathophysiologic mechanisms) of episodic and chronic headache disorders. Instruction Mode: Lecture Grading Option: Credit/No Credit

OFPM 710a Knowledge Assessment for OFPOM Residents
Units: 1 Terms Offered: Sm Includes several intensive calibration/training sessions, with multiple practical demonstrations of methods and techniques. Skill development includes TM joint injection, myofascial palpation, oral cancer screening, biopsy, trigger-point injections and salivary gland cannulation, with mock and virtual patients. Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 710b Knowledge Assessment for OFPOM Residents
Units: 1 Terms Offered: Sm Several intensive calibration/training/ sessions based on content that the resident is expected to have mastered by the end of the program, specifically in the field of Oral Medicine. *Prerequisite:* OFPM 710a Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 721 Neurosciences for Dental Residents
Units: 2 Terms Offered: Fa Seminars on the neurophysiologic and neuroanatomic bases of chronic orofacial pain disorders. Instruction Mode: Lecture Grading Option: Letter

OFPM 722 Internal Medicine and Systemic Disease for Dental Residents
Units: 2 Terms Offered: Sp Seminars on common systemic diseases and the potential interactions with oral disease and treatment. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GDEN-722

OFPM 723 Systems Physiology, Motor Disorders and Sleep Apnea for Dental Residents
Units: 2 Terms Offered: Fa Seminars on various topics relating to oral motor disorders and sleep disordered breathing (as it relates to the mandible and tongue.) Instruction Mode: Lecture Grading Option: Letter

OFPM 724 Psychological and Psychometric Assessment for Dental Residents
Units: 2 Terms Offered: Sm Seminars on various topics relating to biobehavioral diagnosis and, where appropriate, psychological management of patients with chronic illness in the orofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 725 Epidemiology, Nutrition and Aging for Dental Residents
Units: 2 Terms Offered: Sm Seminar on the epidemiology of oral disease and nutritional topics as related to the aging patient. Instruction Mode: Lecture Grading Option: Letter Crosslisted as GDEN-725

OFPM 726 Immunology and Immunosuppression for Dental Residents
Units: 2 Terms Offered: Fa Seminar course on immunology and immunosuppression as it relates to diseases in the oral and maxillofacial region. Instruction Mode: Lecture Grading Option: Letter

OFPM 727 Infectious Disease, Oral Microbiology and Virology for Dental Residents
Units: 2 Terms Offered: Sm Seminar organized around infectious diseases in the oral, pharyngeal and nasal region. Instruction Mode: Lecture Grading Option: Letter

OFPM 728 Case Presentations by OFP-OM Residents
Units: 2 Terms Offered: Sp Case presentations by Orofacial Pain/Oral Medicine residents in which each resident presents and defends the diagnostic and treatment methods selected for a particular case. Instruction Mode: Lecture Grading Option: Letter

OFPM 729a Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Sp Residents complete their capstone research project in a topic in the area of their chosen focus/ specialization. Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 729b Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Fa Residents complete their capstone research project in a topic in the area of their chosen focus/ specialization. *Prerequisite:* OFPM 729a Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 729c Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Sp Residents complete their capstone research project in a topic in the area of their chosen focus/ specialization. *Prerequisite:* OFPM 729b Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 729d Capstone Project for OFPOM Residents
Units: 0.5 Terms Offered: Fa Residents complete their capstone research project in a topic in the area of their chosen focus/ specialization. *Prerequisite:* OFPM 729c Registration Restriction: Open only to Herman Ostrow School of Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730a Case Portfolio Preparation by Online OFPOM Residents
Units: 0.5 Terms Offered: Fa Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730b Case Portfolio Preparation by Online OFPOM Residents
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM

730a Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730c Case Portfolio Preparation by Online OFPOM Residents
Units: 0.5 Terms Offered: Fa Multiple elements, including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730b Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730d Case Portfolio Preparation by Online OFPOM Residents
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730c Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 730e Case Portfolio Preparation by Online OFPOM Residents
Units: 0.5 Terms Offered: Sm Multiple elements including weekly online conferences, presentations and discussions of de-identified patient cases; learning need assignments; preparation and defense of case-based e-Portfolio. *Prerequisite:* OFPM 730d Registration Restriction: Open only to Dentistry students Instruction Mode: Lecture, Discussion Grading Option: Letter

OFPM 731 Case Portfolio Review and Defense
Units: 0.5 Terms Offered: Sm Residents must complete their capstone research project in a topic in the area of their chosen focus/specialization. *Prerequisite:* OFPM 730b Instruction Mode: Lecture, Discussion Grading Option: Letter

Orofacial Pain

OFP 705 Neurogenic Based Oral and Facial Pains
Units: 2 Terms Offered: Sp Covers the prevalence, diagnosis, prevention and management for various neurogenic orofacial pain and headache disorders occurring in the oral, maxillofacial and neck regions. Registration Restriction: Open only to dental residents Instruction Mode: Lecture Grading Option: Letter

OFP 706 TMD, Orthopedics, Rheumatology, and Physical Therapy
Units: 2 Terms Offered: Fa Discuss the prevalence, diagnosis, prevention and management for the temporomandibular, arthrogenous, motor, mobility and growth disorders occurring in the oral, maxillofacial and neck regions. Registration Restriction: Open only to dental residents Instruction Mode: Lecture Grading Option: Letter

OFP 707 Pharmacology Series
Units: 2 Terms Offered: Fa Focuses on the pharmacologic principles and appropriate use of specific pharmaco-therapeutic classes of drugs including analgesics, DMARDs, anxiolytics, anti-convulsants, anti-fungals; and injectable agents. Registration Restriction: Open only to dental residents Instruction Mode: Lecture Grading Option: Letter

OFP 710 Knowledge Assessment
Units: 1 Terms Offered: Sm Intensive calibration/training/seminar sessions students develop and demonstrate the program required skills. Registration Restriction: Open only to Orafacial Pain students Instruction Mode: Lecture Grading Option: Letter

OFP 723 Systems Physiology, Motor Disorders, and Sleep Apnea
Units: 2 Terms Offered: Sm Understanding the diagnosis, mechanism and management of oral motor and sleep disorders and the physiology associated with the masticatory system. Registration Restriction: Open only to Orofacial Pain students Instruction Mode: Lecture Grading Option: Letter

OFP 724 Psychological and Psychometric Assessment
Units: 2 Terms Offered: Sp Discuss practical aspects of psychological issues (diagnosis and treatment) and psychometrics as they impact patients in an orofacial pain clinic. Registration Restriction: Open only to dental residents Instruction Mode: Lecture Grading Option: Letter

OFP 730a Case Portfolio Preparation
Units: 0.5 Terms Offered: Sm Select, prepare and defend an e-Portfolio, which includes 18 patient cases that have been documented. Registration Restriction: Open only to Orofacial Pain students Instruction Mode: Lecture Grading Option: Letter

OFP 730b Case Portfolio Preparation
Units: 0.5 Terms Offered: Sm Select, prepare and defend an e-Portfolio, which includes 18 patient cases that have been documented. Registration Restriction: Open only to Orofacial Pain students Instruction Mode: Lecture Grading Option: Letter

OFP 730c Case Portfolio Preparation
Units: 0.5 Terms Offered: Sm Select, prepare and defend an e-Portfolio, which includes 18 patient cases that have been documented. Registration Restriction: Open only to Orofacial Pain students Instruction Mode: Lecture Grading Option: Letter

Oral Medicine Oral Diagnosis

OMOD 501 Emergency Dental Treatment
Units: 1 Dental emergencies in a general dental practice; emphasis on diagnosis of pain, trauma, infections, abscesses, myofacial problems, pulpal considerations, restorative goals; interrelationship of these areas. Instruction Mode: Lecture Grading Option: Letter

OMOD 502 Chronic Orofacial Pain
Units: 2 Current concepts of pain mechanisms; application to differential diagnosis, treatment, and management of chronic head, neck, and dental pain. Instruction Mode: Lecture Grading Option: Letter

OMOD 505 Oral Medicine
Units: 2 Detection, recognition, assessment, management and treatment modification of medical conditions presented by dental patients. Instruction Mode: Lecture Grading Option: Letter

OMOD 506 Infection Control
Units: 1 Infection control and clinical asepsis in the dental office; ethical and legal aspects; specific agents of disease; epidemiology. Instruction Mode: Lecture Grading Option: Letter

OMOD 551a Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551b Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551c Clinic: Physical Evaluation
Units: 0 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 551d Clinic: Physical Evaluation
Units: 1 Obtaining medical history, performing modified physical exams and clinical laboratory tests, establishing physical status. Understanding rationale and indications for modifying dental therapy; clinic and seminar. Instruction Mode: Lecture Grading Option: Letter

OMOD 562a Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562b Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562c Clinic: Hospital Dentistry
Units: 0 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 562d Clinic: Hospital Dentistry
Units: 1 Clinical experience in dentistry for the medically compromised and physically handicapped patient in a hospital environment. Instruction Mode: Lecture Grading Option: Letter

OMOD 563a Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause,

provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563b Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563c Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563d Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563e Clinic: Emergency Dental Treatment
Units: 0 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OMOD 563f Clinic: Emergency Dental Treatment
Units: 1 Experience in management and treatment of emergency dental problems, including diagnosis of the pain cause, provision of appropriate therapy, and post operative instructions to the patient. Instruction Mode: Lecture Grading Option: Letter

Operative Dentistry

OPER 520 Preclinical Operative Dentistry (ISP)
Units: 3 Preparation for clinical work through study of fundamentals of cavity design and restoration of cavity preparations on extracted teeth mounted in a manikin. Instruction Mode: Lecture Grading Option: Letter

OPER 521a Preclinical Operative Dentistry I
Units: 1, 2, 3 Introduction to terminology, materials, and instruments used in operative dentistry; fundamentals of amalgam restoration; principles of cavity preparation; amalgam manipulation, condensation, and carving using extracted teeth. Instruction Mode: Lecture Grading Option: Letter

OPER 521b Preclinical Operative Dentistry I
Units: 1, 2, 3 Introduction to terminology, materials, and instruments used in operative dentistry; fundamentals of amalgam restoration; principles of cavity preparation; amalgam manipulation, condensation, and carving using extracted teeth. Instruction Mode: Lecture Grading Option: Letter

OPER 522 Preclinical Operative Dentistry II
Units: 3 Fundamentals of cavity design; restoration of cavity preparations on extracted teeth mounted in the manikin. Instruction Mode: Lecture Grading Option: Letter

OPER 561a Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561b Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561c Clinic: Operative Dentistry I
Units: 0 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 561d Clinic: Operative Dentistry I
Units: 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: Letter

OPER 562a Clinic: Operative Dentistry II
Units: 0, 1, 2, 3, 4, 5, 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

OPER 562b Clinic: Operative Dentistry II
Units: 0, 1, 2, 3, 4, 5, 6 Clinical experience treating patients using all modalities of operative dentistry. Instruction Mode: Lecture Grading Option: Letter

OPER 620 Conservative Cast Gold Restorations
Units: 2 Principles of cavity preparation, fabrication technique and finishing for conservative cast gold restorations; includes lab and clinic. Instruction Mode: Lecture Grading Option: Letter

OPER 701a Seminar: Advanced Operative Dentistry I
Units: 2 Terms Offered: Fa In-depth study of the biomechanics applied to cavity preparation according to material selection, bonding procedures, and protection of the pulpdentin. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: In-progress to Credit/No Credit

OPER 701b Seminar: Advanced Operative Dentistry I
Units: 2 Terms Offered: Fa In-depth study of the biomechanics applied to cavity preparation according to material selection, bonding procedures, and protection of the pulpdentin. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 702aL Advanced Dental Morphology for Esthetic Restorations
Units: 3 Terms Offered: Sm In-depth study of the dental morphology, dental optical properties, and laboratorial procedures for restorative replication of esthetical and morphological aspects found in the natural tooth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 702bL Advanced Dental Morphology for Esthetic Restorations
Units: 3 Terms Offered: Fa In-depth study of the dental morphology, dental optical properties, and laboratorial procedures for restorative replication of esthetical and morphological aspects found in the natural tooth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 704a Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 704b Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. *Prerequisite:* OPER 704a Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 704c Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. *Prerequisite:* OPER 704b Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 704d Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. *Prerequisite:* OPER 704c Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 704e Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. *Prerequisite:* OPER 704d Registration Restriction: Open

only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 704f Operative Dentistry Literature Review
Units: 1 Terms Offered: FaSpSm Weekly one hour seminars devoted to review of the historic, classic, and current literature in advanced operative dentistry. *Prerequisite:* OPER 704e Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 705L Dental Photography
Units: 1 Terms Offered: Fa Basic principles of dental photography and its use in clinical dentistry for shade selection, replication of dental esthetic components, and clinical case documentation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 706 Operative Implant Dentistry
Units: 1 Terms Offered: Sp Basic principles of implants applied to operative and adhesive dentistry. Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 710a Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710b Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710c Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710d Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710e Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710f Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 710h Seminar: Advanced Operative Dentistry II
Units: 1 Terms Offered: FaSpSm Advanced knowledge and scientific background of the principles of adhesion to dental structures and analysis of bonding effectiveness of different adhesive methods and bonding degradation. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 715aL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for esthetic dental rehabilitation. Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 715bL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for esthetic dental rehabilitation. *Prerequisite:* OPER 715a Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 715cL Applied Adhesion Sciences
Units: 2 Terms Offered: FaSpSm Advanced adhesive procedures for aesthetic dental rehabilitation. *Prerequisite:* OPER 715b Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 720a Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720b Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720c Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720d Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720e Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720f Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 720h Seminar: Advanced Operative Dentistry III
Units: 1 Terms Offered: FaSpSm Advanced studies, technical, and scientific background of esthetic bonded direct restorations with in-depth analysis of mechanical, physical, and optical properties of resin composite restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 725a Cariology
Units: 1 Terms Offered: FaSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 725b Cariology
Units: 1 Terms Offered: FaSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. *Prerequisite:* OPER 725a Registration Restriction: Open only to Advanced Operative and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 730a Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730b Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730c Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 730d Seminar: Advanced Operative Dentistry IV
Units: 1 Terms Offered: FaSpSm In-depth study, analysis, and treatment involved in the management of discolored and developmental defects of the teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 735aL Research Methodology
Units: 2 Terms Offered: FaSp Study of research methodologies for scientific investigation on dental biomaterials. Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 735bL Research Methodology
Units: 2 Terms Offered: FaSp Study of research methodologies for scientific investigation on dental biomaterials. *Prerequisite:* OPER 735a Registration Restriction: Open only to Advanced and Adhesive Dentistry majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 740a Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 740b Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 740c Seminar: Advanced Operative Dentistry V
Units: 2 Terms Offered: FaSpSm Cariology and proficiency of dental caries management using preventive methods and minimally invasive restorative techniques. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750a Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750b Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 750c Seminar: Advanced Operative Dentistry VI
Units: 2 Terms Offered: FaSpSm Advanced studies of restorative techniques of severely damaged teeth, selection and use of different post systems, core build-up, and bonding to the root canal. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760a Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760b Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760c Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760d Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760e Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760f Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 760h Seminar: Advanced Operative Dentistry VII
Units: 1 Terms Offered: FaSpSm Proficiency in advanced esthetic indirect restorations for anterior and posterior teeth, including preparation designs, material selection, cementation and bonding procedures, and alternative resin-bonded fixed-partial dentures. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765a Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765b Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations

(CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765c Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 765d Seminar: Advanced Operative Dentistry VIII
Units: 1 Terms Offered: FaSpSm Advanced studies of computer-generated restorations (CAD/CAM) and digital imaging in dentistry for anterior and posterior teeth. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 770aL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770bL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770cL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770dL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770eL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770fL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 770hL Scientific Investigation in Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Enhancement of critical research thinking by development and experimentation of different scientific methodologies in operative dentistry, journal article writing and submission for publication. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

OPER 780a Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: In-progress to Credit/No Credit

OPER 780b Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780c Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780d Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780e Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780f Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyze and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 780h Treatment Planning in Operative Dentistry
Units: 2 Terms Offered: FaSpSm Seminars led by students and invited guests to discuss, analyse and propose a treatment sequence for esthetic challenge clinical cases involving complex multidisciplinary treatment. *Prerequisite:* OPER 780f Registration Restriction: Open only to master and professional students in Advanced Operative and Adhesive Dentistry, and Advanced Operative Dentistry majors Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OPER 795a Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OPER 795b Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795c Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with

special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795d Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795e Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 10.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795f Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795h Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795i Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OPER 795j Clinic: Advanced Operative Dentistry
Units: 1, 2, 3 Max Units: 14.0 Terms Offered: FaSpSm Advanced clinical and laboratorial treatment of patients in need of complex multidisciplinary treatment, with special emphasis on esthetic and bonded restorations. Open only to Advanced Operative Dentistry Certificate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Oral Pathology and Radiology

OPR 701 Bone Pathology and Oral and Maxillofacial Radiology
Units: 1 Terms Offered: Sm Focus on the interpretation of hard tissue imaging studies, including conventional dental imaging in the diagnosis along with the basics of medical radiographic modalities. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 702 Principles and Practice of Oral Medicine
Units: 1 Terms Offered: Sm An overview of patients with primary oral conditions and oral diseases related to systemic pathology. Practice management issues discussed. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 703 General and Systemic Human Pathology
Units: 1 Terms Offered: Sm Disease mechanisms and principles of the pathological entities associated with each organ system. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 704 Oral Pathology and Maxillofacial Medicine
Units: 3 Terms Offered: Fa Review of oral diseases affecting the oral cavity which includes developmental conditions, pigmented lesions, Immune-Mediated and Allergic Conditions, mucosal and connective tissue abnormalities. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 705 Oral Histopathology and Surgical Pathology
Units: 2 Terms Offered: Sp Various diagnostic modalities, interventional diagnostic procedures, and the description of microscopic features of oral developmental, reactive, and neoplastic conditions relevant to surgical pathology. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 706 Evidence-Based Practice and Literature Review
Units: 1 Terms Offered: Sp Focus on discussion of patient-centered approaches to clinical treatment and decision-making. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 730a Case Portfolio Preparation
Units: 0.5 Terms Offered: Fa Weekly online conferences and discussions, and the documentation of six cases or scenarios, to demonstrate understanding of the knowledge and application to real situations. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 730b Case Portfolio Preparation
Units: 0.5 Terms Offered: Sm Weekly online conferences and discussions, and the documentation of six cases or scenarios, to demonstrate understanding of the knowledge and application to real situations. *Prerequisite:* OPR 730a Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

OPR 732 Knowledge Assessment
Units: 1 Terms Offered: Sm Residents attend the USC campus, with several intensive calibration/training/seminar sessions provided by faculty. Registration Restriction: Open only to dentistry students Instruction Mode: Lecture Grading Option: Letter

Orthodontics

ORTH 501a Seminar: Orthodontics
Units: 0, 1 Clinical use of cephalometrics and orthodontic prediction; removable orthodontic appliances and their design; case analysis; mixed dentition cases; adult tooth positioning; orthodontic banding; molar uprighting. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 501b Seminar: Orthodontics
Units: 0, 1 Clinical use of cephalometrics and orthodontic prediction; removable orthodontic appliances and their design; case analysis; mixed dentition cases; adult tooth positioning; orthodontic banding; molar uprighting. Instruction Mode: Lecture Grading Option: Letter

ORTH 521 Preclinical Orthodontics
Units: 2 Evaluation, prevention, and treatment of dento-facial malformations. Construction of basic appliances to treat orthodontic problems encountered by the general practitioner. Instruction Mode: Lecture Grading Option: Letter

ORTH 561a Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 521. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561b Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561a. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561c Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561b. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561d Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561c. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561e Clinic: Orthodontic Therapy
Units: 0 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic

problems requiring treatment by a specialist. *Prerequisite:* ORTH 561d. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

ORTH 561f Clinic: Orthodontic Therapy
Units: 2 Diagnosis and limited treatment of orthodontic problems encountered in general practice. Diagnosis of complex orthodontic problems requiring treatment by a specialist. *Prerequisite:* ORTH 561e. Instruction Mode: Lecture Grading Option: Letter

ORTH 674 Clinical and Molecular Bone Biology
Units: 2 Terms Offered: Sp Explore the impact of the application of new molecular techniques to bone biology research on our understanding of osteoporosis, osteosarcoma, hypercalcemis, etc. Open to advanced program students in dentistry only. Instruction Mode: Lecture Grading Option: Letter

ORTH 701a Cephalometrics: Growth and Development
Units: 2, 3, 4 Principles and mechanics; measurement techniques; developmental morphology; analysis and diagnosis; treatment rationales; gross radiological anatomy and osteology; facial growth. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 701b Cephalometrics: Growth and Development
Units: 2, 3, 4 Principles and mechanics; measurement techniques; developmental morphology; analysis and diagnosis; treatment rationales; gross radiological anatomy and osteology; facial growth. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 702 Seminar: Review of the Orthodontic Literature
Units: 5 Two trimester Course Review of current orthodontic literature. Instruction Mode: Lecture Grading Option: Letter

ORTH 703a Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703b Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703c Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703d Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703e Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703f Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703h Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 703i Seminar: Advanced Orthodontics
Units: 2, 3, 4, 5, 6, 7, 8 each Terms Offered: FaSpSm Advanced diagnosis and treatment of complex orthodontic cases. Asymmetrical treatment. Hours vary. Instruction Mode: Lecture Grading Option: Letter

ORTH 704a Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 704b Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 704c Seminar: Orthodontics in Theory and Practice
Units: 2 Review of various approaches to orthodontic treatment; includes presentation of cases. Instruction Mode: Lecture Grading Option: Credit/No Credit

ORTH 705a Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 705b Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 705c Orthodontic Practice Management
Units: 2 Terms Offered: FaSpSm Office management and patient relations in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 706 Surgical Orthodontics
Units: 2 Diagnosis, treatment, prognosis, and management of orthognathic problems. Instruction Mode: Lecture Grading Option: Letter

ORTH 707 Interdisciplinary Aesthetic Treatment
Units: 2 Terms Offered: Sp Commonly encountered interdisciplinary aesthetic problems. Communication and teamwork between orthodontists and general dentists, as well as other specialists will be emphasized. Instruction Mode: Lecture Grading Option: Letter

ORTH 708 Information Technology in Orthodontic Practice
Units: 2 Terms Offered: Fa Practical applications of information technology in contemporary orthodontics. Topics include office management systems, videocaphalometrics, and video imaging in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 709 Advanced Information Technology in Orthodontic Practice
Units: 2 Terms Offered: Sm Follows ORTH 708 and is designed to provide background and up-to-date information on advanced technologies in orthodontic practice. Instruction Mode: Lecture Grading Option: Letter

ORTH 721 Biomechanics and Orthodontic Technic
Units: 8 Primary orthodontic techniques and basic diagnostic procedures. Typodont treatment of malocclusion, record taking, retention appliances, and beginning biomechanics. Instruction Mode: Lecture Grading Option: Letter

ORTH 751a Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751b Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751c Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751d Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751e Clinic: Advanced

Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751f Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751h Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 751i Clinic: Advanced Orthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical orthodontics; clinical techniques, diagnostic procedures, and applied clinical therapy to selected cases of malocclusion with emphasis on therapy and supervised treatment. Instruction Mode: Lecture Grading Option: Letter

ORTH 791 Library Research
Units: 1, 2, 3, 4, 5, 6 Organized literature searching and compiling of published data for purposes of developing writing and investigative skills. Instruction Mode: Lecture Grading Option: Letter

Ocean Sciences

OS 512 Introduction to Chemical and Physical Oceanography
Units: 4 Terms Offered: Fa Principles of physical, chemical, and geological oceanography including discussions of air-sea interaction, biogeochemical cycling and the role of the ocean in modulating climate and atmospheric composition; discussion section will cover formulation of basic calculations that illustrate these principles. *Prerequisite:* CHEM 105b and MATH 126 Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as GEOL 512

OS 545 Modeling and Numerical Techniques for Marine Scientists
Units: 4 Terms Offered: Sp (Enroll in BISC 545)

OS 582 Advanced Biological Oceanography
Units: 4 Terms Offered: Fa (Enroll in BISC 582)

OS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OS 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Course contents each semester will be selected to reflect current trends and new developments in the field of Ocean Sciences. Instruction Mode: Lecture Grading Option: Letter

OS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OS 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OS 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Occupational Science and Occupational Therapy

OT 101 Caring For Your Self: Engaging in Healthy Habits and Routine
Units: 1 Terms Offered: FaSpSm Application of occupational science evidence and occupational therapy principles of lifestyle and self-care behavior change to support self-analysis and integration of healthy habits and routines. Instruction Mode: Lecture, Discussion Grading Option: Letter

OT 105g Culture, Medicine and Politics
Units: 4 Terms Offered: Fa (Enroll in ANTH 105)

OT 200 Medical Terminology for Health Professions
Units: 1 Foundation of medical terminology and hospital abbreviations useful for practice in health care. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 220 Lifestyle Design: Introduction to Occupational Therapy
Units: 2 Terms Offered: FaSp Introduction to theoretical concepts concerning the relationship of engagement in activities (occupations) to health and well being. Application of these perspectives to students' own lives. Instruction Mode: Lecture Grading Option: Letter

OT 250 Introduction to Occupational Science and Occupational Therapy
Units: 4 Introduction to concept of occupation and overview of human drive for meaningful activity; impact of occupations on health and wellbeing; analysis of personal occupational patterns; selected therapeutic applications. Instruction Mode: Lecture Grading Option: Letter

OT 251x Across the Lifespan: Occupations, Health and Disability
Units: 4 Terms Offered: FaSp Exploration of the transformative power of occupation throughout the lifespan for all individuals. Instruction Mode: Lecture Grading Option: Letter

OT 260 Human Functional Anatomy for Allied Health Professions
Units: 3 Terms Offered: FaSpSm Lecture and cadaver lab-based, human anatomy course focused on the interaction of anatomical systems relative to functional activity, health and wellness. *Recommended Preparation:* introductory undergraduate course in biology Instruction Mode: Lecture, Lab Grading Option: Letter

OT 261 Human Physiology for Allied Health Professions
Units: 3 Terms Offered: FaSpSm Overview of human physiology emphasizing systems that sustain homeostasis and motion with a focus on biological foundations for a healthy lifestyle. Relevant pathophysiologic issues discussed. *Recommended Preparation:* undergraduate biology course Instruction Mode: Lecture, Lab Grading Option: Letter

OT 280 Essential Occupations of Emerging Adulthood
Units: 2 Terms Offered: FaSp Examination of challenges associated with the emerging adulthood stage of development through an occupational science lens; strategies to promote health and well-being for this population. Instruction Mode: Lecture Grading Option: Letter

OT 300 Occupational Expressions of Diverse Identities and Lifestyles
Units: 4 Exploration of the diverse ways occupational practices become central to identity, reify standard social ideologies, and are manipulated to redress conventional standards. Instruction Mode: Lecture Grading Option: Letter

OT 310 Creativity Workshop
Units: 2 Terms Offered: FaSpSm Theories

and practice of the creative process in varied media, genres and occupations. Explores creativity in the arts, sciences, professions, evolution, daily life, and culture. Instruction Mode: Lecture Grading Option: Letter

OT 312 Creating a Sustainable Lifestyle
Units: 2 Scientists and policymakers advocate lifestyle changes as crucial to solving the environmental crisis. Investigation into the development of habits that promote environmental sustainability and personal wellbeing. Instruction Mode: Lecture Grading Option: Letter

OT 320 The Nature of Human Occupation: Form, Function, and Meaning
Units: 4 The complex nature of human occupation is covered from an interdisciplinary perspective. Emphasis is on how occupation contributes to human experience in a lived world. Instruction Mode: Lecture Grading Option: Letter

OT 325 The Brain: Mind, Body, and Self
Units: 4 Terms Offered: FaSpSm Exploration of neuroscience as it impacts everyday living, from the fundamentals of neurons and synapses, to the neural basis of language, empathy, and social interaction. Instruction Mode: Lecture Grading Option: Letter

OT 330 Perspectives on the Daily Life of Families
Units: 4 Examines family structures and processes, the occupational dimensions of families, and the meanings embedded in the acts of daily life of contemporary families. Instruction Mode: Lecture Grading Option: Letter

OT 333 Sports Ethics
Units: 4 Terms Offered: FaSp Critically examines ethical issues central to the world of sports that range from matters of fair play and cheating to performance-enhancing drugs and gene-doping. Instruction Mode: Lecture Grading Option: Letter

OT 340 Occupational Foundations of Human-Animal Interaction
Units: 4 Terms Offered: Sp Explores how interactions with companion animals expand human capacity for action and contribute to human health, well-being and participation,in different cultural contexts, across the life-span. Instruction Mode: Lecture Grading Option: Letter

OT 350 Disability, Occupations, and the Health Care System
Units: 4 Exploration of the ways in which ablebodyism, sexism, racism, classism and homophobia contribute to occupational opportunities or barriers and weave their way into health care. Instruction Mode: Lecture Grading Option: Letter

OT 355x Occupational Reconstructions and Social Transformations
Units: 2 Terms Offered: FaSp The use of occupations — meaningful, purposeful activities — to restore identity, agency, health, well-being, skills, and political power to populations in problematic situations, such as wars and natural disasters. Instruction Mode: Lecture Grading Option: Letter

OT 360 Creating the Self through Narrative: Acts of Life Story Production
Units: 4 Analysis of life stories, life histories, and testimonies in social interactions, texts, and films. Life stories are an occupation to re-create the "Self" in response to conflict and change. Instruction Mode: Lecture Grading Option: Letter

OT 370 Understanding Autism: Participation Across the Lifespan
Units: 4 Terms Offered: FaSp Introduction to Autism Spectrum Disorder (ASD) from a neurodevelopmental perspective, with a focus on the daily living experience and occupational participation for individuals with ASD. Instruction Mode: Lecture Grading Option: Letter

OT 375 The Narrative Structure of Social Action: Narrative, Healing and Occupation
Units: 4 Narrative as guide and structure of practical action. Special emphasis on chronic illness and disability and narrative structure of clinical interactions. Instruction Mode: Lecture Grading Option: Letter

OT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

OT 405 Foundations: Occupation
Units: 2 Terms Offered: FaSm Introduction to basic tenets of occupational therapy history and practice, the profession's language, and foundations of occupational science; incorporates experience and self-analysis of occupation. Registration Restriction: Open only to upper division and Masters level Occupational Therapy majors. Instruction Mode: Lecture, Discussion Grading Option: Letter

OT 406L Foundations: Creativity, Craft and Activity Analysis
Units: 2 Terms Offered: FaSm Exploration of craftsmanship in both historical and contemporary contexts; engagement in the craft experience to encourage creativity and to develop proficiency in analysis of performance. Registration Restriction: Open only to upper division, Master and Professional OT majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 440L Foundations: Kinesiology
Units: 2 Terms Offered: FaSpSm Review of joint and muscle structure and function; application of basic biomechanical, neuromuscular and musculoskeletal principles to the analysis of everyday activities and therapeutic interventions. Registration Restriction: Open only to upper division and master's Occupational Therapy majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 441L Foundations: Neuroscience
Units: 2 Terms Offered: FaSpSm Application of basic neural function to the analysis of daily living tasks and activities; review of pathological conditions that interfere with performance in occupation. Registration Restriction: Open only to upper division and Master's occupational Therapy majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSp Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

OT 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content to be selected in occupational therapy and occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 500a Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 500b Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 500c Clinical Problems in Occupational Therapy
Units: 2, 3, 4 Terms Offered: FaSpSm Specific applications of occupational therapy practice in varied clinical/health settings. Seminar to integrate theory with application of intervention principles for various populations. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 501L Practice Immersion: Adult Physical Rehabilitation
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in adult rehabilitation and geriatrics; incorporates related Level I Fieldwork. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 401. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 502L Practice Immersion: Mental Health
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in mental health practice; incorporates related Level I Fieldwork. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 402. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 503L Practice Immersion: Pediatrics
Units: 8 Terms Offered: FaSp Scientific and theoretical underpinnings and knowledge and skills necessary for occupational therapy evaluation and intervention in pediatrics; incorporates related Level I Fieldwork.

Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 403. Instruction Mode: Lecture, Lab Required Grading Option: Letter

OT 511 Therapeutic Use of Self
Units: 2 Terms Offered: Fa Exploration of efficacy, therapeutic use of self, empathy and mindfulness; development of self-awareness to support the art, craft and skill of effective therapeutic relationships. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 410. Instruction Mode: Lecture Grading Option: Letter

OT 515 Neuroscience of Behavior
Units: 4 Terms Offered: Fa Foundation for understanding neural functions involved in typical/atypical behaviors; review of neural circuitry, experimental methods, basic behavioral systems, higher order cognitive functions and associated disorders. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 451. Instruction Mode: Lecture Grading Option: Letter

OT 518 Quantitative Research for Evidence-Based Practice
Units: 4 Terms Offered: Fa Traditions and methods of quantitative research; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem; includes journal club. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 480. Instruction Mode: Lecture Grading Option: Letter

OT 521 Clinical Reasoning
Units: 3 Terms Offered: Sp Dynamic look at creation and application of professional knowledge and expertise; examines interrelationship between theory and practice; incorporates narrative and illness experiences in clinical reasoning. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 411. Instruction Mode: Lecture Grading Option: Letter

OT 523 Communication Skills for Effective Practice
Units: 3 Terms Offered: Fa Principles of written, verbal and non-verbal communication with professionals, clients and families, from a personal and professional perspective; group interventions; interview skills; advocacy as communication. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 430. Instruction Mode: Lecture Grading Option: Letter

OT 525 Qualitative Research for Evidence-Based Practice
Units: 4 Terms Offered: Sp Traditions and methods of qualitative research; development of skills for research design, implementation and dissemination; critique of qualitative research for evidence-based practice and occupational science. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 470. Instruction Mode: Lecture Grading Option: Letter

OT 534 Health Promotion and Wellness
Units: 2 Terms Offered: Fa Examination of relationship of occupation to health, wellbeing, participation; critical thinking about lifestyle factors influencing occupational engagement; occupational science and wellness in occupational therapy practice. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 504. Instruction Mode: Lecture Grading Option: Letter

OT 537 Occupation-Centered Programs for the Community
Units: 4 Terms Offered: Fa Development of a proposal for new or extended services; includes trends analysis, needs assessment, literature review, marketing plan, mock funding request, program evaluation and presentation. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 570. Instruction Mode: Lecture Grading Option: Letter

OT 538 Current Issues in Practice: Adulthood and Aging
Units: 2 Terms Offered: Fa Exploration of adulthood, aging and occupation; current topics related to aging population and occupational therapy to promote health and participation throughout the lifespan. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 508. Instruction Mode: Lecture Grading Option: Letter

OT 540 Leadership Capstone
Units: 2 Terms Offered: Sp Professional capstone in leadership, advocacy, ethical reasoning, professional behavior, and public policy as it impacts the practice of occupational therapy; independent professional externship. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 580. Instruction Mode: Lecture Grading Option: Letter

OT 545 Advanced Seminar in Occupational Science
Units: 2 Terms Offered: FaSp Advanced analysis of occupational science concepts including dimensions of occupation and the impact of occupation on health and wellbeing; factors associated with participation in occupation at the individual, community and global levels. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 585. Instruction Mode: Lecture Grading Option: Letter

OT 560 Contemporary Issues in School-Based Practice
Units: 4 Terms Offered: FaSp Current issues in school-based occupational therapy evaluation, ongoing assessment and intervention. Topics include successful collaboration in inclusive classrooms and on IFSP and IEP teams. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 561 Occupational Therapy in Acute Care
Units: 4 Terms Offered: Sp Knowledge and skills for occupational therapy practice in acute care settings using a systems-based approach; includes an experiential learning component at Keck Hospital of USC. Registration Restriction: Open only to Occupational Science and Occupational Therapy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 562 Advanced Hand Rehabilitation and Certification (PAMs)
Units: 4 Terms Offered: Sp Evidence-based and occupation-based practice for hand and upper extremity conditions; application of PAMs as preparatory for occupation. Applicable toward California educational requirements for advanced practice. *Corequisite:* OT 573. Registration Restriction: Open only to Occupational Science and Occupational Therapy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 563 Occupational Therapy in Primary Health Care Environments
Units: 2 Terms Offered: FaSp Examines the emerging role of occupational therapy in primary care, including the need occupational therapy can address in primary care. Registration Restriction: Open only to Occupational Science and Occupational Therapy majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 564 Sensory Integration
Units: 4 Terms Offered: Sp Comprehensive overview of sensory integration theory and basic intervention principles. A case-based approach will facilitate the integration of sensory integration, evidence based practice and occupational science. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 565 Sensory Integration Interventions
Units: 4 Terms Offered: Sp Foundations and application of sensory integration principles in clinical practice, schools and community. Includes critique and integration of evidence, effective communication with parents, and documentation. *Corequisite:* OT 564 Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 566 Healthcare Communication with Spanish-Speaking Clients
Units: 2 Terms Offered: Sp Development of communicative proficiency and accuracy in Spanish within a therapeutic context. Introduction to Spanish language, adaptive communication strategies, and ethics in language-discordant communication. Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 567 Contemporary Issues: Occupational Therapy in Early Intervention
Units: 4 Terms Offered: Sp Exploration of occupational therapy in early intervention settings including; relevant legislation, family-centered care, cultural context, documentation, ethics, and neuroscientific foundations of infant mental health.

Registration Restriction: Open only to Occupational Science and Occupational Therapy students Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 571 Assistive Technology
Units: 4 Terms Offered: Sp Principles of assessment, selection, training, and follow-up with clients in the use of assistive technologies to enable and enhance participation in a meaningful occupation. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 572 Ergonomics
Units: 4 Terms Offered: Sp Focus on the effects of physical design in the workplace on users' injury rate, behavior, performance and stress levels. Intervention for repetitive motion included. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 573 Hand Rehabilitation
Units: 4 Terms Offered: Fa Occupation-based evaluation and intervention for individuals with acute and chronic hand disorders. Topics include scar management, splinting, peripheral nerve injury, wound healing and physical agent modalities. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 574 Enhancing Motor Control for Occupation
Units: 4 Terms Offered: FaSp Laboratory examining approaches to assessment and remediation of motor control following upper motor neuron lesions. An occupation-based approach to Neurodevelopmental Treatment (NDT) will be emphasized. Registration Restriction: Open only to OT majors. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 575 Dysphagia Across the Lifespan: Pediatrics through Geriatrics
Units: 2 Terms Offered: Sp A comprehensive investigation of the anatomy and physiology of normal and abnormal swallowing. Didactic and hands-on study of assessment and treatment interventions will be addressed. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 576 Universal Design
Units: 4 Terms Offered: Fa Examination of the concepts and principles of universal design and the benefits of the approach for people with disabilities and for all individuals. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 577 Seminar in Occupational Therapy
Units: 2 Terms Offered: Sp Occupational therapy and the health care system. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 505. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 578 Therapeutic Communication: Facilitating Change in Clients
Units: 4 Terms Offered: FaSpSm Exploration of selected therapeutic communication styles intended to facilitate change including motivational interviewing, mindfulness practices, and cognitive approaches to therapeutic intervention. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 579 Occupational Therapy in Adult-Neurorehabilitation
Units: 4 Terms Offered: Sp Comprehensive overview of occupational therapy evaluation and intervention in adult neurorehabilitation addressing motor, visual, cognitive, emotion, and language systems. Emphasizes evidence-based interventions with hands-on application. Registration Restriction: Open only to graduate and professional students in Occupational Therapy Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

OT 581 Quantitative Research for the Practicing Clinician
Units: 4 Terms Offered: FaSp Traditions and methods of quantitative research for practicing clinicians; emphasis on formulation of clear clinical questions; finding, evaluating, and applying evidence to a clinical problem. Registration Restriction: Open only to Occupational Therapy majors. Instruction Mode: Lecture Grading Option: Letter

OT 582 Occupational Science Foundations of Lifestyle Redesign
Units: 4 Terms Offered: FaSpSm Overview of the foundations and philosophy of Lifestyle Redesign®. Includes theoretical underpinnings, therapeutic methods , and examination of how occupational science informs Lifestyle Redesign® interventions. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 583 Current Applications of Lifestyle Redesign
Units: 4 Terms Offered: FaSpSm Interactive practicum exploring the Lifestyle Redesign® approach to preventing and managing chronic health conditions. Topics include therapeutic process, lifestyle module design and service delivery models. Registration Restriction: Open only to graduate students in Occupational Science and Occupational Therapy Instruction Mode: Lecture, Discussion Grading Option: Credit/No Credit

OT 584 Clinical Applications of Telehealth Technologies in OT
Units: 2 Terms Offered: Sp Interactive course exploring the history of telehealth technologies; includes definitions, care models, remote services, applications, activity monitoring devices, technology enabled therapy, legislation, reimbursement. Registration Restriction: Open only to Occupational Science and Occupational Therapy graduate students. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 585 Advanced Seminar in Occupational Science
Units: 2 Terms Offered: FaSp Advanced analysis of occupational science concepts including dimensions of occupation and the impact of occupation on health and wellbeing; factors associated with participation in occupation at the individual, community and global levels.

OT 586 Clinical Internship with Seminar
Units: 1, 2 Max Units: 6.0 Terms Offered: FaSpSm Clinical internship to qualify for professional certification. Seminar to integrate theory with application of treatment principles for various populations. Registration Restriction: Open only to Occupational Therapy majors. Duplicates Credit in former OT 486. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Recent developments in occupational therapy and occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 610 Sensory Integrative Dysfunction
Units: 4 Terms Offered: FaSpSm Differential evaluation of sensory integrative dysfunction; theory and procedure for enhancing the processing of sensory data by children with learning and behavior disorders. *Prerequisite:* admission by advance application and instructor's approval only; must be certified as an occupational or physical therapist. Instruction Mode: Lecture Grading Option: Letter

OT 612 Information Processing and Occupation
Units: 4 Phylogenesis and ontogenesis of human information processing capacity enabling engagement in occupation; components and contributions to adaptation and coping. Instruction Mode: Lecture Grading Option: Letter

OT 620 Current Issues in Occupational Science and Occupational Therapy
Units: 4 Terms Offered: Fa Review of current occupational science research as it is applied to practice; examination of leadership opportunities; development of proposal focusing on chosen area of study. Registration Restriction: Open only to Occupational Therapy doctoral students

Instruction Mode: Lecture Grading Option: Letter

OT 621 Occupational Therapy Leadership: Contemporary Issues
Units: 4 Examination of themes in occupational therapy related to power, confidence, and identity; development of leadership skills; analysis of the impact of policy and advocacy on occupational therapy. Instruction Mode: Lecture Grading Option: Letter

OT 640 Conceptual Foundations of Occupational Science
Units: 4 Terms Offered: FaSp Analysis of the conceptual foundations and methodological orientations for occupational science, understandings of disciplinary perspectives, formulation of theoretical arguments, and the interpretation of research data. Instruction Mode: Lecture Grading Option: Letter

OT 641 The Nature of Occupation
Units: 4 Terms Offered: FaSp Theoretical and historical foundations for the study of occupation, engagement in living and learning in everyday life. Instruction Mode: Lecture Grading Option: Letter

OT 642 Therapeutic Uses of Self: Psychodynamic Perspectives
Units: 4 Terms Offered: FaSp Survey of the diversity of analytic conceptions of subjectivity and intersubjectivity. Emphasis on the way these ideas influence the notion of therapeutic efficacy within Occupational Science. Instruction Mode: Lecture Grading Option: Letter

OT 643 Meaningful Engagement in Everyday Life
Units: 4 Exploration of the subjective experience of meaningful engagement in work, play, and the occupational pursuits of everyday life, drawing on contributions from the social sciences. Instruction Mode: Lecture Grading Option: Letter

OT 644 Foundations of Research on Activity and Health
Units: 4 Terms Offered: FaSp Examination of effectiveness and efficacy research, study design and methodology, dimensions of adaptation and research methods through the lens of two division-based research programs. Instruction Mode: Lecture Grading Option: Letter

OT 645 Narrative, Healing and the Culture of Biomedicine
Units: 4 Terms Offered: FaSp Introduction to narrative as analytic framework for considering chronic illness, disability, occupation, and the moral and cultural influences on the clinical reasoning of health professionals. Instruction Mode: Lecture Grading Option: Letter

OT 646 Intersections of Occupational Science and Human Development
Units: 4 Terms Offered: FaSp Analysis of occupational science perspectives related to human development and participation in sociocultural practices and examination of developmental theories and their relationship to occupational science. Instruction Mode: Lecture Grading Option: Letter

OT 647 Producing New Knowledge in Occupational Science
Units: 4 Terms Offered: Sp Problems, theory, methods and contexts of research in occupational science, as a discipline that seeks to understand, explain, and promote human flourishing. *Prerequisite:* OT 640; *Recommended Preparation:* at least one advanced course in qualitative, quantitative, or mixed methods for research. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

OT 648 Researching Occupation: Engagement, Meaning, and Society
Units: 4 Terms Offered: FaSp *Recommended Preparation:* OT 640 and OT 660 Instruction Mode: Lecture Grading Option: Letter

OT 649 Researching Occupation: Function, Participation, and Health
Units: 4 Terms Offered: FaSp Approaches to studying health and wellbeing in everyday living from biological to population levels, including prevention, wellness, chronic illness, disability, and rehabilitation, emphasizing quantitative methods. *Recommended Preparation:* OT 641 and OT 660 Instruction Mode: Lecture Grading Option: Letter

OT 650 Development of Adaptive Skills
Units: 4 Terms Offered: Fa Critical analysis of occupation as means and product of human adaptation. Adaptive skill development from traditional and occupational science approaches. Research methods and results. Instruction Mode: Lecture Grading Option: Letter

OT 655 Work and Leisure
Units: 4 Terms Offered: Sp Ontogenesis and phylogenesis of work and leisure. Systems view of person/environmental interactions affecting competence and satisfaction with activity. Occupation and the need for mastery. Instruction Mode: Lecture Grading Option: Letter

OT 660 Research Practicum
Units: 2 Experiential learning through immersion in one or more externally funded research groups in the Division, enabling intense participation in multi-skilled research groups. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 661 Grant Writing for Occupational Science
Units: 2 Terms Offered: SpSm Integration of theory, research design, and methods to develop competitive grant applications for the study of occupation, with a focus on federal granting agencies. *Prerequisite:* OT 640 and OT 641 and OT 648 and OT 649 and OT 660 *Recommended Preparation:* At least one advanced course in qualitative, quantitative, or mixed-methods research design or statistical analysis is strongly recommended. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 686 Residency
Units: 6 or 12 Max Units: 24 Terms Offered: FaSpSm Residency involving development, administration, evaluation, or policy formulation for occupation-centered programs in clinical or community settings. Development of portfolio for professional doctorate. Graded CR/NC. Registration Restriction: Open only to OT majors Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

OT 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

OT 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSp Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pain Medicine

PAIN 701 Pharmacotherapeutics for Pain
Units: 2 Terms Offered: Fa Introduction into the complex area of treatment with opioids and other pharmacological options. Instruction Mode: Lecture Grading Option: Letter

PAIN 702 Pain Classification and Diagnosis - Part 1
Units: 2 Terms Offered: Fa Introduction of pain classification and diagnosis to familiarize the student with a standardized approach to painful conditions. Instruction Mode: Lecture Grading Option: Letter

PAIN 703 Psychological Aspects of the Pain Experience: Individual and
Units: 2 Terms Offered: Fa Explore the psychological and social perspectives that influence chronic pain, reinforcing the need to look beyond the initial physical diagnosis. Instruction Mode: Lecture Grading Option: Letter

PAIN 704 Pain and Society: Epidemiology and Cultural issues
Units: 1 Terms Offered: Sp Explores the societal issues related to pain, including the role of culture, ethnicity, caregiving, social and psychological factors related to pain and pain management. Instruction Mode: Lecture Grading Option: Letter

PAIN 705 Pain Assessment: History and Physical Examination

Units: 2 Terms Offered: Sp Evaluation of patients suffering from pain, distinguishing between types of pain that may be acute or chronic. Instruction Mode: Lecture Grading Option: Letter

PAIN 706 Musculoskeletal Anatomy and Pathology
Units: 2 Terms Offered: Sp Anatomical survey of the human musculoskeletal system, focused on common pathologies that generate pain. Instruction Mode: Lecture Grading Option: Letter

PAIN 707 Pain Neuroscience
Units: 2 Terms Offered: Sp Anatomy of peripheral and central nociceptors, molecular mechanisms that underlie primary responses, neural networks, and neural mechanisms involved in hyperalgesia and allodynia. Instruction Mode: Lecture Grading Option: Letter

PAIN 708 Opioids
Units: 1 Terms Offered: Fa Explores opioid therapeutics including proper use, dosing, side effects and its management, use in special populations, and legal/ethical considerations for prescribers and dispensers. Instruction Mode: Lecture Grading Option: Letter

PAIN 709 Pain Classification and Diagnosis - Part 2
Units: 2 Terms Offered: Fa Knowledge and ability to recognize fine differences in various common pain conditions. Instruction Mode: Lecture Grading Option: Letter

PAIN 710 Advanced Pain Physiology and Neuroscience
Units: 1 Terms Offered: Fa Advanced neurophysiology of pain including immunology and epigenetics, neuropathic pain, inflammation, with a series of lectures and sessions to analyze clinical cases. Instruction Mode: Lecture Grading Option: Letter

PAIN 711 Research Methodology
Units: 2 Terms Offered: Fa Conduct a systematic review, research question, searching the literature, summarizing the evidence and interpreting the findings. Instruction Mode: Lecture Grading Option: Letter

PAIN 712a Pain Medicine Capstone
Units: 0.5 Terms Offered: Fa Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712b Pain Medicine Capstone
Units: 0.5 Terms Offered: Sp Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712c Pain Medicine Capstone
Units: 0.5 Terms Offered: Fa Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 712d Pain Medicine Capstone
Units: 0.5 Terms Offered: Sp Collaborative research project or supervised internship (practicum) incorporating a service learning approach. Instruction Mode: Lecture Grading Option: Letter

PAIN 713a Case Studies
Units: 0.5 Terms Offered: Fa Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. Instruction Mode: Lecture Grading Option: Letter

PAIN 713b Case Studies
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. *Prerequisite:* PAIN 713a Instruction Mode: Lecture Grading Option: Letter

PAIN 713c Case Studies
Units: 0.5 Terms Offered: Fa Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. Instruction Mode: Lecture Grading Option: Letter

PAIN 713d Case Studies
Units: 0.5 Terms Offered: Sp Multiple elements including weekly online discussions of cases; learning need assignments; defense of an 18 cases or scenarios e-Portfolio. *Prerequisite:* PAIN 713c Instruction Mode: Lecture Grading Option: Letter

PAIN 714 Public Policy and Legal issues
Units: 1 Terms Offered: Sp Public Policy and Legal Issues in Pain Medicine including the California Medical Board Guidelines for Pain Medication, CURES, and legislation related with the discipline. Instruction Mode: Lecture Grading Option: Letter

PAIN 715 History of Pain: Theory and Treatment
Units: 1 Terms Offered: Fa Trace through history our collective understanding of pain by examining the people, theories, and technologies which have brought us to our modern understanding. Instruction Mode: Lecture Grading Option: Letter

PAIN 716 Neuropathic Pain
Units: 1 Terms Offered: Sp Focus on pain caused by nervous system dysfunction; assessment, physiology, diagnoses and treatment. Instruction Mode: Lecture Grading Option: Letter

PAIN 717 Psychological Aspects of Chronic Pain
Units: 2 Terms Offered: Sp Information and demonstration on specific psychological treatments to decrease pain levels and manage pain flares. Instruction Mode: Lecture Grading Option: Letter

PAIN 718 Complementary Approaches
Units: 2 Terms Offered: Fa Treatment options in pain management; framework for integrative models of care. Instruction Mode: Lecture Grading Option: Letter

PAIN 719 Building a Practice: Institutional or Private
Units: 1 Building and managing a Pain Practice. Topics include the scope of practice, stratification of care, and marketing. Instruction Mode: Lecture Grading Option: Letter

PAIN 720 Physical and Occupational Therapies
Units: 1 Terms Offered: Sp Physical and Occupational Therapy techniques to assess and treat chronic pain. Instruction Mode: Lecture Grading Option: Letter

PAIN 721 Advanced Therapeutics
Units: 2 Terms Offered: Sp Patients who suffer from chronic pain often fail to respond to basic treatments. Therefore it is crucial for clinicians to be familiar with different treatment options. Instruction Mode: Lecture Grading Option: Letter

PAIN 722 Palliative Care in End of Life
Units: 1 Terms Offered: Fa Key concepts in palliative medicine and hospice care, ranging from management of common symptoms, to best practices in communication with patients and their families. Instruction Mode: Lecture Grading Option: Letter

PAIN 723 Orofacial Pain and Headache
Units: 2 Terms Offered: Sp Foundational knowledge of orofacial neurogenic pain and headache disorders; prevalence, differential diagnosis, prevention and management. Instruction Mode: Lecture Grading Option: Letter

Pathology (Herman Ostrow School of Dentistry)

PTHL 312a Medicine and Pathology
Units: 1 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 312b Medicine and Pathology
Units: 3 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 312c Medicine and Pathology
Units: 2 Terms Offered: FaSpSm An integrated approach to clinical, gross and microscopic study of basic disease processes, systemic pathology, oral pathology, internal medicine, pathophysiology, physical evaluation and emergency medicine for significant organ systems. Clinical-pathologic correlation stressed. Evaluation, classification, and differential diagnosis of oral lesions; disease recognition and dental treatment modification. Instruction Mode: Lecture Grading Option: Letter

PTHL 501 Oral Pathology
Units: 4 Terms Offered: Sm Clinical radiographic, gross and microscopic characteristics of mucosal, skin, fibroseous and salivary gland diseases; odontogenic tumors and cysts; benign and malignant neoplasms and iatrogenic conditions. Instruction Mode: Lecture Grading Option: Letter

PTHL 504a Seminar: Oral Pathology
Units: 0 Clinico-pathologic discussion of oral pathosis cases. A variety of "unknown" cases representing diagnostic problems are analyzed. Etiology, pathogenesis, clinical/radiographic features, therapy and prognosis are stressed. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PTHL 504b Seminar: Oral Pathology
Units: 0 Clinico-pathologic discussion of oral pathosis cases. A variety of "unknown" cases representing diagnostic problems are analyzed. Etiology, pathogenesis, clinical/radiographic features, therapy and prognosis are stressed. Instruction Mode: Lecture Grading Option: Letter

PTHL 601 Advanced Oral Pathology Seminar
Units: 2 Detailed discussion and analysis of many cases representing a wide variety of oral pathologic conditions stressing differential diagnosis and clinical-pathologic correlations. Instruction Mode: Lecture Grading Option: Letter

PTHL 701 Clinicopathologic Conference
Units: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 Clinicopathologic correlation of diseases of the head and neck. Presented at LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

Pathology (Keck School of Medicine)

PATH 500a Basic and Applied Systemic Pathology
Units: 3 Terms Offered: Irregular Clinical, gross, and microscopic study of basic disease processes. Pathophysiology of major organ systems; etiology, pathogenesis and histopathology of important diseases; oral manifestations, clinical recognition.

PATH 500b Basic and Applied Systemic Pathology
Units: 2 Terms Offered: Irregular Clinical, gross, and microscopic study of basic disease processes. Pathophysiology of major organ systems; etiology, pathogenesis and histopathology of important diseases; oral manifestations, clinical recognition.

PATH 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PATH 550 Introduction to Pathology
Units: 4 Terms Offered: Fa (Enroll in INTD 550)

PATH 551 Pathobiology of Disease
Units: 4 (Enroll in INTD 551)

PATH 553 Methods in Cellular and Clinical Pathology
Units: 3 Terms Offered: Fa Includes advanced techniques in cell biology, protein and immunochemistry. A practical approach to acquaint new graduate students with current methodologies and applications used in biomedical research. Duplicates Credit in former PATH 552a. Instruction Mode: Lecture Grading Option: Letter

PATH 554 Methods in Molecular Pathology
Units: 2 Terms Offered: Sp Theory and practice methods useful in experimental pathology; experimental design; statistical analysis; literature analysis; laboratory and radiation safety. Duplicates Credit in former PATH 552b. Instruction Mode: Lecture Grading Option: Letter

PATH 555 Biochemical and Molecular Bases of Disease
Units: 4 Terms Offered: Sp (Enroll in INTD 555)

PATH 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PATH 570a Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570b Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570c Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 570d Seminar in Pathology
Units: 1 Terms Offered: FaSp Recent advances in the understanding of diseased cells and tissues are reported and discussed using standard seminars, as well as autopsy organ reviews. Instruction Mode: Lecture Grading Option: Letter

PATH 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PATH 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

PATH 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

PATH 575 Frontiers of Pathology
Units: 2 Max Units: 8.0 Terms Offered: Sp Weekly research lectures by leading investigators in the field of homeostatic response to injury such as cell death, inflammation, fibrosis and regeneration. Instruction Mode: Lecture Grading Option: Letter

PATH 581 Essentials of Animal Experimentation
Units: 1 Terms Offered: Fa A course providing basic information on the issues and responsibilities of investigators using animals in biomedical research. *Recommended Preparation:* graduate standing.

PATH 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PATH 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Instruction Mode: Lecture Grading Option: Letter

PATH 631 Viral Oncology
Units: 2 Terms Offered: Fa (Enroll in INTD 630)

PATH 650 Stem Cell Biology and Medicine
Units: 4 Terms Offered: Sp (Enroll in INTD 650)

PATH 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PATH 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PATH 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to

Credit/No Credit

Primary Care Physician Assistant

PCPA 503 Behavioral Sciences I
Units: 4 Terms Offered: Fa First of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. Instruction Mode: Lecture Grading Option: Letter

PCPA 506 Behavioral Sciences II
Units: 4 Terms Offered: Sp Second of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. *Prerequisite:* PCPA 503. Instruction Mode: Lecture Grading Option: Letter

PCPA 509 Behavioral Sciences III
Units: 4 Terms Offered: Fa Last of three-semester sequence in current topics in behavioral medicine, psychological and cultural factors in health and illness, interpersonal and sociological aspects of patient care, and competencies for PA practice. *Prerequisite:* PCPA 506. Instruction Mode: Lecture Grading Option: Letter

PCPA 523 Clinical Skills I
Units: 4 Terms Offered: Fa Laboratory experiences with basic clinical skills essential to medical practice. First of four courses. Instruction Mode: Lecture Grading Option: Letter

PCPA 526 Clinical Skills II
Units: 6 Terms Offered: Sp Laboratory experiences with basic clinical skills essential to medical practice. Second of four courses. *Prerequisite:* PCPA 523. Instruction Mode: Lecture Grading Option: Letter

PCPA 529 Clinical Skills III
Units: 6 Terms Offered: Fa Laboratory experiences with basic clinical skills essential to medical practice. Third of four courses. *Prerequisite:* PCPA 526. Instruction Mode: Lecture Grading Option: Letter

PCPA 530 Basic Medical Sciences
Units: 6 Terms Offered: Fa A one-semester overview of clinical anatomy, physiology, pathophysiology, and pathology essential to understanding disease mechanisms commonly encountered in primary care and specialty practices of medicine. Instruction Mode: Lecture Grading Option: Letter

PCPA 532 Clinical Skills IV
Units: 3 Terms Offered: Sp Laboratory experiences with basic clinical skills essential to medical practice. Last of four courses. *Prerequisite:* PCPA 529. Instruction Mode: Lecture Grading Option: Letter

PCPA 543 Topics in Medicine I
Units: 4 Terms Offered: Fa Basic instruction in normal/abnormal states of organ systems in the study of human disease. The first of three courses that includes instruction in pathophysiology, pharmacology, diagnostic studies, and medicine. Instruction Mode: Lecture Grading Option: Letter

PCPA 546 Topics in Medicine II
Units: 6 Terms Offered: Sp Basic instruction in normal/abnormal states of organ systems in the study of human disease. The second of three courses that includes instruction in pathophysiology, pharmacology, diagnostic studies, and medicine. *Prerequisite:* PCPA 543. Instruction Mode: Lecture Grading Option: Letter

PCPA 549 Topics in Medicine III
Units: 6 Terms Offered: Fa Basic instruction in normal/abnormal states of organ systems in the study of human disease. The third of three courses that includes instruction in pathophysiology, pharmacology, diagnostic studies, and medicine. *Prerequisite:* PCPA 546. Instruction Mode: Lecture Grading Option: Letter

PCPA 561 Clinical Assignment I
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 562 Clinical Assignment II
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 563 Clinical Assignment III
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 564a Clinical Assignment IV
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 564b Clinical Assignment IV
Units: 0 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 565a Clinical Assignment V
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 565b Clinical Assignment V
Units: 0 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 566 Clinical Assignment VI
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 567 Clinical Assignment VII
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 568 Clinical Assignment VIII
Units: 3.5 Terms Offered: FaSpSm One discrete consecutive five-day-a-week intensive field placement under a program-approved supervising preceptor in a program-approved clinical setting. Instruction Mode: Lecture Grading Option: Credit/No Credit

PCPA 583 Advanced Topics in PA Studies: Education
Units: 4 Terms Offered: Sp Seminar format: students explore educational theories and methods used by PAs in a variety of settings, including clinical practice, classroom and community. Instruction Mode: Lecture Grading Option: Letter

PCPA 586 Advanced Topics in PA Studies: Research
Units: 4 Terms Offered: Sp Seminar format: students receive an integrated experience in research methods including methodology, data collection, analysis and evaluation. Instruction Mode: Lecture Grading Option: Letter

PCPA 589 Advanced Topics in PA Studies: Medical Care Organization
Units: 4 Terms Offered: Sp Seminar format: students will explore current topics in medical care organization and physician assistant practice including administration, financing, changing organizational settings, and workforce issues. Instruction Mode: Lecture Grading Option: Letter

Pediatric Dentistry

PEDO 310 Principles of Dentistry for Children
Units: 1 Role of the dental hygienist in dental care for the child patient. Principles of pediatric dentistry as related to education of the child patient and the parent. Instruction Mode: Lecture Grading Option: Letter

PEDO 501 Clinical Pediatric Dentistry
Units: 1 Scientific principles underlying contemporary pediatric dentistry, including prevention of disease; dental anomalies; habits and other problems in occlusal development; behavior management; child abuse. Instruction Mode: Lecture Grading Option: Letter

PEDO 521 Preclinical Pediatric Dentistry
Units: 2 Principles and techniques of cavity preparations in primary teeth; pulpal therapy; stainless steel crowns; space maintenance; diagnosis, treatment planning. Instruction Mode: Lecture Grading Option: Letter

PEDO 551a Clinic: Dentistry for Children I
Units: 0 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 551b Clinic: Dentistry for Children I
Units: 0 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 551c Clinic: Dentistry for Children I
Units: 2 Structured clinical experience in caring for the dental needs of the child patient. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

PEDO 561a Clinic: Dentistry for Children II
Units: 0 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 561b Clinic: Dentistry for Children II
Units: 0 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PEDO 561c Clinic: Dentistry for Children II
Units: 1 Dental treatment of the child patient; preventive and restorative dentistry; space maintenance and interceptive orthodontic procedures. Instruction Mode: Lecture Grading Option: Letter

PEDO 701a Seminar: Advanced Pediatric Dentistry
Units: 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Discussions of literature related to pediatric dentistry. Biologic considerations in operative dentistry, odontogenesis, dental trauma, physiology of occlusion, pulpal biology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 701b Seminar: Advanced Pediatric Dentistry
Units: 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Discussions of literature related to pediatric dentistry. Biologic considerations in operative dentistry, odontogenesis, dental trauma, physiology of occlusion, pulpal biology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 702a Comprehensive Review of Pediatric Dentistry
Units: 5, 6, 7 each Terms Offered: FaSpSm Critical analysis of current pediatric dentistry literature and case conferences related to the application of contemporary issues in dentistry for the complex child patient. Instruction Mode: Lecture Grading Option: Letter

PEDO 702b Comprehensive Review of Pediatric Dentistry
Units: 5, 6, 7 each Terms Offered: FaSpSm Critical analysis of current pediatric dentistry literature and case conferences related to the application of contemporary issues in dentistry for the complex child patient. Instruction Mode: Lecture Grading Option: Letter

PEDO 703a Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703b Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703c Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703d Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 703e Interceptive Orthodontics
Units: 2, 3, 4, 5 each Recognition, evaluation, and treatment of developing orthodontic problems appropriate to the pediatric dentist; emphasis on diagnosis; laboratory experience included. Instruction Mode: Lecture, Lab Grading Option: Letter

PEDO 704a Prevention in Pediatric Dentistry
Units: 2 Discussions and readings pertaining to the analysis and incorporation of the many components of prevention into the contemporary pediatric dentistry practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 704b Prevention in Pediatric Dentistry
Units: 2 Discussions and readings pertaining to the analysis and incorporation of the many components of prevention into the contemporary pediatric dentistry practice. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 705 Pediatric Diseases
Units: 2 Discussion of medical conditions seen by the pediatric dentist in the hospital environment. Conditions include childhood cancer, HIV, heart disease, diabetes mellitus and blood dyscrasias. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 706 Dental Care for Pediatric Patients with Disabilities
Units: 2 Medical, dental, psychological, and social problems of children with developmental disabilities; effect of problems on delivery of pediatric dentistry. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 707 Seminar: Cleft Palate Rehabilitation
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9 Three trimester course discussions and case conferences related to treatment of patients with oral and facial anomalies: includes interceptive and corrective orthodontics, preventive and restorative treatment, and selected oral surgery-prosthetic rehabilitative procedures. Instruction Mode: Lecture Grading Option: Letter

PEDO 708 Practice Management
Units: 1 Terms Offered: FaSpSm Discussion of issues related to the contemporary practice of pediatric dentistry (seminars and office visitations). Topics include: purchasing a practice, associateships, hospital affiliations, practice administration and marketing, computers, jurisprudence and auxiliary utilization. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 709 Conscious Sedation in Pediatric Dentistry
Units: 1 Terms Offered: Sm Seminar topics include: review of pharmacology and effectiveness of commonly used oral agents, methods of administration, regulatory guidelines, patient monitoring, management of sedation related emergencies. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 721 Pediatric Physical Evaluation
Units: 2 Assessment of patient health status; evaluation and management of acute and chronic disease states which may be observed in the pediatric dental practice. Instruction Mode: Lecture Grading Option: Letter

PEDO 761a Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761b Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761c Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761d Clinic: Advanced Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 761e Clinic: Advanced Pediatric Dentistry

Units: 2, 3, 4, 5, 6, 7, 8, 9, 10 each Terms Offered: FaSpSm Clinical application of advanced pediatric dentistry techniques in routine and special problem cases in the outpatient environment. Hours vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 771a Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771b Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771c Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771d Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771e Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 771f Clinic: Hospital Pediatric Dentistry
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 each Terms Offered: FaSpSm Treatment of the child patient in the hospital environment. Emphasis placed on treatment and management with physical, mental, or emotional disabilities. Instruction Mode: Lecture Grading Option: Letter

PEDO 772a Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772b Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772c Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772d Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 772e Clinic: Interceptive Orthodontics
Units: 1, 2, 3 each Clinical application and treatment procedures for tooth guidance, preventative and interceptive orthodontics. Instruction Mode: Lecture Grading Option: Letter

PEDO 773 Hospital Pediatric Clinics
Units: 2, 3, 4 Observation and participation in affiliated hospital clinics: anesthesiology, hematology, and genetic clinics; grand pediatric rounds and other conferences. Instruction Mode: Lecture Grading Option: Letter

PEDO 774 Clinical Genetics in Pediatric Dentistry
Units: 9 Genetic principles of oral, facial and cranial malformations; technique and theory of clinical genetics, differential diagnosis and treatment of disorders of the craniofacial complex. Instruction Mode: Lecture, Discussion, Lab Grading Option: Letter

PEDO 790a Directed Research: Pediatric Dentistry
Units: 1, 2, 3, 4, 5, 6 each An examination and analysis of clinical and laboratory problems in dentistry for children leading to completion of an original research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

PEDO 790b Directed Research: Pediatric Dentistry
Units: 1, 2, 3, 4, 5, 6 each An examination and analysis of clinical and laboratory problems in dentistry for children leading to completion of an original research project. Instruction Mode: Lecture Grading Option: Credit/No Credit

Periodontics

PERI 310a Introduction to Periodontal Diseases
Units: 1 Terms Offered: FaSp Introduction to periodontal disease; emphasis on identification of normal periodontium, distinguishing of gingival and periodontal diseases; includes data collection and classification of gingival and periodontal diseases. Instruction Mode: Lecture Grading Option: Letter

PERI 310b Introduction to Periodontal Diseases
Units: 1 Terms Offered: FaSp Introduction to periodontal disease; emphasis on identification of normal periodontium, distinguishing of gingival and periodontal diseases; includes data collection and classification of gingival and periodontal diseases. Instruction Mode: Lecture Grading Option: Letter

PERI 415 Basic Periodontal Therapy
Units: 1 Basic therapeutic modalities of periodontal treatment; general principles and methods of surgical periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 502 Periodontal Diseases and Elements of Therapeutic Judgment
Units: 2 Periodontal pathologic processes; pathogenesis, classification and clinical features of gingivitis; periodontitis; other related diseases of periodontium including diagnosis and initial phases of treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 504 Advanced Periodontics
Units: 1 Periodontics as related to endodontics, orthodontics, and restorative dentistry; bone induction, osseous grafting, splinting, management of furcation lesions; maintenance, recall, and referral. Instruction Mode: Lecture Grading Option: Letter

PERI 521 Periodontal Surgery
Units: 2 General principles and methods of surgical periodontal treatment; includes laboratory exercises. Instruction Mode: Lecture Grading Option: Letter

PERI 550a Clinic: Introductory Periodontal Therapy
Units: 1 Laboratory and clinical development of periodontal therapy procedures; basic instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 550b Clinic: Introductory Periodontal Therapy
Units: 1 Laboratory and clinical development of periodontal therapy procedures; basic instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 561a Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561b Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561c Clinic: Periodontal Therapy I
Units: 0 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 561d Clinic: Periodontal Therapy I
Units: 1 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: Letter

PERI 562a Clinic: Periodontal Therapy II
Units: 0, 1, 2 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

PERI 562b Clinic: Periodontal Therapy II
Units: 0, 1, 2 Supervised treatment of periodontal disease at all levels of complexity. Instruction Mode: Lecture Grading Option: Letter

PERI 602 Current Controversies in Periodontology
Units: 2 Examination of the major controversies in the field of periodontology; emphasis on the efficacy of current treatment modalities and future trends. Instruction Mode: Lecture Grading Option: Letter

PERI 701a Seminar: Review of Current Periodontal Literature
Units: 2, 3 Review and critical evaluation of the current periodontal literature. Instruction Mode: Lecture Grading Option: Letter

PERI 701b Seminar: Review of Current Periodontal Literature
Units: 2, 3 Review and critical evaluation of the current periodontal literature. Instruction Mode: Lecture Grading Option: Letter

PERI 702a Seminar: Periodontal Treatment Procedures
Units: 2 Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 702b Seminar: Periodontal Treatment Procedures
Units: 2 Presentation of various techniques in current periodontal treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 703a Seminar: Periodontal Case Presentation
Units: 1, 2 Formalized presentation and discussion of clinical cases treated by advanced students. Instruction Mode: Lecture Grading Option: Letter

PERI 703b Seminar: Periodontal Case Presentation
Units: 1, 2 Formalized presentation and discussion of clinical cases treated by advanced students. Instruction Mode: Lecture Grading Option: Letter

PERI 704a Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704b Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704c Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704d Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704e Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704f Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704h Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704i Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 704j Seminar: Periodontal Therapy
Units: 2 each Presentation and discussion of treatment of clinical cases involving soft tissue and osseous management; rationale for the therapy; surgical wound healing; dental implant surgery. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 708 Seminar: Clinical Basis of Periodontics
Units: 4 Evaluation of the literature dealing with various types of therapy including the objectives of treatment. Instruction Mode: Lecture Grading Option: Letter

PERI 710 Clinical Periodontal Photography
Units: 1 Demonstration of techniques used in intraoral photography for periodontal purposes, emphasis on proper clinical case documentation in seminar presentation and Specialty Board Certification. Instruction Mode: Lecture Grading Option: Letter

PERI 711 Occlusal Therapy in Periodontics
Units: 2 Anatomy of the TMJ mandibular movements; occlusal anatomy and their interrelationships; methods of occlusal correction using anatomy and mandibular movements as a guide. Instruction Mode: Lecture Grading Option: Letter

PERI 713a Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713b Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713c Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713d Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713e Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713f Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713h Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713i Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 713j Treatment Planning in Periodontics
Units: 2 each Presentation of clinical findings, diagnoses, and plan of treatment of clinical cases by advanced students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 715 Treatment of Special Care Patients
Units: 3 Periodontal care and treatment of older population groups, handicapped patients, and other types of special patients, settings, and situations. Instruction Mode: Lecture Grading Option: Letter

PERI 716a Seminar: Special Topics in Periodontal Disease
Units: 3 Discussion of topics of immediate importance and controversy. Experts in the field are invited to participate as guest speakers. Instruction Mode: Lecture Grading Option: Letter

PERI 716b Seminar: Special Topics in Periodontal Disease
Units: 3 Discussion of topics of immediate importance and controversy. Experts in

the field are invited to participate as guest speakers. Instruction Mode: Lecture Grading Option: Letter

PERI 750 Advanced Periodontal Instrumentation
Units: 3 Advanced root preparation techniques including design and manufacturing characteristics of various instruments, sharpening techniques, and root morphology as it relates to advanced instrumentation principles. Instruction Mode: Lecture Grading Option: Letter

PERI 752 Interdisciplinary Treatment: An Orthodontic Perspective
Units: 2 Effective recognition, evaluation and understanding of the orthodontic treatment phase required in interdisciplinary treatment plans; includes laboratory and clinical experience; applicable to orthodontics, periodontology, prosthodontics. Instruction Mode: Lecture Grading Option: Letter

PERI 761a Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761b Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761c Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761d Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761e Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761f Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761h Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761i Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 761j Clinic: Advanced Periodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical experience in the treatment of patients with all types and degrees of involvement of periodontal disease. Includes placement of dental implants. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 771a Periodontal Therapy in the Hospital
Units: 1 Role of the periodontist in hospital therapy. Treatment of complex cases in the hospital environment. Instruction Mode: Lecture Grading Option: Letter

PERI 771b Periodontal Therapy in the Hospital
Units: 1 Role of the periodontist in hospital therapy. Treatment of complex cases in the hospital environment. Instruction Mode: Lecture Grading Option: Letter

PERI 790a Directed Research: Periodontics
Units: 1, 2, 3, 4, 5, 6 each Research in clinical and experimental periodontology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PERI 790b Directed Research: Periodontics
Units: 1, 2, 3, 4, 5, 6 each Research in clinical and experimental periodontology. Instruction Mode: Lecture Grading Option: Credit/No Credit

Physiology and Biophysics

PHBI 524 Advanced Overview of Neurosciences
Units: 4 Terms Offered: Fa (Enroll in NSCI 524)

PHBI 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PHBI 550 Seminar in Advanced Cellular, Molecular and Systemic Physiology
Units: 1 Max Units: 12.0 Terms Offered: FaSp Lectures and student presentations on advanced topics in molecular, cellular and systemic physiology. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHBI 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PHBI 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PHBI 572 Systems Physiology and Disease I
Units: 4 (Enroll in INTD 572)

PHBI 573 Systems Physiology and Disease II
Units: 4 (Enroll in INTD 573)

PHBI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit upon acceptance of thesis. Grading Option: Graded IP/CR/NC.

PHBI 650 Mechanisms of Ion and Solute Transport Across Cell Membranes
Units: 2 Terms Offered: Sp Biophysical examination of the mechanisms of ion and solute transport across cell membranes; emphasis on the structures of transport proteins and kinetic models of transport. *Recommended Preparation:* graduate level course in biochemistry, physical biochemistry, or cell biology Instruction Mode: Lecture Grading Option: Letter

PHBI 651 Molecular Modeling and Kinetic Simulations in Membrane Transport
Units: 2 Terms Offered: Sp Introduction to the principles of mathematical modeling of biological systems and molecular dynamics simulations, with emphasis on membrane transport. *Recommended Preparation:* graduate level courses in biochemistry or physical biochemistry, and cell biology Instruction Mode: Lecture Grading Option: Letter

PHBI 660 Understanding Diseases of Ion Transport
Units: 2 Terms Offered: Fa Examination of the genetics, biochemical mechanisms, and physiological characteristics of diseases caused by inherited mutations in ion channels and ion transport proteins. Instruction Mode: Lecture Grading Option: Letter

Physical Education

PHED 102a Weight Training
Units: 1 Terms Offered: FaSp Improvement of body shape, muscle endurance, and muscle strength; understanding of weight training and nutrition principles that can be utilized for future weight training development. Instruction Mode: Lecture Grading Option: Letter

PHED 102b Weight Training
Units: 1 Terms Offered: FaSp Training techniques and application of advanced weight training principles through weekly workouts; personal trainer certification exam preparation. Instruction Mode: Lecture Grading Option: Letter

PHED 104a Self-Defense
Units: 1 Terms Offered: FaSp Basic instruction of self-defense for beginners; strategies for standing and ground fighting situations with and without weapons. Instruction Mode: Lecture Grading Option: Letter

PHED 104b Self-Defense
Units: 1 Terms Offered: FaSp Intermediate instruction involving more advanced fighting strategies and techniques. Instruction Mode: Lecture Grading Option: Letter

PHED 106a Physical Conditioning
Units: 1 Terms Offered: FaSp Improvement in cardiorespiratory endurance, body

composition, muscle endurance and flexibility; running, circuit training, resistance exercises; fitness principles and nutrition to develop individualized program. Instruction Mode: Lecture Grading Option: Letter

PHED 106b Physical Conditioning
Units: 1 Terms Offered: FaSp Advanced training methods focusing on continuing gains in fitness level. Instruction Mode: Lecture Grading Option: Letter

PHED 108 High Stress Physical Conditioning
Units: 1 Rigorous physical conditioning with emphasis on distance running and development of cardiovascular and upper body strength. A challenging regimen to enhance stamina and endurance. *Prerequisite:* PHED 106b or permission of instructor. Instruction Mode: Lecture Grading Option: Letter

PHED 110a Swimming
Units: 1 Terms Offered: FaSp Instruction and practice in basic strokes for beginners and intermediate swimmers; elementary springboard diving; water safety techniques; endurance training as a fitness program. Instruction Mode: Lecture Grading Option: Letter

PHED 110b Swimming
Units: 1 Terms Offered: FaSp Advanced instruction and practice of strokes; advanced endurance training. Instruction Mode: Lecture Grading Option: Letter

PHED 114 Lifesaving
Units: 1 American Red Cross Senior Lifesaving. *Prerequisite:* PHED 110a, PHED 110b or ability to pass Skills Test II. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHED 115 Surfing
Units: 1 Terms Offered: FaSpSm Fundamental instruction of surfing skills; water safety and wave etiquette; wave recognition and forecast interpretation; surf culture; board selection; surf related strengthening and conditioning. *Recommended Preparation:* Students will need to pass a swim test BEFORE being allowed to participate in the course. Swim test includes the following: continuous 150 yard swim in under 3 minutes; treading water for 10 minutes; surface dive with brick retrieval; and a 25 yard under water swim. Instruction Mode: Lecture Grading Option: Letter

PHED 120a Yoga
Units: 1 Terms Offered: FaSp Introduction to meditation, breathing techniques and postures as a means towards relaxation; increase muscle flexibility; understanding of basic anatomy and nutritional guidelines. Duplicates Credit in former PHED 120. Instruction Mode: Lecture Grading Option: Letter

PHED 120b Yoga
Units: 1 Terms Offered: FaSp A continuing study of intermediate and advanced yoga postures, breathing techniques and meditation as a means toward relaxation and stress-reduction. Instruction Mode: Lecture Grading Option: Letter

PHED 120c Yoga
Units: 1 Terms Offered: FaSpSm In-depth study of hatha yoga and its history; includes advanced asanas and meditation as a means toward overall health and wellness. *Prerequisite:* PHED 120b Instruction Mode: Lecture Grading Option: Letter

PHED 121 Yoga for Athletic Performance
Units: 1 Terms Offered: FaSpSm Skills and strategies for injury prevention and recovery from athletic training; application of yoga principles to improve posture, strength, flexibility, core stability and concentration. *Prerequisite:* PHED 120a. Instruction Mode: Lecture Grading Option: Letter

PHED 122 Kundalini Yoga and Meditation
Units: 1 Terms Offered: FaSp Ancient yoga practice combining postures, meditation, breathing, mantras and focus techniques; designed to improve mind body awareness, balance, strength, flexibility, techniques and nervous system function. Instruction Mode: Lecture Grading Option: Letter

PHED 124 Walking for Fitness
Units: 1 Terms Offered: FaSp Develop a strong fitness foundation through walking; fitness assessment and individualized programs; gait biomechanics and power walking; injury prevention; strategies for special populations. Instruction Mode: Lecture Grading Option: Letter

PHED 129a Cardio Group Fitness
Units: 1 Terms Offered: FaSpSm Group fitness instruction incorporating a variety of training methods such as cycling, HITT (high intensity interval training), step, circuits; nutritional guidelines. Instruction Mode: Lecture Grading Option: Letter

PHED 129b Cardio Group Fitness
Units: 1 Terms Offered: FaSpSm Group exercise teaching techniques and application of fitness principles through weekly workouts; group fitness certification exam preparation. *Prerequisite:* PHED 129a Instruction Mode: Lecture Grading Option: Letter

PHED 131 Step Aerobics
Units: 1 Terms Offered: FaSp Development of physical fitness components through step aerobics; total body workout utilizing step movements and body sculpting exercises. Instruction Mode: Lecture Grading Option: Letter

PHED 133 Rock Climbing
Units: 1 Terms Offered: FaSp Acquisition of basic rock climbing skills, muscle strength, endurance and balance, climbing safety, ethics and environmental considerations; understanding equipment, problem solving. Instruction Mode: Lecture Grading Option: Letter

PHED 134 Hiking
Units: 1 Terms Offered: FaSpSm Introduction to hiking; specific conditioning to develop muscle strength and endurance; equipment; various terrain, weather conditions, safety; environmental impact and trail etiquette. Instruction Mode: Lecture Grading Option: Letter

PHED 135 Backpacking
Units: 1 Terms Offered: FaSpSm Acquisition of backpacking knowledge and skills; conditioning plan; nutrition and equipment selection; ethics and environmental considerations; navigation, safety and wilderness first aid; trip planning. *Prerequisite:* PHED 134 Instruction Mode: Lecture Grading Option: Letter

PHED 138 Beach Volleyball
Units: 1 Terms Offered: FaSpSm Fundamental instruction of skills and tactics specific to sand volleyball and related physical conditioning; rules and strategies; history and culture. Instruction Mode: Lecture Grading Option: Letter

PHED 139a Volleyball
Units: 1 Terms Offered: FaSp Introduction to beginning and intermediate volleyball skills, rules, game tactics, and strategies. Emphasis on the development of: passing, setting, hitting, serving, blocking, and digging. Instruction Mode: Lecture Grading Option: Letter

PHED 139b Volleyball
Units: 1 Terms Offered: FaSp Advanced techniques; focus on offenses and defenses used in game situations. Instruction Mode: Lecture Grading Option: Letter

PHED 140a Tennis
Units: 1 Terms Offered: FaSp Fundamental instruction of basic strokes for beginners and intermediate players; rules, scoring, court etiquette, strategies; singles and doubles; practice and match play. Instruction Mode: Lecture Grading Option: Letter

PHED 140b Tennis
Units: 1 Terms Offered: FaSp Reinforcement of basic strokes and instruction of advanced strokes; advanced strategies; singles and doubles; practice and match play. Instruction Mode: Lecture Grading Option: Letter

PHED 140c Tennis
Units: 1 Terms Offered: FaSp Development of strokes and strategies for advanced tournament players; drills and matches. Instruction Mode: Lecture Grading Option: Letter

PHED 143a Racquetball
Units: 1 Terms Offered: FaSp Instruction of basic stroke technique for beginners and intermediate players; rules, scoring, game tactics; practice of strokes and competition. Instruction Mode: Lecture Grading Option: Letter

PHED 143b Racquetball
Units: 1 Terms Offered: FaSp Development of advanced skills and strategies; singles and doubles practice and competition. Instruction Mode: Lecture Grading Option: Letter

PHED 150 Table Tennis
Units: 1 Terms Offered: FaSp Fundamental instruction of basic strokes for beginning and intermediate players; rules, scoring strategies; singles and doubles; practices and match play. Instruction Mode: Lecture Grading Option: Letter

PHED 153 Futsal
Units: 1 Terms Offered: FaSpSm Fundamental instruction of skills and tactics

specific to Futsal; rules; strategies; elements of play that differ from soccer; conditioning, drills, and games. Instruction Mode: Lecture Grading Option: Letter

PHED 154a Soccer
Units: 1 Terms Offered: FaSp Development of basic skills for beginners, intermediate and advanced players; rules, positioning elements of play, small group and team tactics; full field scrimmages. Instruction Mode: Lecture Grading Option: Letter

PHED 154b Soccer
Units: 1 Terms Offered: FaSp Advanced development of skills, positioning, tactics and conditioning. Instruction Mode: Lecture Grading Option: Letter

PHED 155 Golf
Units: 1 Terms Offered: FaSp Basic skills development and knowledge in stance, grip and swing mechanics; course strategy; use of woods, irons and putting; history rules and etiquette. Instruction Mode: Lecture Grading Option: Letter

PHED 156a Basketball
Units: 1 Terms Offered: FaSp Basic skill development in dribbling, passing, shooting, rebounding and defense; rules, history, and etiquette; drills and full court games. Instruction Mode: Lecture Grading Option: Letter

PHED 156b Basketball
Units: 1 Terms Offered: FaSp Development of advanced skills; team strategy; offenses and zone defenses; drills and full court games. Instruction Mode: Lecture Grading Option: Letter

PHED 160 Stress Management for Healthy Living
Units: 2 Terms Offered: FaSp Instruction on the effects of stress as it relates to work, sport and academics; coping strategies are discussed and applied through physical conditioning interventions. Instruction Mode: Lecture Grading Option: Letter

PHED 161 First Aid
Units: 1 First Aid safety education and infant, child, and adult CPR; demonstrated proficiency and successful completion of exam prepares students for Red Cross certification. Duplicates Credit in former PHED 171. Instruction Mode: Lecture Grading Option: Letter

PHED 162 Principles of Athletic Coaching
Units: 2 Terms Offered: FaSpSm Introduction to coaching strategies; team management; philosophy; ethics; leadership. Methodologies in sport specific training; skill progression; conditioning; athlete motivation; budgeting; fundraising. Instruction Mode: Lecture Grading Option: Letter

PHED 163 Health Coaching
Units: 2 Terms Offered: FaSpSm Skills and strategies of coaching principles promoting healthy lifestyle change. Motivational communication techniques; goal setting; designing safe, effective exercise program; health coach certification exam preparation. Instruction Mode: Lecture Grading Option: Letter

PHED 165 Varsity Athletics
Units: 1 Max Units: 4.0 Participation in the university's inter-collegiate programs as sanctioned and governed by the PAC-10 Conference and/or the NCAA. Instruction Mode: Lecture Grading Option: Credit/No Credit

Philosophy

PHIL 100g Central Problems of Philosophy
Units: 4 Explores questions about human beings and their place in nature, including questions about knowledge, mind and body, freedom and determinism, and the existence of God. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, discussion Grading Option: Letter

PHIL 102gp Historical Introduction to Philosophy
Units: 4 Introduction to the central philosophical works that have shaped western thought. Includes ancient, early modern and contemporary writings. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 104g Ancient Foundations of Western Thought
Units: 4 Explores writings of ancient philosophers who first raised, and continue to influence our thinking about, fundamental questions concerning nature, knowledge, justice, happiness, and death. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 115. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 110g Modern Foundations of Western Thought
Units: 4 Explores the writings of philosophers, from Descartes to Kant, who responded to, and helped to shape, the scientific and political upheavals of the modern period. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in former PHIL 101 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 115g Ancient Greek Culture and Society
Units: 4 Focus on the literary achievement from the beginning of Greek literature to the fourth century with a special emphasis on the philosophers. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 120g Introduction to Formal Logic
Units: 4 Introduces formal tools for distinguishing between good and bad arguments or inferences. Covers both propositional logic and predicate logic. Satisfies New General Education in F Quantitative Reasoning Duplicates Credit in and . Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 122ag Reasoning and Argument
Units: 2 Terms Offered: FaSp Techniques for constructing good arguments and for assessing and criticizing the arguments of others. Duplicates Credit in former PHIL 250ab. Instruction Mode: Lecture Grading Option: Letter

PHIL 122bg Reasoning and Argument
Units: 2 Terms Offered: FaSp Techniques for constructing good arguments and for assessing and criticizing the arguments of others. Duplicates Credit in former PHIL 250ab. Instruction Mode: Lecture Grading Option: Letter

PHIL 130g The Physical World and Our Place In It
Units: 4 Exploration of basic questions about the nature of reality. Topics may include personal identity, freedom and determinism, causation and laws of nature. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 138gp Introduction to the Philosophy of Religion
Units: 4 Explores arguments for and against the existence of God, as well as questions about the nature and rationality of faith. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 141gp The Professions and the Public Interest in American Life
Units: 4 The study of the nature and role of professionals in life and society, forces that shape and direct them, foundations and applications of professional ethics. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture Grading Option: Letter

PHIL 166gw Current Moral and Social Issues
Units: 4 Terms Offered: FaSp Critical study of controversial social issues such as abortion, euthanasia, the death penalty, war and terrorism, sexual morality, affirmative action, and economic justice. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former PHIL 140g. Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as SWMS-140

PHIL 168g The Meaning of Life
Units: 4 Explores philosophical treatments of the problem of the meaning or purpose of human life. Satisfies New General Education in B Humanistic Inquiry Duplicates Credit in . Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 172gmw Social Ethics for Earthlings and Others
Units: 4 Terms Offered: FaSp A systematic study of contemporary issues in social and

political philosophy engaging multimedia works of science fiction to illuminate classic Western moral and political theories. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in former PHIL 137 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 174gw Freedom, Equality, and Social Justice
Units: 4 Terms Offered: FaSp Explores the nature of justice, and how apparently conflicting ideals, such as freedom and equality, are to be balanced within a just society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 178gw Moral Dilemmas in the Legal Domain
Units: 4 Philosophical theories of law and applications to controversies of importance to society and our legal system, such as free speech, civil disobedience, and self defense. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in former PHIL 135g. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 222g Logic and Language
Units: 4 Introduces symbolic logic and explores its application to the philosophy of language, plus meta-logical and philosophical results about its scope and limits. Satisfies New General Education in Category F: Quantitative Reasoning Duplicates Credit in PHIL 350 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 236g Issues in Space and Time
Units: 4 What is time? What is the difference between past, present and future? Is time-travel possible? And what paradoxes might it give rise to? Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 286Lg Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 240g Mind, Self, and Consciousness
Units: 4 Explores philosophical questions about the human mind and consciousness, and how they relate to the brain and to the physical world more generally. Satisfies New General Education in Category B: Humanistic Inquiry Duplicates Credit in PHIL 262g Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 242 Theories of Art
Units: 4 An introduction to general theories of art and to issues concerning particular arts such as literature and drama, photography and film, painting, architecture and music. Instruction Mode: Lecture Grading Option: Letter

PHIL 254gp Science, Knowledge and Objectivity
Units: 4 Max Units: max 4 How does science differ from pseudo-science? When is it rational to accept a scientific theory? And do such theories provide genuine knowledge of reality? Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 256g Science, Religion, and the Making of the Modern Mind
Units: 4 Terms Offered: FaSp Exploration of the philosophical and religious implications of major scientific revolutions, such as those of Copernicus, Galileo, and Darwin. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Duplicates Credit in former PHIL 220g. Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 258g Probability and Rational Choice
Units: 4 Explores formal tools for thinking about uncertainty. In an uncertain world, how is it rational to form our beliefs, make decisions, and interact with others? Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 260gw Ethical Theory and Practice
Units: 4 Terms Offered: FaSp Explores various conceptions of morality and what makes actions right or wrong, together with the implications of these views for concrete ethical issues. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 262g Mind and Self: Modern Conceptions
Units: 4 Philosophical problems about the nature of mind associated with the rise of modern science; topics include the mind/body relation, personal identity, rationality and freedom. Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 284gp Ideas on Trial
Units: 4 Historically significant trials, from the trial of Socrates to the present day, understood as vehicles for the expression of deep social and cultural attitudes. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 285Lg Knowledge, Explanation, and the Cosmos
Units: 4 Terms Offered: FaSpSm The nature and limits of knowledge and explanation, and challenges in understanding the origin of the universe and the place of intelligent life within it. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHIL 286Lg Issues in Space and Time
Units: 4 Examining the nature of space and time, how they relate, and how material objects relate to them. Some included topics: substantivalism, temporal directionality, persistence, hyperspace. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHIL 288gp Love and its Representation in Western Literature, Film, and Philosophy
Units: 4 Key works that have shaped the European and American cultural inheritance, with a special focus on the nature of love. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Duplicates Credit in the former PHIL 225 Instruction Mode: Lecture, Discussion Grading Option: Letter

PHIL 300 Introduction to the Philosophical Classics
Units: 4 An examination of philosophical works which have had a profound impact on the nature of Western thought. Instruction Mode: Lecture Grading Option: Letter

PHIL 315 History of Western Philosophy: Ancient Period
Units: 4 Major figures in the history of Western philosophical thought from the pre-Socratics to the Hellenistic period; emphasis on Plato and Aristotle. Instruction Mode: Lecture Grading Option: Letter

PHIL 317 History of Western Philosophy: Medieval Period
Units: 4 Central themes in Jewish, Christian and Islamic philosophy from late antiquity through the scholastic period. Instruction Mode: Lecture Grading Option: Letter

PHIL 320 History of Western Philosophy: Modern Period
Units: 4 The development of philosophy from the 16th to the 19th centuries; emphasis on Continental Rationalism, British Empiricism, and the philosophy of Kant. Instruction Mode: Lecture Grading Option: Letter

PHIL 330 Theories of Law
Units: 4 Examination of some of the major classical and contemporary theories of the nature and functions of law and of its relation to morality. Instruction Mode: Lecture Grading Option: Letter

PHIL 335 Theoretical Models of Leadership
Units: 4 Terms Offered: FaSp Political philosophers and social theorists on leadership: political obligation; the art of government; leadership in civil society and counter-cultural dissent; models of cosmopolitan leadership. Instruction Mode: Lecture Grading Option: Letter

PHIL 337 History of Modern Political Philosophy
Units: 4 Analysis of some of the main political philosophies of the modern era; emphasis on the ethical and metaphysical foundations of political philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 338 Political Economy and Social Issues
Units: 4 Terms Offered: Sp (Enroll in ECON 338)

PHIL 340 Ethics
Units: 4 Terms Offered: FaSpSm Study of major philosophical theories of moral right and wrong, such as utilitarianism, Kantianism, egoism, virtue ethics, and theological ethics. Instruction Mode: Lecture Grading Option: Letter

PHIL 345 Greek Ethics
Units: 4 Examination of the progress of the ethical thought and legal and political institutions of ancient Greece with an emphasis on the Nichomachean Ethics of Aristotle. Instruction Mode: Lecture Grading Option: Letter

PHIL 347 Philosophy in Literature
Units: 4 Philosophical content in representative European and American literature; philosophical problems about literature such as the nature of truth and meaning in fiction. Instruction Mode: Lecture Grading Option: Letter

PHIL 350 Symbolic Logic
Units: 4 Introduction to basic techniques of propositional and quantificational logic, and elements of probability. Especially useful to philosophy, mathematics, science, and engineering majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 351 Reasoning and Logic
Units: 4 Study of reasoning as a strategy for arriving at knowledge in dependence upon logical theory. Logical theories are developed alongside historically influential strategies of reasoning. Not open to freshmen. Instruction Mode: Lecture Grading Option: Letter

PHIL 352 Logic and Language
Units: 4 Introduction to modern symbolic logic, with applications to the philosophy of language, plus meta-logical and philosophical results about its scope and limits. Instruction Mode: Lecture Grading Option: Letter

PHIL 355 Existentialism
Units: 4 A critical survey of major 19th and 20th century existentialist writers, including Kierkegaard, Dostoevsky, Tolstoy, Kafka, Nietzsche, Camus, and Sartre. Instruction Mode: Lecture Grading Option: Letter

PHIL 360 Epistemology and Metaphysics
Units: 4 Examination of problems in metaphysics and/or epistemology. Conducted at the intermediate level. Instruction Mode: Lecture Grading Option: Letter

PHIL 361 Philosophy of Religion
Units: 4 The existence of God; mysticism, miracles and the possibility of disembodied existence; the problem of evil; religion and morality; the meaning of religious language. Instruction Mode: Lecture Grading Option: Letter

PHIL 362 Possible Worlds
Units: 4 Introduction to possible worlds as a tool for asking and answering questions about what might be, what must be, and what can never be. Instruction Mode: Lecture Grading Option: Letter

PHIL 363 Philosophy of Perception
Units: 4 Philosophical investigation of sense perception as it relates to issues in epistemology, metaphysics, the philosophy of mind, and the philosophy of science. Instruction Mode: Lecture Grading Option: Letter

PHIL 385 Science and Rationality
Units: 4 Examination of the rationality of the scientific enterprise, and of the relation between science and human values. Instruction Mode: Lecture Grading Option: Letter

PHIL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PHIL 410 Early Greek Thought
Units: 4 A study of the Greek thinkers from Homer to the age of Socrates; emphasis on the pre-Socratic philosophers. Instruction Mode: Lecture Grading Option: Letter

PHIL 411 Plato
Units: 4 Detailed study of the evolution of Plato's thought as revealed in selected dialogues. Instruction Mode: Lecture Grading Option: Letter

PHIL 415 Aristotle
Units: 4 Intensive study of selected topics taken from Aristotle's writings in natural philosophy, in metaphysics, and in other areas of philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 421 Continental Rationalism
Units: 4 Development of philosophy on the continent from the 17th to the 19th centuries; emphasis on the philosophical works of Descartes, Leibniz, and Spinoza. Instruction Mode: Lecture Grading Option: Letter

PHIL 422 British Empiricism
Units: 4 Development of philosophy in Great Britain from the 17th to the 19th centuries; emphasis on Locke, Berkeley, and Hume. Instruction Mode: Lecture Grading Option: Letter

PHIL 423 The Critical Philosophy of Kant
Units: 4 Intensive study of the philosophical works of Kant. Instruction Mode: Lecture Grading Option: Letter

PHIL 424 19th Century Philosophy
Units: 4 Leading figures and movements in 19th century philosophy; works of such philosophers as Hegel, Schopenhauer, Mill, Nietzsche, and Bradley. Instruction Mode: Lecture Grading Option: Letter

PHIL 425 American Philosophy
Units: 4 Leading figures and movements in American philosophy; works of such philosophers as Jonathan Edwards, Charles Peirce, William James, John Dewey, and C.I. Lewis.

PHIL 426 20th Century European Philosophy
Units: 4 Main philosophers and movements from 1900, including the major developments within phenomenology and existentialism, the emergence of structuralism and hermeneutics. Instruction Mode: Lecture Grading Option: Letter

PHIL 427 20th Century Anglo-American Philosophy
Units: 4 The nature and function of analysis as a philosophical method; the development of major metaphysical, epistemological, and ethical views; Russell, Wittgenstein, Carnap, Quine and others. Instruction Mode: Lecture Grading Option: Letter

PHIL 428 Anglo-American Philosophy Since 1950
Units: 4 The maturing of the analytic tradition from the later Wittgenstein through Ryle, Strawson, Hare, Austin, Grice, Quine, Davidson, Kripke, and beyond. Instruction Mode: Lecture Grading Option: Letter

PHIL 430 Philosophy of Law
Units: 4 Philosophical theories about the nature of law, relations between law and morality, and analysis of normative concepts central to law, such as responsibility, punishment, negligence. Instruction Mode: Lecture Grading Option: Letter

PHIL 431 Law, Society, and Politics
Units: 4 Terms Offered: Fa A systematic presentation of the main philosophical perspectives on the interactions between law and the social-political aspects of our lives. Instruction Mode: Lecture Grading Option: Letter

PHIL 437 Social and Political Philosophy
Units: 4 The nature of man and society, the nature and justification of state and government, political rights and political obligation, justice and equality. Instruction Mode: Lecture Grading Option: Letter

PHIL 440 Contemporary Ethical Theory
Units: 4 Ethical theories in the 20th century; contemporary theories of value and obligation; metaethical theories; intuitionism, naturalism, and non-cognitivism; concepts of justice, human rights, and freedom. Instruction Mode: Lecture Grading Option: Letter

PHIL 442 History of Ethics to 1900
Units: 4 An historical and critical study of the great moral philosophers, including Plato, Aristotle, Aquinas, Kant, and the British moralists. Instruction Mode: Lecture Grading Option: Letter

PHIL 443 Value Theory
Units: 4 The evaluation of individual and social ends; consideration of such topics as values and rational choice, the good of a person, hedonism, welfare, ideals, and utopias.

PHIL 445 Philosophy of the Arts
Units: 4 Principal theories of the nature of, and response to, art; examination of form and content in various arts; consideration of the role of criticism. Instruction Mode: Lecture

Grading Option: Letter

PHIL 446 Aesthetics and the Film
Units: 4 Problems in the philosophy of art raised by film, such as the notion of "cinematic"; the nature of interpretation of films; criteria for evaluating films. Instruction Mode: Lecture Grading Option: Letter

PHIL 450 Intermediate Symbolic Logic
Units: 4 Systematic study of the metatheory of quantificational logic, with applications to questions of decidability and completeness of formal systems including Godel's Incompleteness Theorems. Instruction Mode: Lecture Grading Option: Letter

PHIL 452 Modal Logic
Units: 4 Elements of propositional and quantified modal logic and the logic of counterfactual conditionals with an eye to some of their applications in contemporary philosophy. *Prerequisite:* PHIL 350, or PHIL 351, or PHIL 352. Instruction Mode: Lecture Grading Option: Letter

PHIL 455 Phenomenology and Existentialism
Units: 4 Terms Offered: Irregular Close study of major writings of Husserl, Heidegger, and Sartre. Instruction Mode: Lecture Grading Option: Letter

PHIL 460 Metaphysics
Units: 4 Systematic introduction to basic concepts, including identity, difference, existence, individuals, substance, quality, and relation; emphasis on idealism, materialism, and the ontology of intentionality. Instruction Mode: Lecture Grading Option: Letter

PHIL 462 Philosophy of Mind
Units: 4 Examination of contemporary theories of mind and its place in the natural world. Instruction Mode: Lecture Grading Option: Letter

PHIL 463 Theories of Action
Units: 4 Systematic investigation of action, the mental states involved in action, the reasoning processes that lead to action, and related concepts including intentionality and free will. Instruction Mode: Lecture Grading Option: Letter

PHIL 465 Philosophy of Language
Units: 4 The nature of communication, meaning, reference, truth, necessity, speech acts, convention, and language. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-465

PHIL 470 Theory of Knowledge
Units: 4 Examination of contemporary accounts of the nature, scope, sources — and value — of human knowledge and justified belief. Instruction Mode: Lecture Grading Option: Letter

PHIL 471 Metaphysics and Epistemology
Units: 4 Classic issues in epistemology and the philosophy of language, leading up to the application of context-sensitivity in language to the problem of skepticism. *Prerequisite:* PHIL 350 or PHIL 351 or PHIL 352 *Recommended Preparation:* at least one 400-level PHIL course. Registration Restriction: Open to Philosophy majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 472 Moral Philosophy
Units: 4 In-depth study of some important work from the last few decades concerning the nature and status of moral reasons, moral obligations, and moral discourse. *Prerequisite:* PHIL 350 or PHIL 351 or PHIL 352 *Recommended Preparation:* at least one 400-level PHIL class. Registration Restriction: Open to Philosophy majors. Instruction Mode: Lecture Grading Option: Letter

PHIL 473 Wittgenstein
Units: 4 A detailed study of the philosophical works of Ludwig Wittgenstein. Instruction Mode: Lecture Grading Option: Letter

PHIL 480 Philosophy of Mathematics
Units: 4 The nature of mathematical truth and the nature of mathematical entities. Instruction Mode: Lecture Grading Option: Letter

PHIL 484 Philosophy of Physics
Units: 4 Max Units: 12 A comprehensive introduction to two of the central areas of modern philosophy of physics: the philosophy of spacetime, and the philosophy of quantum mechanics. *Recommended Preparation:* PHYS 304, PHYS 408a, or PHYS 438a Instruction Mode: Lecture Grading Option: Letter

PHIL 485 Development of Physical Science
Units: 4 Concepts central in the advance of physical science such as the concepts of space, time, mass, force; philosophical problems concerning quantum mechanics. Instruction Mode: Lecture Grading Option: Letter

PHIL 486 Methodologies of the Sciences
Units: 4 Comparison of the methodologies of the natural, social, and/or behavioral sciences; consideration of such topics as the concept of scientific law, prediction, explanation, confirmation. Instruction Mode: Lecture Grading Option: Letter

PHIL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PHIL 494 Senior Thesis
Units: 4 Independent studies for philosophy majors, and guidance in the preparation of the senior thesis for students who wish to graduate with honors in philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various specialty areas within philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 500 Introduction to Contemporary Philosophical Literature
Units: 4 Terms Offered: Fa Analysis of selected philosophical problems and theses of current interest; explication of major contemporary papers and/or books is emphasized. Instruction Mode: Lecture Grading Option: Letter

PHIL 501 Seminar in Recent Philosophy
Units: 4 Max Units: 16.0 Terms Offered: Sp Contemporary philosophical issues and literature. Instruction Mode: Lecture Grading Option: Letter

PHIL 503 Introduction to Contemporary Philosophical Literature on Value
Units: 4 Terms Offered: Sp Analysis of selected philosophical problems and theses of current interest; explication of major contemporary papers and/or books is emphasized. Instruction Mode: Lecture Grading Option: Letter

PHIL 505 Pro-Seminar in Central Topics in Contemporary Philosophy
Units: 4 Terms Offered: Irregular Key developments in central areas of philosophy are used to provide training in philosophical analysis, criticism, and the writing of precise philosophical prose. Instruction Mode: Lecture Grading Option: Letter

PHIL 510 Philosophical Logic
Units: 4 Terms Offered: Sp Applications of logical theory to contemporary philosophical research. Elements of model theory, recursion theory; Goedel's Incompleteness results; modal logic and its interpretations. *Recommended Preparation:* PHIL 350. Instruction Mode: Lecture Grading Option: Letter

PHIL 515 Studies in Ancient and Medieval Philosophy
Units: 4 Max Units: 16.0 Problems in research in selected portions of ancient and medieval philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 520 Studies in Modern Philosophy
Units: 4 Max Units: 16.0 Problems in research in selected portions of modern philosophy. Instruction Mode: Lecture Grading Option: Letter

PHIL 525 Seminar in Phenomenology
Units: 4 The origin, principles, and development of the phenomenological movement from Brentano to Merleau-Ponty. Instruction Mode: Lecture Grading Option: Letter

PHIL 530 Seminar in Philosophy of Law
Units: 4 Max Units: 12.0 Theories of the nature of law; emphasis on recent writing; legal concepts such as rights, powers, liability, legal responsibility, law, and morality. Instruction Mode: Lecture Grading Option: Letter

PHIL 537 Seminar in Social and Political Philosophy
Units: 4 Max Units: 16.0 Advanced literature on selected topics in social and political philosophy, including the nature of law, man, and society; ideals such as justice and freedom. Instruction Mode: Lecture Grading Option: Letter

PHIL 540 Seminar in Ethics
Units: 4 Max Units: 16.0 Advanced topics and literature in ethical theory. Instruction Mode: Lecture Grading Option: Letter

PHIL 545 Seminar in Aesthetics
Units: 4 Advanced topics in the philosophy of the arts. Contemporary views on such problems as the nature of art and the role of criticism. Instruction Mode: Lecture Grading

Option: Letter

PHIL 550 Advanced Topics in Formal Logic
Units: 4 Consistency and completeness of the predicate calculus; truth and validity; rudiments of model logic. *Prerequisite:* PHIL 450. Instruction Mode: Lecture Grading Option: Letter

PHIL 551 Seminar in the Philosophy of Logic
Units: 4 Advanced topics in logic and/or philosophy of logic. Instruction Mode: Lecture Grading Option: Letter

PHIL 560 Seminar in Metaphysics
Units: 4 Max Units: 16.0 Terms Offered: Fa Advanced topics in metaphysics. Instruction Mode: Lecture Grading Option: Letter

PHIL 562 Philosophy of Mind
Units: 4 Max Units: 12.0 Contemporary approaches to a variety of questions about the nature of mental states and our knowledge of them. Instruction Mode: Lecture Grading Option: Letter

PHIL 565 Philosophy of Language
Units: 4 Max Units: 12.0 Terms Offered: FaSp Philosophical issues in the empirical study of language concerning the relationship between linguistic meaning and the use of sentences to assert and convey information. Instruction Mode: Lecture Grading Option: Letter

PHIL 570 Seminar in Epistemology
Units: 4 Max Units: 16.0 Advanced topics in epistemology. Instruction Mode: Lecture Grading Option: Letter

PHIL 584 Seminar in the Philosophy of Physics
Units: 4 Max Units: 12 Selected topics in various specialty areas within the philosophy of physics. *Recommended Preparation:* PHYS 304, PHYS 408a, or PHYS 438a Instruction Mode: Lecture Grading Option: Letter

PHIL 585 Seminar in Philosophy of Science
Units: 4 Max Units: 16.0 Advanced topics in the philosophy of science. Instruction Mode: Lecture Grading Option: Letter

PHIL 589 Writing for Publication in Philosophy
Units: 4 Max Units: 8.0 Terms Offered: Sp Intensive writing seminar in which students read cutting-edge philosophy and take supervised steps towards crafting critical essays for publication. *Prerequisite:* PHIL 500, PHIL 505. Instruction Mode: Lecture Grading Option: Letter

PHIL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 593x Teaching Philosophy
Units: 2 Terms Offered: Fa Basic principles of philosophical pedagogy, with emphasis on practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in philosophy. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Major trends of current thought; specific topics to be announced. Instruction Mode: Lecture Grading Option: Letter

PHIL 636 Seminar in Semantics
Units: 3 Max Units: max 12 (Enroll in LING 636)

PHIL 700x Dissertation Seminar
Units: 2 Max Units: 12.0 A focused environment in which to present and evaluate dissertation work-in-progress. Focus on peer and faculty feedback, developing professional presentation skills, improving critical communication skills. Registration Restriction: Open only to Philosophy doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHIL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHIL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pharmacy

PHRD 501 Pharmaceutics I
Units: 4 Terms Offered: Fa Introduction to physiochemical principles of dosage forms; properties of molecules in dosage forms, stability of pharmaceuticals and their interactions in body tissue, including computational approaches. Instruction Mode: Lecture Grading Option: Letter

PHRD 502 Pharmaceutics II
Units: 2 Principles involved in molecules movement across biological barriers. Properties, characteristics, application of homogeneous and heterogeneous dosage forms, liquid, semi-solid and solid. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 503 Biological Systems I
Units: 5 Integration and application to pharmacy of anatomy, histology, physiology and pathophysiology using an organ-based approach. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 504 Biological Systems II
Units: 5 Integration and application to pharmacy of anatomy, histology, physiology and pathophysiology using an organ-based approach. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 507 Health Care Delivery Systems
Units: 2 Terms Offered: Fa Introduction to understanding the structure of the health care system. Includes health care financing and the role of pharmacy and the pharmacist in health systems. Instruction Mode: Lecture Grading Option: Letter

PHRD 508 Pharmacy Literature Analysis and Drug Information
Units: 3 Terms Offered: FaSp Literature evaluation and biostatistics of clinical and health services research, and drug information services. Emphasis on drug therapy, patient outcomes, and formulary development. Instruction Mode: Lecture Grading Option: Letter

PHRD 511 Pharmacy Practice and Profesionalism 1
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 512 Pharmacy Practice and Profesionalism 2
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 514 Calculations and Compounding
Units: 2 Knowledge and experience in pharmacy calculations, compounding, and sterile IV compounding. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 515 Metabolism and Cell Biology
Units: 2 Basic principles of drug action and receptor actions. Includes their application to the understanding and treatment of disease. Provides the scientific basis of pharmaceutical action. Registration

Restriction: Open only to Doctor of Pharmacy students Duplicates Credit in former PHRD 555 Instruction Mode: Lecture Grading Option: Letter

PHRD 516 Non-Prescription Therapies
Units: 3 Introduction to self-care health. Includes OTC products, dosages, pharmacology, efficacy, cost, side effects, adverse reactions, contraindications, and drug interactions. Duplicates Credit in the former PHRD 506. Instruction Mode: Lecture Grading Option: Letter

PHRD 517 Pharmacogenetics
Units: 2 Principles of gene expression and the influence of genetics on the effectiveness of drug therapy. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in the former PHRD 505. Instruction Mode: Lecture Grading Option: Letter

PHRD 519 Introduction to Pharmacy Practice
Units: 2 Introduction of principles of pharmaceutical care in community or hospital pharmacy setting. Includes basic practice skills. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in the former PHRD 509. Instruction Mode: Lecture Grading Option: Letter

PHRD 551 Immunology
Units: 3 Terms Offered: Fa Basic principles of immunology and their application to the understanding and treatment of immunologically-mediated diseases. Provides the scientific basis of immunotherapy and immunodiagnosis. Instruction Mode: Lecture Grading Option: Letter

PHRD 552 Pharmaceutics III
Units: 3 Terms Offered: Sp Principles and applications of controlled, targeted, and self-regulating drug delivery. Methods to deliver therapeutic peptides, proteins and genetic materials. Instruction Mode: Lecture Grading Option: Letter

PHRD 553 Management within Health Care Organizations
Units: 2 Terms Offered: Fa Management of the professional practice of pharmacy in organized health care systems. Introduction to formulary development and outcome analysis. Instruction Mode: Lecture Grading Option: Letter

PHRD 554 Public Health and Epidemiology
Units: 2 Terms Offered: Sp Introduction to epidemiology, environmental health, health education, health care organizations and financing. Orientation to social and governmental controls on the health care system. Instruction Mode: Lecture Grading Option: Letter

PHRD 555 Pharmacy Education 1
Units: 2 Terms Offered: Fa Understanding and application of learning theory and teaching methodology, small group teaching, active learning, student motivation, basic assessment methods, and general online teaching tools. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 556 Pharmacy Education 2
Units: 1 Terms Offered: Sp Continuation of Pharmacy Education 1. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 557 Introduction to Therapeutics
Units: 4 Integrated teaching of the principles of pharmacology, biomedicinal chemistry, pharmacogenomics and clinical therapeutics. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 559 Therapeutics: Pharmacokinetics
Units: 3 Integrated teaching of basic and clinical pharmacokinetic/pharmacodynamic concepts. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 560 Therapeutics III
Units: 6 Terms Offered: Sp Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs, with emphasis on pharmaceuticals treating diseases associated with the central nervous system. Instruction Mode: Lecture Grading Option: Letter

PHRD 561 Pharmacy Practice and Experience III
Units: 3 Terms Offered: FaSp Introductory Pharmacy Practice Experiences (IPPEs) in hospital and community settings. Includes; didactic instruction, laboratory practicums, IV training and practical experience hours. Registration Restriction: Open only to Pharmacy majors. Instruction Mode: Lecture, Lab Grading Option: Letter

PHRD 562 Therapeutics IV
Units: 4 Terms Offered: Sp Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs with an emphasis on treating diseases of the renal, GI and pulmonary systems. Instruction Mode: Lecture Grading Option: Letter

PHRD 563 Case Conference 2
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 564 Case Conference 3
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 565 Pharmacy Practice and Professionalism 3
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 566 Pharmacy Practice and Professionalism 4
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 567 Pharmacy Law
Units: 2 Provide an introduction to the legal and ethical issues in pharmacy practice. Includes state and federal statutes, regulations, and pharmacy-related cases. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 616. Instruction Mode: Lecture Grading Option: Letter

PHRD 568 Principles and Leadership in Community Health 1
Units: 2 Terms Offered: Fa Introduction to public health and the development of community health programs. Topics include health education, health communication, and behavioral determinants of health and disease. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 569 Principles and Leadership in Community Health 2
Units: 1 Terms Offered: Sp Builds upon students' knowledge of the field of public health and community health programs to evaluate the efficacy of community-based interventions. *Prerequisite:* PHRD 568 Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 570 Therapeutics: Central Nervous System
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics with emphasis on the central nervous system. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 560. Instruction Mode: Lecture Grading Option: Letter

PHRD 572 Therapeutics: General Medicine and Inflammatory Disorders
Units: 5 Integrated approach to the management of common renal, liver, pulmonary, gastrointestinal, joint and integumental related disorders, as well as inflammatory disorders. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 562. Instruction Mode: Lecture Grading Option: Letter

PHRD 599 Special Topics
Units: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5.5, 6, 6.5, 7, 7.5, 8 Max Units: 8 Terms Offered: FaSp Comprehensive exploration of special and emerging topics in the practice of pharmacy. Registration Restriction: Open only to graduate students in the School of Pharmacy Instruction Mode: Lecture Grading Option: Letter

PHRD 601 Therapeutics V
Units: 6 Terms Offered: Fa Integrated

teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs, with emphasis on pharmaceuticals affecting cardiovascular and circulatory diseases. CPR certification. Instruction Mode: Lecture Grading Option: Letter

PHRD 603 Therapeutics: Endocrine System
Units: 3 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics with emphasis on the endocrine and reproductive system. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 605 Therapeutics VII
Units: 4 Terms Offered: Fa Integrated teaching of the biomedicinal chemistry, pharmacology, clinical pharmacokinetics, and therapeutics of drugs; with emphasis on chemotherapy of infectious disease: bacterial, microbial, viral, parasitic, and fungal. Instruction Mode: Lecture Grading Option: Letter

PHRD 606 Therapeutics VIII
Units: 2 Terms Offered: Sp Advanced topics and clinical therapeutics of drugs, with emphasis on the treatment of infectious disease: bacterial, microbial, viral, parasitic and fungal. Instruction Mode: Lecture Grading Option: Letter

PHRD 607 Nutrition
Units: 2 Terms Offered: Fa Biomedical knowledge is correlated with assessments of clinical case management problems to understand the interrelationship between nutrition and health in both hospitalized and healthy patients. Instruction Mode: Lecture Grading Option: Letter

PHRD 608 Therapeutics: Oncology
Units: 2 Terms Offered: Sp Integrated teaching of biomedicinal chemistry, pharmacology, clinical pharmacokinetics and therapeutics of drugs, with emphasis on pharmaceuticals for managing oncological diseases. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 610 Therapeutics: Special Populations
Units: 3 Terms Offered: Sp Focuses on the pharmacology, pharmacokinetics, medicinal chemistry and clinical therapeutics that apply to pharmaceutical care of pediatric, geriatric and chronic pain patients. Registration Restriction: Open only Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 611 Therapeutics: Infectious Diseases
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics, with emphasis on the therapy of infectious diseases caused by bacterial, viral, parasitic, and fungal organisms. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 605 and PHRD 606. Instruction Mode: Lecture Grading Option: Letter

PHRD 612 Therapeutics XI
Units: 2 Terms Offered: Sp Updates students on recent advances in clinical areas, prepares students for advanced practice experiences and assessment of clinical readiness via a final examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 614 Pharmaceutical Economics and Outcome Studies
Units: 3 Terms Offered: Sp Economic analysis of the U.S. health care system, the pharmaceutical industry, and the profession; economic assessment of drug therapy costs and health care outcomes applying pharmacoeconomic research methodologies. Instruction Mode: Lecture Grading Option: Letter

PHRD 616 Pharmacy, Law and Ethics
Units: 3 Terms Offered: Sp To provide students with an understanding of ethical issues that arise in pharmacy practice along with state and federal statutes, regulations, and pharmacy-related cases. Instruction Mode: Lecture Grading Option: Letter

PHRD 619 Therapeutics: Cardiovascular System
Units: 5 Integration of biomedicinal chemistry, pharmacology, pharmacokinetics, and therapeutics with emphasis on pharmaceuticals affecting cardiovascular and circulatory diseases. Registration Restriction: Open only to Doctor of Pharmacy students. Duplicates Credit in PHRD 601 . Instruction Mode: Lecture Grading Option: Letter

PHRD 620 Pharmacy Practice and Professionalism 5
Units: 2 A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 621 Pharmacy Practice and Professionalism 6
Units: 1 Terms Offered: Sp A seminar series covering leadership, professionalism and professional development for pharmacy practice. Includes practical experience placements (IPPE). Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 622 Case Conference 4
Units: 2 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 623 Case Conference 5
Units: 1 Case conferences and seminars focusing on contemporary pharmacy practice. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 633 Pharmacy Management and Economics
Units: 2 Management principles for pharmacy practice, understanding of health care systems and pharmacoecomincs. Introduction to formulary management and outcome analysis. Registration Restriction: Open only to Doctor of Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 634 Scholarly Project 1
Units: 1 Terms Offered: Fa Collection and analysis of results in the Pharm.D. Scholarly Project and oral presentation and discussion of these results. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 635 Scholary Project 2
Units: 1 Terms Offered: Sp Oral and poster presentation of the results of the Pharm.D. Scholarly Project. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 639 Pharmacy Review
Units: 1,2,3 Max Units: 03 Terms Offered: Sm Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Registration Restriction: Open only to Pharmacy students Instruction Mode: Lecture Grading Option: Letter

PHRD 650 APPE Gateway
Units: 2 Terms Offered: Sp Competency-based course to prepare and assess students for readiness to enter Advanced Pharmacy Practice Experience (APPE). Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 651 Community Pharmacy I
Units: 3 Terms Offered: Fa Development of specialized knowledge and skills in community pharmacy practice involving location analysis, pharmacy management principles, and introduction to business law concepts. Instruction Mode: Lecture Grading Option: Letter

PHRD 652 Community Pharmacy II
Units: 3 Terms Offered: Sp A continuation of pharmacy business law concepts encompassing contract principles and forms of ownership, including a review of pharmacy laws, compounding principles, and OTC agents. *Prerequisite:* PHRD 651. Instruction Mode: Lecture Grading Option: Letter

PHRD 653 Health Systems Pharmacy I
Units: 3 Terms Offered: Fa Understanding formal and informal organizations in institutions, managed care, disease management, health care policy and financing, patients' chart organization, and clinical monitoring parameters. Instruction Mode: Lecture Grading Option: Letter

PHRD 654 Health Systems Pharmacy II
Units: 3 Terms Offered: Sp Recognizing resources available for drug information, familiarity with institutional formularies, medication counseling, writing chart notes, and clinical activities at an off-campus health care institution. *Prerequisite:* PHRD 557. Instruction Mode: Lecture Grading Option: Letter

PHRD 655 Geriatric Pharmacy I
Units: 3 Terms Offered: Fa Specialized knowledge and skills in geriatric pharmacy, pharmacology of aging, and unique functions of health care team providing care to the elderly patient. Instruction Mode: Lecture Grading Option: Letter

PHRD 656 Geriatric Pharmacy II
Units: 3 Terms Offered: Sp Specialized knowledge and skills in gerontology and geriatric pharmacy including the pathophysiology of selected cardiovascular, endocrine, genitourinary gastrointestinal disorders, osteoarthritis, and osteoporosis. *Prerequisite:* PHRD 559. Instruction Mode: Lecture Grading Option: Letter

PHRD 657L Basic Research Design
Units: 3 Max Units: 6.0 Terms Offered: FaSp Research experience to integrate research into Doctor of Pharmacy program. Research focuses on industrial, academic, or governmental issues. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHRD 658 Sleep and the Pharmacologic Management of Its Disorders
Units: 3 Terms Offered: FaSp Overview of normal sleep manifestations, and treatment of common sleep disorders, and the pharmacist's role in assessment, treatment, and referral. Instruction Mode: Lecture Grading Option: Letter

PHRD 659 Molecular Therapeutics: Signal Transduction
Units: 3 Terms Offered: FaSp Principles of molecular therapeutics against signaling pathways; emphasis on biological mechanisms underlying hormone, growth factor, and neurotransmitter-mediated gene regulation, proliferation, and cell death. Instruction Mode: Lecture Grading Option: Letter

PHRD 660 Disease State Management I
Units: 3 Terms Offered: FaSp The processes required to develop disease state management protocols based on data drawn from the medical research literature. Instruction Mode: Lecture Grading Option: Letter

PHRD 661 Pharmacy Practice in Women's Health
Units: 3 Terms Offered: FaSp The pharmaceutical care of women patients is emphasized. Therapeutic, psychosocial factors and current research in women's health. Instruction Mode: Lecture Grading Option: Letter

PHRD 662 Psychiatric Pharmacy Practice
Units: 3 Terms Offered: Sp Specialized knowledge and skills in psychiatric pharmacy practice including child, adult, and geriatric psychopharmacology applied to inpatient and outpatient treatment. Instruction Mode: Lecture Grading Option: Letter

PHRD 663 Pharmaceutical Development
Units: 3 Terms Offered: FaSp Examination of pharmaceutical product development process including discovery, preclinical/clinical studies, regulatory-legal issues, and marketing. Instruction Mode: Lecture Grading Option: Letter

PHRD 664 Clinical Problem Solving
Units: 3 Terms Offered: Sp Integration of physical assessment, laboratory tests, history taking, and diagnosis to formulate decisions for optimal treatment plans in specific disease states. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CXPT-664

PHRD 665 Complementary/Alternative Therapeutics
Units: 3 Terms Offered: FaSp Examines the therapeutic use of complementary/alternative medicines, such as herbal medicines, homeopathic drugs, vitamins and other nutritional supplements. Instruction Mode: Lecture Grading Option: Letter

PHRD 666 Therapeutic Drug Monitoring
Units: 3 Terms Offered: FaSp Application of pharmacokinetic and pharmacodynamic principles to individualize patient drug regimens. Instruction Mode: Lecture Grading Option: Letter

PHRD 667 Drugs of Abuse
Units: 3 Terms Offered: FaSp Specialized knowledge and skills in specific substance abuse-related areas. Each area will include addiction, wellness, and prevention components. Instruction Mode: Lecture Grading Option: Letter

PHRD 668 Computing Application
Units: 3 Terms Offered: FaSp Specialized knowledge and skills using computers in professional practice: telecommunication protocols, typical patient databases in hospital and community pharmacies, drug interactions, insurance billing, inventory control. Instruction Mode: Lecture Grading Option: Letter

PHRD 669 Health Care Needs of Special Populations
Units: 3 Terms Offered: FaSp Health care needs of the poor will be examined through participation in a multidisciplinary community clinic setting focusing on medication counseling and compliance. Instruction Mode: Lecture Grading Option: Letter

PHRD 670 Marketing and Development in the Pharmaceutical Industry
Units: 3 Terms Offered: FaSp Basic and advanced strategies for marketing and development of new compounds or indication in the pharmaceutical industry. *Recommended Preparation:* PHRD 663. Instruction Mode: Lecture Grading Option: Letter

PHRD 671 Pharmacy Education Seminar
Units: 3 Terms Offered: FaSp A seminar course with a focus on educational methods and teaching skills providing career development for students interested in academia. Instruction Mode: Lecture Grading Option: Letter

PHRD 672 Introduction to Critical Care
Units: 3 Terms Offered: Sp Coupling evidence-based management with a case-based approach; reinforces the clinical thought processes to optimize pharmaceutical care in various critical care settings. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 675 Travel Medicine
Units: 3 Terms Offered: FaSp An elective course for emphasizing the role of the pharmacist in preventing and treating travel related medical conditions. Instruction Mode: Lecture Grading Option: Letter

PHRD 677 Risk Assessment and Management in Pharmacy Practice
Units: 3 Terms Offered: FaSp Specific risk management issues, legal and professional expectations of pharmacists, and assessing and avoiding risk. Instruction Mode: Lecture Grading Option: Letter

PHRD 678 Topics in Pharmacology: the Other Side of Drugs
Units: 2, 3 Terms Offered: Fa (Enroll in MPTX 510)

PHRD 679 Toxicology and the Media
Units: 2, 3 Terms Offered: Sp (Enroll in MPTX 520)

PHRD 688 Global Pharmacy
Units: 3 Opportunity to work with pharmacists, student pharmacists, and other healthcare professionals to experience pharmacy education and practice outside of the United States. Registration Restriction: Open only to Pharmacy majors Instruction Mode: Lecture Grading Option: Letter

PHRD 701 Acute Care Clinical APPE
Units: 6 Terms Offered: FaSpSm Application of pharmaceutical care principles to the adult patient population in an acute care environment. Pharmacology, pharmacokinetics, and disease state management will be emphasized. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 703 Long Term Care Clerkship
Units: 6 Terms Offered: FaSpSm Application of pharmaceutical care to patients in long term care environments. Understanding of the therapeutic, legal and special needs of this patient population.

PHRD 704 Primary Care APPE
Units: 6 Disease state management and a primary care setting. Modification and design of drug therapy regimens and primary patient care using a team based approach. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 705 Community Pharmacy APPE
Units: 6 Terms Offered: FaSpSm Pharmaceutical care principles applied to the community pharmacy environment. Participating in the development, implementation and outcome evaluation of patient care services in the community. Registration Restriction: Open to Doctor of Pharmacy students only. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 706 Geriatrics Clerkship
Units: 6 Terms Offered: FaSpSm Drug therapy and management of geriatric patients with a focus on unique medical, economic, and psycho-social problems of this population.

PHRD 714 Nuclear Pharmacy APPE

Units: 6 Terms Offered: FaSpSm Provides practical and theoretical aspects of radiopharmacy services delivery. Instruction Mode: Lecture Grading Option: Letter

PHRD 718 Hospital Pharmacy Practice APPE
Units: 6 Terms Offered: FaSpSm Practical experience in the practice of hospital pharmacy. Administrative, practice-based and therapeutic competencies emphasized. Instruction Mode: Lecture Grading Option: Letter

PHRD 725 International Pharmacy Practice Experience
Units: 3, 6 Terms Offered: FaSpSm Practical experience in the practice of pharmacy in the international setting. Students will visit an international pharmacy practice setting and complete a project. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 726 Directed Clinical Project I APPE
Units: 6 Max Units: 12.0 Terms Offered: FaSpSm Directed educational opportunities not presently offered as electives, e.g., research project or new and evolving practice models. Instruction Mode: Lecture Grading Option: Letter

PHRD 727 Directed Clinical Clerkship Project II
Units: 6 Terms Offered: FaSpSm Directed educational opportunities not presently offered as electives, e.g., research projects or new and evolving clerkships. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 730 Acute Care Geriatrics Clerkship
Units: 6 Terms Offered: FaSpSm Pharmaceutical care principles applied to the acutely ill geriatric patient population. Emphasis on drug therapy problem solving, physiology, pharmacokinetics and compliance problems.

PHRD 731 Advanced Geriatrics APPE
Units: 6 Terms Offered: FaSpSm Directed projects/practical experience in geriatric drug therapy. Instruction Mode: Lecture Grading Option: Letter

PHRD 735 Clinical Pharmacy Research APPE
Units: 6 Terms Offered: FaSpSm Drug research administration: research design; ethics; record-keeping; and institutional review. Practical experience emphasized. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 738 Pharmaceutical Industry APPE
Units: 6 Terms Offered: FaSpSm Practical experience within a pharmaceutical company may include: clinical affairs, drug development, research, and/or marketing process. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 750 Advanced Pharmacy Practice Elective (APPE)
Units: 6 Max Units: 18.0 Terms Offered: FaSpSm Pharmacy practice experience (internship) course in a health care setting. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 751 Non-traditional Advanced Pharmacy Elective (APPE)
Units: 6 Terms Offered: FaSpSm Pharmacy practice experience (internship) course in a non-traditional or emerging setting. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Letter

PHRD 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Research leading to doctorate in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHRD 794a Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794b Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794c Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794d Doctoral Dissertation
Units: 2 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 794z Doctoral Dissertation
Units: 0 Dissertation research required for completion of Doctor of Philosophy in Clinical and Experimental Therapeutics. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 796a Doctor of Pharmacy Capstone
Units: 0 Terms Offered: FaSpSm Capstone course required for completion of Doctor of Pharmacy degree. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHRD 796b Doctor of Pharmacy Capstone
Units: 0, 3 Terms Offered: Sp Capstone course required for completion of Doctor of Pharmacy degree. Registration Restriction: Open only to Doctor of Pharmacy students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Pharmaceutical and Translational Sciences

PHTS 654 Computation in Drug Discovery and Development
Units: 2 Terms Offered: Fa Focuses on computational prediction of molecular association and ADME (absorption, distribution, metabolism, excretion) properties in drug discovery and development. *Recommended Preparation:* Review basic computer skills Instruction Mode: Lecture, Lab, Discussion Grading Option: Credit/No Credit

PHTS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to students enrolled in the PHTS umbrella PhD program during their first year Instruction Mode: Lecture Grading Option: Credit/No Credit

Physics

PHYS 051x Problem Solving in Mechanics and Thermodynamics
Units: 1 Intensive practice in solving elementary problems within a student-centered learning environment. *Concurrent Enrollment:* Concurrent enrollment: PHYS 151. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 100Lgx The Physical World
Units: 4 Terms Offered: FaSp The fundamentals of physics presented with emphasis on the structure and beauty of physical laws. Practical component will relate these laws to commonly encountered events. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 125Lg Physics for Architects
Units: 4 Terms Offered: Sp Fundamental laws and principles of physics with emphasis on the application of physical principles to the problems of architecture. *Prerequisite:* MATH 108. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Duplicates Credit in PHYS 135a, PHYS 135b. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 135ag Physics for the Life Sciences
Units: 4 Terms Offered: FaSpSm Fundamental laws and principles of physics emphasizing areas related to life sciences; prerequisite for biological sciences, medicine, dentistry, and pharmacy. *Prerequisite:* Passing of Math Placement Exam or MATH 108 or MATH 125 or MATH 126 or MATH 226. Satisfies New General Education in Category E: Physical Sciences Duplicates Credit in PHYS 125. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 135bL Physics for the Life Sciences
Units: 4 Terms Offered: FaSpSm Fundamental laws and principles of physics emphasizing areas related to life sciences; prerequisite for biological sciences, medicine, dentistry, and pharmacy. *Prerequisite:* Passing of Math Placement

Exam or MATH 108 or MATH 125 or MATH 126 or MATH 226. Duplicates Credit in PHYS 125. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 141L Special Laboratory I
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 151 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 142L Special Laboratory II
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 152 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 143L Special Laboratory III
Units: 1 Terms Offered: FaSpSm Laboratory component for PHYS 153 for transfer students with equivalent lecture credit from another institution. For transfer students immediately after matriculation. Instruction Mode: Lecture, Lab Required Grading Option: Credit/No Credit

PHYS 151Lg Fundamentals of Physics I: Mechanics and Thermodynamics
Units: 4 Terms Offered: FaSpSm Gateway to the majors and minors in Physics and Astronomy. Statics and dynamics of particles and rigid bodies, conservation principles, gravitation, simple harmonic oscillators, thermodynamics, heat engines, entropy. *Prerequisite:* MATH 125 or MATH 126 or MATH 226. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 152L Fundamentals of Physics II: Electricity and Magnetism
Units: 4 Terms Offered: FaSpSm Electrostatics, magnetostatics, electrical circuits, wave motion, sound waves, electromagnetic waves. *Prerequisite:* PHYS 151Lg, MATH 126 *Corequisite:* MATH 226. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 153L Fundamentals of Physics III: Optics and Modern Physics
Units: 4 Terms Offered: FaSpSm Geometrical optics, interference, diffraction, special relativity, quantum mechanics, atomic physics, solid state physics. *Prerequisite:* PHYS 152. Instruction Mode: Lecture, Lab Required, Quiz Grading Option: Letter

PHYS 161Lg Advanced Principles of Physics I
Units: 4 Terms Offered: Sp Gateway to the majors and minors in Physics and Astronomy. Introductory treatment intended for well-qualified students. Dynamics of particles and rigid bodies, conservation laws, wave motion, thermodynamics, heat engines, entropy. *Prerequisite:* MATH 126 *Corequisite:* MATH 226 Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category III: Scientific Inquiry Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 162L Advanced Principles of Physics II
Units: 4 Terms Offered: Fa Electrostatics, magnetostatics, electrical circuits, electric and magnetic properties of matter, Maxwell's equations, electromagnetic waves, propagation of light. *Prerequisite:* MATH 226 *Recommended Preparation:* PHYS 161 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 163L Advanced Principles of Physics III
Units: 4 Terms Offered: Sp Interference and diffraction of waves, special relativity, quantum mechanics, atomic physics, nuclear physics, condensed matter physics, elementary particles. *Prerequisite:* PHYS 162 Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 171L Applied Physics I: Mechanics
Units: 4 Mechanics, mechanical vibrations and waves, special relativity. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* MATH 129 *Corequisite:* MATH 229 Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 172L Applied Physics II: Electricity, Magnetism and Optics
Units: 4 Electric and magnetic fields; electromagnetic waves; optics. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* MATH 229 (PHYS 171L or PHYS 161Lg) Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 173L Applied Physics III: Topics in Modern Physics
Units: 4 Quantum mechanics, statistical mechanics, solid-state physics. Emphasizes applications in the areas of applied physics and engineering. *Prerequisite:* PHYS 172L or PHYS 162L Instruction Mode: Lecture, Discussion, Lab Required Grading Option: Letter

PHYS 190 Physics Discovery Series
Units: 1 Terms Offered: Fa Introduction to current research activities of the faculty of the department; topics of current and popular interest among the wider community of physicists. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 200Lgx The Physics and Technology of Energy
Units: 4 Terms Offered: FaSp Investigation of energy technologies, including development and implementation issues. Topics include the industrial revolution, electromagnetic induction, power transmission, combustion engines, fission and fusion. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 304 Mechanics
Units: 4 Terms Offered: Fa Dynamics of particles, kinematics of rotations, rigid body motion, Lagrangian and Hamiltonian formalism, theory of small vibrations. *Prerequisite:* PHYS 151 or PHYS 161, MATH 245. Instruction Mode: Lecture Grading Option: Letter

PHYS 316 Thermodynamics and Statistical Mechanics
Units: 4, 2 years Terms Offered: Sp First, second, and third thermodynamic laws; thermodynamic potentials, applications; distribution laws, kinetic theory, transport phenomena, specific heats. *Prerequisite:* PHYS 152 or PHYS 161, MATH 226. Instruction Mode: Lecture Grading Option: Letter

PHYS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PHYS 408a Electricity and Magnetism
Units: 4 Terms Offered: Fa Electrostatics; thermal, chemical, magnetic effects of steady currents; DC circuits. *Prerequisite:* PHYS 152 or PHYS 162; *Corequisite:* MATH 245. Instruction Mode: Lecture Grading Option: Letter

PHYS 408b Electricity and Magnetism
Units: 4 Terms Offered: Sp Electromagnetic induction; AC circuits; Maxwell's equations. *Prerequisite:* PHYS 152 or PHYS 162; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 430 General Relativity and Gravitation
Units: 4 Terms Offered: Sp Geometry of the Universe, special relativity, curved metrics, black holes, equivalence principle, cosmology, Friedman-Robertson-Walker geometry, Einstein's equations. *Prerequisite:* PHYS 304; Instruction Mode: Lecture Grading Option: Letter

PHYS 438a Introduction to Quantum Mechanics and its Applications
Units: 4 Terms Offered: Sp Concepts and techniques of quantum mechanics; free and bound states, the hydrogen atom. *Prerequisite:* PHYS 304; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 438b Introduction to Quantum Mechanics and its Applications
Units: 4 Terms Offered: Fa Relativity, atomic spectra, quantum statistics, nuclear models, nuclear reactions, elementary particles. *Prerequisite:* PHYS 304; *Corequisite:* MATH 445. Instruction Mode: Lecture Grading Option: Letter

PHYS 440 Introduction to Condensed Matter Physics
Units: 4 Terms Offered: Irregular, Sp Crystal structures, x-ray diffraction, thermal properties of solids, diamagnetism and paramagnetism, free-electron model of metals, semiconductors, ferromagnetism, super-conductivity, imperfections in crystals. *Corequisite:* PHYS 438a. Instruction Mode: Lecture Grading Option: Letter Crosslisted

as EE-436

PHYS 444 Physical Biology: From Molecules to Cells
Units: 4 Terms Offered: Fa Length, time, and energy scales of life; statistical mechanics of biomolecules and cellular processes; physics of cell shape; biological fluid dynamics; electron transfer and metabolism. *Prerequisite:* PHYS 152 or PHYS 162; *Recommended Preparation:* BISC 220. Instruction Mode: Lecture Grading Option: Letter

PHYS 472 Introduction to Lasers and Laser Systems
Units: 3 Terms Offered: Fa (Enroll in EE 472)

PHYS 473L Lasers and Optics Laboratory
Units: 3 Terms Offered: Sp (Enroll in EE 473)

PHYS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PHYS 492L Senior Lab
Units: 4 Terms Offered: Fa Projects will include experiments in mechanics, thermodynamics, electricity and magnetism. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* PHYS 152. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 493L Advanced Experimental Techniques
Units: 4 Terms Offered: Sp Development of modern experimental techniques, including computer interface with data acquisition hardware and data analysis by software, applied specifically to experiments in modern physics. Emphasis on laboratory work with discussion of theoretical background. *Prerequisite:* PHYS 152 or PHYS 153. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PHYS 495 Senior Project
Units: 2 An original project will be constructed applying computer technology (in either hardware or software) to produce a result useful in the physics classroom or laboratory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-495

PHYS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Lectures and discussions on specialized topics in physics. Instruction Mode: Lecture Grading Option: Letter

PHYS 500 Graduate Colloquium
Units: 1 Max Units: 4.0 Terms Offered: FaSp Topics of current research interest in physics and astronomy. Lectures directed to physics graduate students by faculty of the department and by outside speakers. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 502 Advanced Optics
Units: 3 Terms Offered: Irregular Interaction of light and matter; laser oscillation condition; optical resonators; spectroscopy; pumping mechanisms; characteristics of dielectric, semiconductor, gas, and liquid lasers; topics in nonlinear optics. Instruction Mode: Lecture Grading Option: Letter

PHYS 504 Advanced Mechanics
Units: 3 Terms Offered: Fa Newtonian formulation of dynamics; Hamilton's principle; Lagrangian formulation; rigid body motion; Hamiltonian formulation; Hamilton-Jacobi theory; vibrations. Instruction Mode: Lecture Grading Option: Letter

PHYS 508a Advanced Electricity and Magnetism
Units: 3 Terms Offered: Sp Electrostatics, boundary value problems, multipole expansions, microscopic models of matter, magnetostatics. Instruction Mode: Lecture Grading Option: Letter

PHYS 508b Advanced Electricity and Magnetism
Units: 3 Terms Offered: Fa Maxwell's equations, potentials and gauge transformations; electromagnetic waves; wave guides; electromagnetic radiation; special relativity. Instruction Mode: Lecture Grading Option: Letter

PHYS 510 Methods of Theoretical Physics
Units: 3 Terms Offered: Fa Vector analysis; infinite, asymptotic Fourier series; complete sets; Dirac delta function; Fourier, Laplace transforms; Legendre functions; spherical harmonics; Sturm-Liouville theory; orthogonal polynomials; gamma-factorial function; complex variables. Instruction Mode: Lecture, Lab Grading Option: Letter

PHYS 514 Methods of Experimental Physics
Units: 3 Terms Offered: Irregular Techniques of general utility in contemporary physics research, with emphasis on the use of commercially available instrumentation. Instruction Mode: Lecture Grading Option: Letter

PHYS 516 Methods of Computational Physics
Units: 3 Terms Offered: Sp Introduction to algorithm development. Integration of ordinary differential equations; chaotic systems; molecular dynamics; Monte Carlo integration and simulations; cellular automata and other complex systems. *Recommended Preparation:* ability to program in C or C++. Instruction Mode: Lecture Grading Option: Letter

PHYS 518 Thermodynamics and Statistical Mechanics
Units: 3 Terms Offered: Fa Principles of, and relations between, thermodynamics and statistical mechanics; ensembles, partition function formalism; quantum statistics of noninteracting particles; fluctuations. Instruction Mode: Lecture Grading Option: Letter

PHYS 520 Methods for Complex Systems
Units: 3 Terms Offered: Fa Probabilities, random walks, generalized central limit theorems, probabilities in thermodynamics, critical phenomena, self organized criticality, phenomenology of catastrophies, dynamical systems and examples from outside physics. Instruction Mode: Lecture Grading Option: Letter

PHYS 530 Relativity
Units: 3 Terms Offered: Irregular Fundamentals of the special theory and applications to classical and quantum physics; the principle of equivalence; tensor analysis and Einstein's theory of gravitation; relativistic cosmology. *Recommended Preparation:* PHYS 504, PHYS 508a. Instruction Mode: Lecture Grading Option: Letter

PHYS 540 Solid State Physics
Units: 3 Terms Offered: Fa Fundamental concepts and techniques in solid state physics; electron gas at metallic densities; semiclassical transport; crystallography; band structure; phonons; screening; superconductivity; magnetic ordering. *Recommended Preparation:* PHYS 518, PHYS 558a. Instruction Mode: Lecture Grading Option: Letter

PHYS 558a Quantum Mechanics
Units: 3 Terms Offered: Sp General formulation of quantum mechanics with applications; theory of measurement; exactly solvable problems; angular momentum formalism. Instruction Mode: Lecture Grading Option: Letter

PHYS 558b Quantum Mechanics
Units: 3 Terms Offered: Fa Approximation schemes and applications to atomic and molecular physics and scattering theory; identical particles; electromagnetic properties of atoms. Instruction Mode: Lecture Grading Option: Letter

PHYS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PHYS 593 Practicum in Teaching Physics and Astronomy
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within the physical sciences. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PHYS 630 Science of Nanoscale Materials
Units: 3 Terms Offered: Fa Fundamental physics of low dimensional systems, with an emphasis on nanoscale materials (e.g. nanodot, nanowire, graphene) and state-of-the-art research topics, including characterization of nanostructure materials, and device concepts that take the advantage of low dimensionality. *Prerequisite:* PHYS 440; *Recommended Preparation:* knowledge of basic quantum mechanics. Instruction

Mode: Lecture Grading Option: Letter

PHYS 640 Advanced Condensed Matter Physics
Units: 3 Terms Offered: Sp Magnetism, magnons; superconductivity; transport phenomena; many-body effects; interacting electron gas; Hartree-Fock theory; neutron and X-ray scattering; and other selected topics. *Recommended Preparation:* PHYS 540, PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 650 Topics in Current Research
Units: 2 Terms Offered: Fa Course content will vary each year. It will include topics of current interest in research conducted in academia and industry. Instruction Mode: Lecture Grading Option: Letter

PHYS 660 Quantum Information Science and Many-Body Physics
Units: 3 Terms Offered: Sp Introduction to advanced techniques in theoretical many-body physics based on quantum information theory. *Prerequisite:* PHYS 438a, PHYS 438b; *Recommended Preparation:* Introduction to quantum information and computation, mathematical methods for theoretical physics. Instruction Mode: Lecture Grading Option: Letter

PHYS 668 Advanced Quantum Mechanics
Units: 3 Terms Offered: Sp Relativistic wave equations; second quantization of Klein-Gordon, Dirac and Maxwell fields; applications in quantum electrodynamics and condensed matter physics. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 669a Group Theory and Symmetries in Physics
Units: 3 Terms Offered: Irregular Abstract group theory; representation theory; point groups; selection rules; crystal tensors; molecular vibrations; rotation group; SU(2); Wigner-Eckart theorem; crystal-field splitting; time-reversal symmetry; gauge invariance; SU(3) and quarks. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 669b Group Theory and Symmetries in Physics
Units: 3 Terms Offered: Irregular Application of group theory in field theory and particle physics: Lie groups and representations, Young tableaux, Dynkin diagrams, Poincare group, classical groups and supergroups, gauge theories. *Recommended Preparation:* PHYS 558b. Instruction Mode: Lecture Grading Option: Letter

PHYS 670 High Energy Physics
Units: 3 Terms Offered: Irregular Elementary particles and the fundamental forces acting on them. Quarks, leptons, symmetries, gauge invariance, spontaneously broken symmetry, electroweak theory, quantum chromodynamics grand unified theory, strings. *Recommended Preparation:* PHYS 668. Instruction Mode: Lecture Grading Option: Letter

PHYS 678 Relativistic Quantum Field Theory
Units: 3 Terms Offered: Irregular Computational methods in relativistic quantum field theory: Feynman path integral, covariant perturbation theory, regularization, renormalization group, and non-perturbative techniques. *Recommended Preparation:* PHYS 668. Instruction Mode: Lecture Grading Option: Letter

PHYS 680 Advanced Quantum Field Theory
Units: 3 Terms Offered: Irregular Renormalization, quantization of gauge theories, non-Abelian gauge theories, quantum chromodynamics, spontaneous symmetry breaking, the standard model, anomalies. *Recommended Preparation:* PHYS 678. Instruction Mode: Lecture Grading Option: Letter

PHYS 682 Supersymmetric Field Theory
Units: 3 Terms Offered: Fa Supersymmetry algebra, Coleman-Mandula theorem, N=1 and N=2 Yang-Mills theory, Seiberg duality, holomorphy, introduction to Seiberg-Witten theory, electromagnetic duality, BPS states. *Recommended Preparation:* PHYS 678, PHYS 680. Instruction Mode: Lecture Grading Option: Letter

PHYS 684 Advanced String Theory
Units: 3 Terms Offered: Sp Advanced string theory. Strong coupling and nonperturbative techniques. D-branes, black holes, duality, AdS/CFT. Applications in particle, nuclear and condensed matter physics, and quantum gravity. *Recommended Preparation:* PHYS 530, PHYS 678, PHYS 680. Instruction Mode: Lecture Grading Option: Letter

PHYS 690 Introduction to Physical Biology
Units: 3 Terms Offered: Sp Introduces students to the role of physics in biology. Considers both experimental and more fundamental points of view. Explores a few current research directions. *Recommended Preparation:* good knowledge of basic statistical mechanics and thermodynamics. Instruction Mode: Lecture Grading Option: Letter

PHYS 692 Internship
Units: 3 or 6 Max Units: 6.0 Terms Offered: FaSpSm Field application of physics in a business or industry setting; part-time employment. Project to be jointly defined by student, employer and professor. Instruction Mode: Lecture Grading Option: Letter

PHYS 710 Selected Topics in Experimental Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include superconducting quantum interference devices, scanning tunneling microscopy, and laser cooling and trapping of single atoms. Instruction Mode: Lecture Grading Option: Letter

PHYS 720 Selected Topics in Theoretical Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include field theory, many body theory, Green's functions, dispersion theory, and group theory. Instruction Mode: Lecture Grading Option: Letter

PHYS 730 Selected Topics in Particle Physics
Units: 3 Max Units: 6.0 Various advanced phases of particle physics. Content will vary yearly; emphasis on superstring theories, advanced topics in quantum gravity, and field theory. *Recommended Preparation:* PHYS 678. Instruction Mode: Lecture Grading Option: Letter

PHYS 740 Selected Topics in Condensed Matter Physics
Units: 3 Max Units: 6.0 Course content will vary yearly with current interest. Topics covered may include theory of superconductivity, high temperature superconductivity, Green's functions in condensed matter physics, magnetism and transport in disordered metals. Instruction Mode: Lecture Grading Option: Letter

PHYS 750o Off Campus Studies
Units: 3 Max Units: 9.0 Course work taken on campus at Caltech as part of the Caltech-USC cross-registration program. Instruction Mode: Lecture Grading Option: Credit/No Credit

PHYS 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PHYS 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture, Lab Grading Option: In-progress to Credit/No Credit

PHYS 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Urban and Regional Planning

PLUS 600 Environmental Goods in Planning and Development
Units: 4 Terms Offered: Irregular Production, distribution, and valuation of environmental goods with attention to amenity concepts, externalities, public goods, consumer behavior; as characterized in economics, political science, sociology, psychology. Instruction Mode: Lecture Grading Option: Letter

PLUS 601 Advanced Planning Theory I
Units: 4 Terms Offered: Fa Value hierarchies, means-ends continuums, and the nature of social action; problems of prediction and choice under conditions of uncertainty; alternative planning strategies. Instruction Mode: Lecture Grading Option: Letter

PLUS 603 Planning and Development

Paradigms
Units: 4 Terms Offered: Sp Introduction to historic, prevalent, and alternative paradigms of professional planning and development practice; seminar format and case studies. Instruction Mode: Lecture Grading Option: Letter

PLUS 612 Analysis of Quantitative Data for Planning and Development
Units: 4 Terms Offered: Fa Planning and development case study approach to identifying data needs, acquisition, evaluation, manipulation, analysis, and multimedia presentation. *Prerequisite:* PPD 525. Instruction Mode: Lecture Grading Option: Letter

PLUS 615 Behavioral Issues in Environmental Design
Units: 4 Terms Offered: Irregular Planning and design of the physical environment for human activities, e.g., user preferences, privacy, territoriality, stress and adaptation, cognitive mapping, lifestyles. Instruction Mode: Lecture Grading Option: Letter

PLUS 623 Politics of Planning and the Urban Environment
Units: 4 Terms Offered: Sp Historic roots of property rights and obligations related to public policy, focus on current issues and discourse. Instruction Mode: Lecture Grading Option: Letter

PLUS 626 Information Systems for Planning and Development
Units: 4, 2 years Terms Offered: Sp Structure, content, and applications of formal information systems in planning and policy making emphasizing social accounts and indicators, censuses, social reporting, and "futures" research. Instruction Mode: Lecture Grading Option: Letter

PLUS 631 Seminar in Physical Planning and Design in Developing Countries
Units: 4 Terms Offered: Irregular Issues in comparative urbanism; planning and design in developing countries: slums and squatters, housing and infrastructure, new towns, land policy, conservation and redevelopment, city design. Instruction Mode: Lecture Grading Option: Letter

PLUS 632 National Urban Policy in Developing Countries
Units: 4 Terms Offered: Irregular The problems of the primate city, the role of intermediate cities, and the implicit spatial impacts of macro and sectoral policies. Instruction Mode: Lecture Grading Option: Letter

PLUS 633 Seminar in Comparative Housing Policy and Urban Planning Programs
Units: 4 Terms Offered: Irregular Comparative examination of urbanization experience in selected areas and cities throughout the world; housing policies, urban planning approaches, financial, administrative, legal, and other techniques. Instruction Mode: Lecture Grading Option: Letter

PLUS 635 Urban Finance
Units: 4 Terms Offered: Irregular The theory of fiscal federalism and municipal finance, with examples from the USA and other countries, public/private partnerships in urban development, and government decentralization. Instruction Mode: Lecture Grading Option: Letter

PLUS 640 International Urban Development
Units: 4 Terms Offered: Irregular Study of urbanization in developing countries; special attention to urban growth, migration, city size, land use, and urban management. Comparative case studies. Instruction Mode: Lecture Grading Option: Letter

PLUS 650 Public Policy and Globalization
Units: 4 Terms Offered: Fa Challenges of public policymaking and administration; conceptual foundations of public policy as well as the practical and political constraints on government action; theories, models, and analytical frameworks both domestic and abroad.

PLUS 651 Applied Research Design and Inquiry
Units: 4 Provide foundation in applied research skills required for advanced practice in policy, management, planning and development; design and use of applied research; development of research designs; constraints on application of research; translation of findings. *Prerequisite:* PPD 502

PLUS 652 Place, Institutions, and Governance
Units: 4 Concept of place; investigation of the problems and issues confronting metropolitan communities; how the actions of public, private and nonprofit sectors can effect various areas including economics, health, civic life, and the environment; contemporary issues in policy, planning and development; theoretical frameworks for solutions.

PLUS 653 Leading Change and Innovation in Urban Communities
Units: 4 Terms Offered: Fa In-depth study of the role of public, private, and non-profit leaders in effecting change in public policy and planning practice, with special attention to the goals and processes of social innovation in urban communities.

PLUS 660 Economics of a Productive Development - A Public/Private Perspective
Units: 3 Terms Offered: Fa Introduction to the economic and financial aspects of real estate development; tools and methods of financial analysis; public and private perspectives. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 661 Politics and Process of Urban Development
Units: 2 Terms Offered: Fa Introduction of concepts of formal and informal political institutions with a focus on planning and urban issues at the local, state and national levels; theories and methods to understand contemporary planning conflicts. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 662 Planning and Development Case Study
Units: 1 Terms Offered: Fa Case study project; students analyze a project and develop recommendations for financing and regulatory issues. Registration Restriction: Open only to online Master of Urban Planning (executive) degree students Instruction Mode: Lecture Grading Option: Letter

PLUS 663 Designing Livable Environments I
Units: 1 Terms Offered: Fa Studio setting; students will go through a design charrette, site visit, and develop an understanding of design principles. Registration Restriction: Open only to online master or urban planning (executive) degree students Instruction Mode: Lecture Grading Option: Letter

PLUS 664 Urban Political Economy and Urban Development
Units: 2 Planning and development within a complex political landscape; budgetary and fiscal politics, metropolitan fragmentation and sub urbanization, immigration, and race, gender, and ethnicity in urban politics; implications for planning and development. *Prerequisite:* PLUS 661 Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 665 Economics for a Productive City
Units: 3 Terms Offered: Sp Basic concepts of urban and land economics with an emphasis on how planning and development are shaped by the metropolitan economic context; how key theoretical elements inform planning and development questions. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 667 Effective Engagement with Stakeholders
Units: 3 Approaches and challenges to community engagement; different conceptualizations of citizen; micro-scale forum and macro-scale methods; use of media for participation in communities. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 668 Big Data for Planning and Development
Units: 2 Introduction to data and visualization trends in relation to urban planning and development; train leaders to manage teams and leverage data and information technology resources. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 669 Designing Livable Environments II
Units: 1 Studio setting; students will

go through a design charrette, site visit, and develop an understanding of design principles *Prerequisite:* PLUS 663 Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 670 Communicating Data for Planning and Development
Units: 1 Methods and techniques for data visualization; application to planning and development contexts; critical assessment of data presentation approaches and methods. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 671 Leading a Collaborative City
Units: 4 Leadership skills for planning and development; cross-sectoral collaboration, negotiation, and theories of organizational leadership; metrics for performance assessment, project management, and team building in organizations. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 672 Integrating Concepts for Action
Units: 1 Research a planning and development topic; capstone project. Registration Restriction: Open only to online Master of Urban Planning (executive) students Instruction Mode: Lecture Grading Option: Letter

PLUS 680 Advanced Urban and Regional Transportation Planning
Units: 4, 2 years Terms Offered: Fa Social and environmental impacts; incentive structures; alternate travel; investment guidelines; technological change. Instruction Mode: Lecture Grading Option: Letter

PLUS 692 Conspectus Preparation
Units: 4 Terms Offered: FaSpSm Preparation of a case study of a specific planning and/or development project that defines the student's field of study. Instruction Mode: Lecture Grading Option: Letter

PLUS 694a Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694b Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694c Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PLUS 694d Planning, Design and Development Professional Dissertation
Units: 2 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress and Credit/No Credit

PLUS 694z Planning, Design and Development Professional Dissertation
Units: 0 Credit on acceptance of planning, design and development professional dissertation. Instruction Mode: Lecture Grading Option: In-progress and Credit/No Credit

Preventive Medicine

PM 500 Foundations of Health Behavior
Units: 4 Terms Offered: Fa Overview of behavioral theory and research in disease prevention and health promotion and in adaptation of chronic disease, including an introduction to measures of outcomes. *Prerequisite:* admission to PhD in Preventive Medicine. Instruction Mode: Lecture Grading Option: Letter

PM 501 Foundations in Health Education and Promotion
Units: 4 Terms Offered: FaSpSm Overview and application of behavioral theories to the field of health education and promotion. Examines the determinants of health behavior and strategies for change at the individual, group and community level. Instruction Mode: Lecture Grading Option: Letter

PM 504 Quality in Health Care
Units: 4 Terms Offered: FaSpSm Examines quality assessment at different levels of the health care system including health plans, physicians, hospital and integrated system performance. *Prerequisite:* PM 508 Instruction Mode: Lecture Grading Option: Letter

PM 505 Training and Curriculum Design in Public Health
Units: 4 Terms Offered: Sm Curriculum writing and training skills applied to public health needs and settings. Covers adult learning theories, assessment of learning needs, curriculum design, training design, conduct and evaluation. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 508 Health Service Delivery in the U.S.
Units: 4 Terms Offered: FaSpSm Historical development of the American health care system; determinants of health care utilization; role of health care providers; health policy; public health services; and health care finance. Instruction Mode: Lecture Grading Option: Letter

PM 509 Comparative Health Care Systems
Units: 4 Terms Offered: Sp Macro-level analysis of the structure and delivery of health care services around the world, including an examination and comparison of health system performance. Instruction Mode: Lecture Grading Option: Letter

PM 510L Principles of Biostatistics
Units: 4 Terms Offered: FaSp Concepts of biostatistics; appropriate uses and common misuses of health statistics; practice in the application of statistical procedures; introduction to statistical software including EXCEL, SPSS, nQuery. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 511aL Data Analysis
Units: 4 Terms Offered: FaSp Major parametric and nonparametric statistical tools used in biomedical research, computer packages including SAS. Includes laboratory. *Prerequisite:* PM 510. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH-511A

PM 511bL Data Analysis
Units: 4 Terms Offered: Sp Exploratory data analysis, detection of outliers, robust methods, fitting data with linear and nonlinear regression models, computer packages including BMDP. Includes laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH-511B

PM 511cL Data Analysis
Units: 4 Terms Offered: FaSpSm Methods and applications for modeling longitudinal, time-to event and multi-level data. Includes laboratory using R package. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 512 Principles of Epidemiology
Units: 4 Terms Offered: FaSp Terminology/uses of epidemiology and demography; sources/uses of population data; types of epidemiologic studies; risk assessment; common sources of bias in population studies; principles of screening. *Recommended Preparation:* algebra. Instruction Mode: Lecture Grading Option: Letter

PM 513 Experimental Designs
Units: 3 Terms Offered: Sp Statistical methods for analysis of various experimental designs. Parametric analysis of variance (ANOVA), repeated measures methods, crossover designs, non-parametric ANOVA. *Prerequisite:* PM 510L. Instruction Mode: Lecture Grading Option: Letter

PM 514 Sexually Transmitted Infections: a Systems Approach
Units: 4 Terms Offered: Sm Exploration of the interplay between systems, policy, advocacy, programs, and research with sexually transmitted infections. Issues such as health literacy, access to care, and evidence-based interventions designed to avert disparities in health, especially sexual health, will be evaluated. *Recommended Preparation:* PM 501 and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 515 Multivariate Statistics in Health Behavior Research
Units: 4 Terms Offered: Sp Advanced training in multivariate statistical techniques involving general linear modeling, mixed modeling and basic latent variables analysis in health behavior research *Prerequisite:* PM 511aL and PM 511bL Instruction Mode: Lecture Grading Option: Letter

PM 516a Statistical Problem Solving

Units: 1 Terms Offered: FaSpSm An overview of the tools used by statisticians for solving statistical problems. *Prerequisite:* PM 510L. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PM 516b Statistical Problem Solving
Units: 1 Terms Offered: FaSpSm An overview of the tools used by statisticians for solving statistical problems. *Prerequisite:* PM 510L. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

PM 517a Research Methods in Epidemiology
Units: 3 Terms Offered: FaSp Study design, ascertainment of study objects, questionnaire development, various methodological issues in data analysis and interpretation including bias, measurement error, confounding and effect modification. *Prerequisite:* PM 511a and PM 518a Instruction Mode: Lecture Grading Option: Letter

PM 517b Research Methods in Epidemiology
Units: 3 Terms Offered: FaSp Overview of epidemiologic research in cancer. Selected cancer sites will be covered to highlight study design and conduct, exposure assessment, data analysis and interpretation. *Prerequisite:* PM 517a Instruction Mode: Lecture Grading Option: Letter

PM 518a Statistical Methods for Epidemiological Studies I, II
Units: 3 Terms Offered: Sp Principles and methods used in epidemiology for comparing disease frequencies between groups. Restricted to the analysis of binary outcome variables. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 518b Statistical Methods for Epidemiological Studies I, II
Units: 3 Terms Offered: Sp Statistical methods for binary outcomes by introducing techniques for cross classified risks and rates and regression models for individual data. *Prerequisite:* PM 518a. Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 519 Introduction to Human Nutrition
Units: 4 Terms Offered: Sp Dietary role of carbohydrates, proteins, lipids, vitamins, and minerals in metabolism; nutritional assessment; nutritional deficiencies. Focus on the role of nutrition in the prevention and treatment of chronic disease. *Recommended Preparation:* PM 530. Duplicates Credit in former PHNU 527. Instruction Mode: Lecture Grading Option: Letter

PM 520L Advanced Statistical Computing
Units: 3 Terms Offered: SpSm Techniques for the solution of statistical problems through intensive computing; iterative techniques, randomization tests, the bootstrap, Monte Carlo methods.. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PM 521a Seminar in Nutrition
Units: 2 Terms Offered: FaSp Duplicates Credit in former PHNU 520ab. Instruction Mode: Lecture Grading Option: Letter

PM 521b Seminar in Nutrition
Units: 2 Terms Offered: FaSp Duplicates Credit in former PHNU 520ab. Instruction Mode: Lecture Grading Option: Letter

PM 522a Introduction to the Theory of Statistics
Units: 3 Terms Offered: FaSp Density distribution and hazard functions; normal, chi-square, student's t and F distributions; and sampling procedures for single factor and multiple factor designs, distributions. *Recommended Preparation:* working knowledge of multivariable calculus and familiarity with linear algebra. Instruction Mode: Lecture Grading Option: Letter

PM 522b Introduction to the Theory of Statistics
Units: 3 Terms Offered: FaSp Theory of estimation and testing, inference, analysis of variance, theory of regression. *Recommended Preparation:* college-level calculus and linear algebra. Instruction Mode: Lecture Grading Option: Letter

PM 523 Design of Clinical Studies
Units: 3 Terms Offered: Sp Design, conduct, and interpretation of results of clinical trials; emphasis on principles affecting structure, size, duration of a trial, and the impact of ethical and practical considerations. *Prerequisite:* PM 511a, PM 511b, PM 513. Instruction Mode: Lecture Grading Option: Letter

PM 524a Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in prevention. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 524b Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in compliance. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 524c Practicum in Health Behavior
Units: 2 Terms Offered: FaSpSm Practical experience in a variety of field settings to gain a certain type of skill such as curriculum development, media production, and patient education. Practicum in health behavior topics. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 525 Culture and Health: Global Perspectives
Units: 4 Terms Offered: FaSpSm International variations in health status with a focus on the impact of socioeconomic status, politics, environment, education and gender in etiology of illness, access to health care, progression of disease, and recovery. Instruction Mode: Lecture Grading Option: Letter

PM 526 Communications in Public Health
Units: 4 Terms Offered: Sp Application of communication theories and methods to community health problems. Includes background assessment, program design, evaluation, social marketing, media advocacy, review of major health campaigns. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 527 Epidemiology of Infectious Disease
Units: 4 Terms Offered: FaSpSm Survey of natural history of infectious disease, methods of disease control and outbreak investigation, and an overview of the epidemiology of injury. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 528 Program Design and Evaluation
Units: 4 Terms Offered: Sp Core concepts, methods and values of public health program planning and evaluation, including community needs assessment, writing objectives, designing health promotion programs, process and outcome evaluation. *Recommended Preparation:* PM 500. Instruction Mode: Lecture Grading Option: Letter

PM 529 Environmental Health: An Epidemiological Approach
Units: 4 Terms Offered: FaSpSm An overview of environmental health, identifying issues in assessing effects of exposure on health and potential interventions for reducing adverse health risks. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 530 Biological Basis of Disease
Units: 4, 2 years Terms Offered: Sp With a physiological overview, differentiates genetic and environmental disease; emphasis on the relationships between lifestyle, behavior, and health. *Prerequisite:* admission to PhD in Preventive Medicine, Health Behavior Research or basic biology. Instruction Mode: Lecture Grading Option: Letter

PM 531 Research Methods in Nutrition
Units: 4 Terms Offered: Fa In-depth discussion of nutrition research including nutrition assessment, measurement of dietary intake, study design, statistical issues, critical appraisal, and translation into practice. *Prerequisite:* PM 510, PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 532 Genetics in Public Health and Preventive Medicine
Units: 4 Terms Offered: Sm History and philosophy of public health genetics and mechanisms of genetic diseases. Epidemiologic methods used to identify genetic diseases in individuals, families, and populations. Emphasis on prevention and relevant ethical issues. *Recommended Preparation:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 533 Genetic and Molecular Epidemiology
Units: 3 Terms Offered: FaSpSm Genetic principles; design and analysis of family studies; introduction to likelihood estimation; segregation and linkage analysis; biomarkers of exposure, susceptibility, and disease; laboratory methods; susceptibility genes; association and linkage disequilibrium. *Prerequisite:* PM 510 and PM 512 *Recommended Preparation:* PM 511b, PM

518a, PM 543 Instruction Mode: Lecture Grading Option: Letter

PM 534 Statistical Genetics
Units: 4 Terms Offered: Sp Familial aggregation, segregation analysis, linkage analysis, association, regressive models, gene-environment interactions, genetic heterogeneity and linkage disequilibrium. *Prerequisite:* PM 518a, PM 522a. Instruction Mode: Lecture Grading Option: Letter

PM 535 Nutrition in Public Health
Units: 4 Terms Offered: Fa Principles related to developing effective programs and services to improve the health and nutrition within a community. Attaining and maintaining nutritional health related to biology, lifestyle choices, environments, and health care delivery systems. *Recommended Preparation:* PM 530. Duplicates Credit in former PHNU 523. Instruction Mode: Lecture Grading Option: Letter

PM 536 Program Evaluation and Research
Units: 4 Terms Offered: Fa Overview of concepts, tools, data collection, analysis methods and designs used to evaluate health promotion programs. Examples from substance abuse prevention, family planning and reproductive health programs. Instruction Mode: Lecture Grading Option: Letter

PM 537 Chronic Disease Epidemiology
Units: 4 Terms Offered: FaSpSm Overview of causative factors and demographic distribution of major chronic diseases in the western world. Epidemiologic concepts, methods and research design as applied to chronic disease prevention will be emphasized. *Prerequisite:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 538 Introduction to Biomedical Informatics
Units: 3 Terms Offered: Sm Overview of current topics, enabling technologies, research initiatives, and practical considerations in biomedical informatics. Instruction Mode: Lecture Grading Option: Letter

PM 539 Nutrient-Drug Interactions
Units: 2 Terms Offered: Sm Examines the various ways foods, and the nutrients contained in them, interact with medications used to treat chronic health conditions. Instruction Mode: Lecture Grading Option: Letter

PM 540 Maternal and Child Nutrition: Practice and Policy
Units: 4 Physiological basis for good nutrition during pregnancy and childhood through adolescence. Design, implementation and evaluation of public health nutrition programs and policies serving women and children. *Recommended Preparation:* PM 530. Instruction Mode: Lecture Grading Option: Letter

PM 541 Obesity, Metabolism and Health
Units: 4 Terms Offered: Fa Overview of the epidemiology of obesity, related health conditions and mechanisms related to energy balance, food intake and genetics. Discussion of prevention and treatment strategies. *Recommended Preparation:* PM 530. Instruction Mode: Lecture Grading Option: Letter

PM 542 Social Network Analysis
Units: 4 Terms Offered: Sp Theory, methods and procedures of network analysis with emphasis on applications to public health programs. Instruction Mode: Lecture Grading Option: Letter

PM 543L Nonparametric Statistics
Units: 3 (Enroll in MATH 543) Instruction Mode: Includes laboratory.

PM 544L Multivariate Analysis
Units: 3, 2 years Terms Offered: SpSm Exploratory and inferential techniques for multivariate data, Hotelling's T2, multivariate analysis of variance, classification analysis, principle components, cluster analysis, factor analysis. Involves computer use. *Prerequisite:* PM 510, PM 522a. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as MATH-544

PM 545L Introduction to Time Series
Units: 3 (Enroll in MATH 545) Instruction Mode: Includes laboratory.

PM 546 Biological Threats and Terrorism
Units: 4 Terms Offered: Fa History of biowarfare and bioterrorism; proper surveillance techniques, capacity building for public health and medical communities, and the importance of effective communications. Methods of preparedness, prevention and response are examined. *Recommended Preparation:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 547 Public Health Policy and Politics
Units: 4 Terms Offered: FaSp Examination of major policy issues in the U.S. health care delivery system to understand policy options in reforming health care and reducing health care disparities. *Prerequisite:* PM 509 . Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 548 Prevention and Public Policy
Units: 2 Terms Offered: FaSp Introduction to prevention policy framework; examination of how the application of epidemiology and behavioral aspects of diseases shapes the development of public health policy. *Prerequisite:* PM 508 , PM 512. Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 549 Human Molecular Genetics
Units: 4 Terms Offered: FaSpSm (Enroll in BIOC 543)

PM 550 Sample Surveys
Units: 3 (Enroll in MATH 550)

PM 551 Statistical Methods in Genome-Wide Association Studies
Units: 3 Terms Offered: FaSpSm Provides epidemiologists with an overview of current statistical problems and approaches in the design and analysis of genome-wide association studies. *Prerequisite:* PM 511a, PM 512; *Corequisite:* PM 522a. Instruction Mode: Lecture Grading Option: Letter

PM 552 Statistical Methods in Clinical Trials
Units: 3, 2 years Terms Offered: Sp Stochastic failure process; parametric models for survival data; sample size estimation procedures for clinical trials; multivariate regression models for binary outcome and censored survival data; computer programs; multiple failure modes and competing risks. *Prerequisite:* PM 518a, MATH 408. Instruction Mode: Lecture Grading Option: Letter

PM 553 Human Exposure Assessment for Public Health
Units: 4 Terms Offered: FaSpSm Examination of important routes of exposure to toxic materials; how to measure exposure; strengths and weaknesses of different measurement techniques; design of exposure assessment studies. *Recommended Preparation:* PM 510 or one semester of statistics and background in science or engineering for graduate students not in MPH. Instruction Mode: Lecture Grading Option: Letter

PM 554 Biological Effects of Environmental Toxins
Units: 4 Terms Offered: FaSp Overview of how environmental exposures affect various biological systems and lead to observed health outcomes in populations. *Recommended Preparation:* PM 529. Instruction Mode: Lecture Grading Option: Letter

PM 555 Environmental Health, Policy and Practice
Units: 4 Terms Offered: FaSp Examination of environmental public health policies/ regulations, the role of science in assessment and policy initiatives, barriers to change, and competing interests that influence policy adoption. *Recommended Preparation:* PM 529. Instruction Mode: Lecture Grading Option: Letter

PM 556 Environment and the Brain
Units: 4 Terms Offered: FaSpSm An examination of the effects of environmental exposures on the brain, addressing both human health and neurobiologic correlates throughout the lifespan. Instruction Mode: Lecture Grading Option: Letter

PM 557 Global Environmental Health
Units: 4 Terms Offered: Sp Examination of the health effects of global environmental changes, including climate change, globalization, food safety, air pollution, water pollution, and radiation. Instruction Mode: Lecture Grading Option: Letter

PM 558 Environmental Epidemiology: Concepts, Methods, and Practice
Units: 4 Terms Offered: FaSp Examine epidemiologic methods, concepts, and statistical approaches; case-study seminars with structured critiques of current literature on human-environment interactions affecting public health. *Recommended Preparation:* PM 510 and PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 559 Cancer Epidemiology
Units: 4 Terms Offered: FaSpSm Explores the fundamental concepts of cancer epidemiology, including the molecular basis, descriptive epidemiology, and historical and groundbreaking studies that have impacted

the field. *Recommended Preparation:* PM 512 or equivalent Instruction Mode: Lecture, Discussion Grading Option: Letter

PM 560 Statistical Programming With R
Units: 2 Terms Offered: Sm The contents include: R objects, control structure, data input and output, subsetting objects, data manipulation and aggregations, character manipulation, graphics, and writing user-defined functions. *Recommended Preparation:* Knowledge of one programming language other than R or a half-year experience programming in R. Instruction Mode: Lecture Grading Option: Letter

PM 561 Promoting Dietary Change
Units: 3 Terms Offered: Sp Development, implementation, and evaluation of dietary interventions at community and individual levels. Discussion of lifespan, culture, socioeconomic, and environmental factors. *Prerequisite:* PM 501. Instruction Mode: Lecture Grading Option: Letter

PM 562 Intervention Approaches for Health Promotion and Disease Prevention
Units: 4 Terms Offered: Sp Approaches for modifying health behavior in various settings and within diverse populations. Emphasis on practical considerations necessary to design and implement interventions with demonstrated effectiveness. Instruction Mode: Lecture Grading Option: Letter

PM 563 Organizing and Mobilizing Communities for Public Health
Units: 4 Terms Offered: Fa Survey of effective community organizing and mobilization efforts in the U.S. and abroad, using participatory, organizational, community empowerment and public-private partnership models. Instruction Mode: Lecture Grading Option: Letter

PM 564 Public Health Leadership and Management
Units: 3 Terms Offered: FaSpSm Introduction to business and management concepts, tools, and practices in the context of domestic and global healthcare delivery, public health, and allied health industries. Instruction Mode: Lecture Grading Option: Letter

PM 565 Introduction to Global Health
Units: 4 Terms Offered: Sp Current public health issues and research topics relating to 21st century challenges and threats. Lessons learned and best practices to strengthen public health systems and enhance public health readiness and preparedness. Instruction Mode: Lecture Grading Option: Letter

PM 566 Public Health in China: A System and Country in Transition
Units: 4 Terms Offered: Fa Scientific, political, economic, social, and historical influences affecting Chinese public health policy and practice. *Prerequisite:* PM 501, PM 510; *Recommended Preparation:* PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 567 Disasters, Conflict and Global Health
Units: 4 Terms Offered: FaSpSm Definition and chronology of natural and man-made disasters and their effects on the global community. Structure and organization of disaster management systems and the role of humanitarian organizations. *Recommended Preparation:* PM 501, PM 512. Instruction Mode: Lecture Grading Option: Letter

PM 568 Ethical Issues in Global Health
Units: 4 Terms Offered: Fa Ethical principles in the distribution of health resources, conduct of global public health research, and implementation of public health initiatives across different nations, cultures, religions. *Recommended Preparation:* PM 501. Instruction Mode: Lecture Grading Option: Letter

PM 569 Spatial Statistics
Units: 3 Terms Offered: FaSpSm An introduction to statistical methods for analyzing and interpreting spatially referenced data topics include: geostatistics, areal data, point pattern data and visualization. *Prerequisite:* PM 511a; *Recommended Preparation:* familiarity with R. Instruction Mode: Lecture Grading Option: Letter

PM 570 Statistical Methods in Human Genetics
Units: 4 Terms Offered: Sp An introductory course in the statistical methods used in the analysis of human genetic data. *Prerequisite:* PM 533. Instruction Mode: Lecture Grading Option: Letter

PM 571 Applied Logistic Regression
Units: 3 Terms Offered: Sm An introduction to the logistic regression model, emphasizing practical data analysis techniques. *Prerequisite:* PM 510; PM 512; and PM 511a or PM 518a. Instruction Mode: Lecture Grading Option: Letter

PM 572 Systems Physiology and Disease I
Units: 4 Terms Offered: Fa (Enroll in INTD 572)

PM 573 Systems Physiology and Disease II
Units: 4 Terms Offered: Sp (Enroll in INTD 573)

PM 574 Programming In Modern Statistical Software
Units: 2 Terms Offered: FaSpSm Programming using SAS Software, including branching, sub-setting, PDV, looping, by-group processing, array, combining data functions, ODS, and macros. Instruction Mode: Lecture Grading Option: Letter

PM 575 Statistical Methods in Environmental Epidemiology
Units: 3 Terms Offered: FaSpSm Study designs, exposure time response, longitudinal, spatial, ecologic correlation and mechanistic models, measurement error interactions, measurement error, public policy implications. *Prerequisite:* PM 511b and PM 518a. Instruction Mode: Lecture Grading Option: Letter

PM 576 Global Health Research and Programs
Units: 4 Terms Offered: FaSpSm Introduction to the core concepts and methods of planning and implementing health-related programs and research in resource-constrained settings. Instruction Mode: Lecture Grading Option: Letter

PM 577 Global Health, Law and Human Rights
Units: 1, 2, 3, 4 Terms Offered: FaSp Highlights the complex interactions between global health, law and human rights, emphasizing the use of human rights in public health thinking and practice. *Recommended Preparation:* MPH core course work. Duplicates Credit in LAW 707. Instruction Mode: Lecture Grading Option: Letter

PM 578 Global Health Governance and Diplomacy
Units: 4 Terms Offered: FaSp Investigates the way health is organized and administered at the global level, emphasizing the role of international diplomacy and law in governing health. Instruction Mode: Lecture Grading Option: Letter

PM 579 Statistical Analysis of High-Dimensional Data
Units: 4 Terms Offered: FaSpSm Overview of statistical issues and solutions to high dimensional data analysis. Use of Bioconductor and R, with applications in molecular biology. *Recommended Preparation:* PM 511a. Instruction Mode: Lecture Grading Option: Letter

PM 580 Foundations of Child Health
Units: 4 Terms Offered: Sp Overview of issues related to infant, child and adolescent health, including special health considerations at different points in the developmental cycle, health care systems and policies and health disparities. Instruction Mode: Lecture Grading Option: Letter

PM 581 Quality and Inequality in Health Care: Examination of Health Services
Units: 4 Terms Offered: Fa Social inequalities, including racial/ethnic disparities and income related inequalities are examined in the context of access and delivery of health care in the U.S. Instruction Mode: Lecture Grading Option: Letter

PM 582 Epidemiology and Prevention of Pediatric Injuries
Units: 4 Terms Offered: Fa Examines the incidence and causes of injuries to children from birth to adolescence, risk factor distributions and approaches to prevention. Instruction Mode: Lecture Grading Option: Letter

PM 583 Foundations of Early Childhood Mental Health
Units: 4 Terms Offered: Fa Overview of major infant and early childhood mental health issues, relating to the status of child mental health and the importance of comprehensive systems of care for children that support resilience and respond to biological and psychosocial mental health risks. Instruction Mode: Lecture Grading Option: Letter

PM 584 Systems of Care for Children with Special Needs
Units: 4 Terms Offered: Sm Examines and evaluates principles, policies, programs and practices (systems) that have evolved to identify, assess and meet the special needs of children and families. Includes

both historical and current perspectives. Instruction Mode: Lecture Grading Option: Letter

PM 585 Child Health Policy
Units: 4 Terms Offered: Sp History of child health and social welfare programs during the past century. Issues examining health status and health service delivery, the role of health care financing and health policy. Instruction Mode: Lecture Grading Option: Letter

PM 586 Reproductive and Perinatal Epidemiology
Units: 4 Terms Offered: FaSpSm Introduction to reproductive health, from preconception to the neonatal and early period of human development. Heavy emphasis on the methods and public health implications. *Prerequisite:* PM 510L and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 587 Qualitative Research Methods in Public Health
Units: 4 Introduction to common uses of qualitative research methods in public health research and application. Methods include ethnography, participant observation, open-ended interviewing, and focus groups. Instruction Mode: Lecture Grading Option: Letter

PM 588 The Practice of Epidemiology
Units: 4 Terms Offered: FaSpSm Provides students with hands on experience of the common methods used in conducting epidemiological studies, and designing and obtaining funding for research projects. *Prerequisite:* PM 512; *Recommended Preparation:* PM 527. Instruction Mode: Lecture, Lab Grading Option: Letter

PM 589 Global Health Governance and Diplomacy in Practice in Geneva (World Health Assembly)
Units: 4 Terms Offered: Sm Investigates the way health is organized and administered at the global level by integrating students directly into the World Health Assembly (WHA), the decision-making body of the World Health Organization. *Recommended Preparation:* PM 578 Instruction Mode: Lecture Grading Option: Letter

PM 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 591 Machine Learning for the Health Sciences
Units: 4 Terms Offered: FaSpSm Introduces Masters and Ph.D. students in the Health Sciences to Machine Learning methods and their Biomedical applications. *Prerequisite:* PM 511a Instruction Mode: Lecture, Lab Grading Option: Letter

PM 593 Public Health Practicum
Units: 4 or 8 Terms Offered: FaSpSm Field placement in a community agency, such as a county health department or community-based organization. *Recommended Preparation:* completion of all course work. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 596 Practicum in Public Health
Units: 2 Terms Offered: FaSpSm Field placement in a public health agency, such as a county hospital department or community-based organization. *Recommended Preparation:* completion of all MPH course work. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 597 Capstone in Public Health
Units: 2 Terms Offered: FaSpSm Provides the culminating, integrative curricular experience for students enrolled in the Master of Public Health program. *Recommended Preparation:* completion of all MPH course work. Instruction Mode: Lecture Grading Option: Letter

PM 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Special topics relevant to the study of selected issues and areas of health behavior research or other aspects of preventive medicine. Instruction Mode: Lecture Grading Option: Letter

PM 601 Basic Theory and Strategies in Prevention
Units: 4, 2 years Terms Offered: Fa Psychosocial basis of healthhazardous lifestyle behaviors and preventive strategies. *Recommended Preparation:* PM 500, PM 515. Instruction Mode: Lecture Grading Option: Letter

PM 602 Basic Theory and Strategies for Compliance/Adaptation
Units: 4, 2 years Terms Offered: Fa Behavioral and psychosocial demands of acute and chronic diseases. Comparison of theoretical models of compliance and adaptation with intervention methods to improve compliance and adaptation. *Recommended Preparation:* PM 500, PM 515. Instruction Mode: Lecture Grading Option: Letter

PM 603 Structural Equation Modeling
Units: 4, 2 years Terms Offered: Fa Factor analytic and structural equation modeling approaches to health behavior research — conceptual, practical and mathematical. *Prerequisite:* PM 511b. Instruction Mode: Lecture Grading Option: Letter

PM 604 Health Behavior Research Methods
Units: 4 Terms Offered: Sp Health research/evaluation philosophies, approaches, and development of skills for development and critique of health behavior research projects/studies. *Recommended Preparation:* PM 511a, PM 511b, PM 511c. Instruction Mode: Lecture Grading Option: Letter

PM 605 Systematic Review and Meta-Analysis
Units: 4 Terms Offered: FaSpSm Theoretical basis and practical approaches for identifying, summarizing and interpreting current bodies of scholarly information addressing a defined research question. *Prerequisite:* PM 510 and PM 512 Instruction Mode: Lecture Grading Option: Letter

PM 610 Seminar in Biostatistics and Epidemiology
Units: 1 Max Units: 4.0 Terms Offered: FaSpSm Special topics of current interest to provide background for research in biostatistics and epidemiology. Based largely on student dissertation research. *Prerequisite:* PhD level. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 611 Advanced Topics in Epidemiology
Units: 3 Terms Offered: Irregular Review of current epidemiologic research contained in recent medical literature; emphasis on critique of studies and interpretation of findings. Instruction Mode: Discussion Grading Option: Letter

PM 612a Clinical Translational Research (CTR)
Units: 4 Terms Offered: FaSpSm First of three courses in CTR, a discipline that fosters multidirectional integration of basic, patient-oriented and population-based research with the long-term goal of improving public health. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 612b Clinical Translational Research (CTR)
Units: 4 Terms Offered: FaSpSm Analysis and interpretation of data to test clinical translational hypotheses. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 612c Clinical Translational Research (CTR)
Units: 4 Terms Offered: FaSpSm Multidisciplinary approach to clinical and translational research. *Recommended Preparation:* PM 510. Instruction Mode: Lecture Grading Option: Letter

PM 615 Intervention Research Grant Proposal Development
Units: 4 Terms Offered: FaSp Process of applying for research grants in health behavior research, including dissertation grants. Covers the structure of NIH and other grantmaking agencies, the grant review process, tailoring ideas to the grantmaker's priorities, research design, development of training and mentoring plans, and budgeting. *Prerequisite:* PM 500 Instruction Mode: Lecture Grading Option: Letter

PM 690a Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm

Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690b Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690c Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690d Directed Research in Health Behavior
Units: 2 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 690z Directed Research in Health Behavior
Units: 0 Terms Offered: FaSpSm Independent research at an advanced level on a problem in the field of Health Behavior. *Recommended Preparation:* PM 604. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 756 Research Seminar in Health Behavior
Units: 1 Max Units: 6.0 Terms Offered: FaSp Short seminar presentations and discussions on issues accompanying the development of the field of health behavior and implementation of research in this field. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research applicable to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PM 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PM 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Pharmaceutical Economics and Policy

PMEP 509 Research Design
Units: 4 Terms Offered: Fa Introduction to the concept of research design and examples of the variant research methods utilized in the field. Both the conceptual and practical issues of research including development of the research question, selection of appropriate methods, data sources and analytic approaches to address the research question will be addressed. Instruction Mode: Lecture Grading Option: Letter

PMEP 525 Pharmacoeconomics I
Units: 4 Terms Offered: Sp Introduction to pharmacoeconomics with special emphasis on the role of pharmaceuticals and the pharmaceutical industry, insurance, managed care, regulation and pricing. *Recommended Preparation:* Excel for Windows or Mac Registration Restriction: Except through discussion with the instructor Duplicates Credit in former PMEP 538 Instruction Mode: Lecture Grading Option: Letter

PMEP 526 Pharmacoeconomics II
Units: 2 Terms Offered: Sm Continued development of the use of the economic evaluation model, and application of the methods and techniques of economic assessment of pharmaceuticals and other medical technology. *Prerequisite:* PMEP 525 Registration Restriction: Open only to graduate students in Pharmaceuticals Economics and Policy Instruction Mode: Lecture Grading Option: Letter

PMEP 527 Pharmacoeconomics III
Units: 4 Terms Offered: Fa Advanced methods in economic health intervention assessment and pharmacoeconomics with special emphasis on microeconomic modeling and methods for assessing patient and health state preferences. *Prerequisite:* PMEP 525 and PMEP 526 *Recommended Preparation:* Excel for Windows Registration Restriction: Open only to graduate students in Pharmacy and Pharmaceutical Economics and Policy Instruction Mode: Lecture Grading Option: Letter

PMEP 535 Behavioral Science and Policy in Healthcare
Units: 4 Terms Offered: Sp Use of acquired skills to develop and assess uses of behavioral science to affect health policy. *Recommended Preparation:* PMEP 509 Registration Restriction: Open only to graduate students Duplicates Credit in former PMEP 519 and PMEP 529 Instruction Mode: Lecture Grading Option: Letter

PMEP 539 Economic Assessment of Medical Care
Units: 4 Terms Offered: Fa Principles of cost-benefit analysis and medical cost-effectiveness analysis with applications in medical care and the pharmaceutical field. *Prerequisite:* ECON 500 and ECON 581. Instruction Mode: Lecture Grading Option: Letter

PMEP 544 Health Economics II
Units: 4 Terms Offered: Sp Second of part series in techniques of microeconometric analysis to inform health policy. Topics include: patents and innovation, pharmaceutical regulation, hospital competition, physician practice. *Recommended Preparation:* ECON 601, ECON 611 and ECON 636. Instruction Mode: Lecture Grading Option: Letter

PMEP 547 Programming Methods for Empirical Analysis of Health Data
Units: 4 Terms Offered: Fa Introduction to methods for analysis of large health data sets, including data selection, SAS/Stata programming under Linux, and review of claims and survey data. Instruction Mode: Lecture Grading Option: Letter

PMEP 551 Introduction to Health Econometrics
Units: 4 Terms Offered: Sp Introduction to statistical analysis and regression modeling for health economics and policy research. Topics include: statistical inference, principles of probability and statistics, regression models, and causal inference. Registration Restriction: Open only to PMEP students or instructor permission Instruction Mode: Lecture, Discussion Grading Option: Letter

PMEP 552 Advanced Health Econometrics I
Units: 4 Terms Offered: Fa The expansion of students' knowledge of econometric methods emphasizing, but not limited to, applications to health economics. Serves as a prelude to the advanced study of microeconomics. *Prerequisite:* PMEP 551 or PPD 558 Registration Restriction: Open only to graduate students in Pharmaceutical Economics and Policy; Economics Instruction Mode: Lecture Grading Option: Letter

PMEP 553 Advanced Health Econometrics II
Units: 4 Terms Offered: Sp Covers the transition to independent producers of high-quality empirical research on health and health care. Peer-reviewed research will serve as case studies for class discussion and may address empirical methods. *Prerequisite:* PMEP 552 Registration Restriction: Open only to graduate students in Pharmaceutical Economics and Policy Duplicates Credit in PMEP 549 Instruction Mode: Lecture Grading Option: Letter

PMEP 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 698 Seminar in Pharmaceutical Economics and Policy
Units: 1 Max Units: 4.0 Terms Offered:

FaSp Current research in pharmaceutical economics and policy presented by outside scholars, faculty and students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PMEP 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PMEP 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Political Science and International Relations

POIR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

POIR 593 Practicum in Teaching Politics and International Relations
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within political science and international relations disciplines. Intended for teaching assistants in Dornsife College. Registration Restriction: Open only to doctoral students. Grading Option: Graded CR/NC.

POIR 599 Special Topics
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Subjects in one or more fields in political science.

POIR 600 Political Theory
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of political theory. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 530.

POIR 610 Research Design
Units: 4 The course will cover the design of experimental and observational research. We will examine both quantitative and qualitative approaches to social science research. Registration Restriction: Open only to doctoral students.

POIR 611 Introduction to Regression Analysis
Units: 4 The course will introduce students to regression analysis and its application to social science research. Registration Restriction: Open only to doctoral students.

POIR 612 Qualitative Research Design
Units: 4 Terms Offered: Fa, Sp Design multiple research approaches using qualitative evidence to evaluate the observable implications of theory. Learn deductive, construct, internal, external, and conclusion validity. *Recommended Preparation:* POIR 610 and POIR 611 Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

POIR 613 Topics in Quantitative Analysis
Units: 4 Introduces statistical models beyond the standard linear regression model. Topics include maximum likelihood estimation, generalized linear models, and advanced methods. Registration Restriction: Open only to doctoral students.

POIR 614 Experimental Political Science
Units: 4 Terms Offered: FaSpSm Introduction to experimental techniques and applications of experiments in political science. Addresses both the advantages and disadvantages of experiments in political science research. Registration Restriction: Open only to doctoral students.

POIR 615 Formal Models of Politics
Units: 4 Terms Offered: FaSp Introduces basics of game theory and surveys foundational models of American, comparative, and international politics. *Recommended Preparation:* POIR 610 and POIR 611 Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

POIR 620 American Politics and Policy Processes
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of American politics and policy processes. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 510.

POIR 621 American Politics Field Seminar Part II
Units: 4 Terms Offered: FaSp A theoretical and empirical overview of the American politics field. Theoretical topics include behavioralism, rational choice, political psychology; empirical topics include causality. Registration Restriction: Open only to doctoral students.

POIR 640 Comparative Politics
Units: 4 Survey of literature; examination of approaches, concepts, and issues in the field of comparative politics. Registration Restriction: Open only to doctoral students. Duplicates Credit in former POSC 520.

POIR 642 Institutions in Comparative and International Politics
Units: 4 Terms Offered: Fa Explores major strands of institutional theory and assesses scholars' views on design of institutions, institutional change, and effects of institutions on behavior and outcomes. Registration Restriction: Open only to doctoral students in POIR.

POIR 650 Comparative Politics of East and Southeast Asia
Units: 4 Terms Offered: FaSp Comparison of significant political phenomena between the countries in the East and Southeast Asia region and the long-term consequences of such comparisons. Registration Restriction: Open only to doctoral students.

POIR 660 Introduction to International Relations Theory
Units: 4 The primary objective of this course is to introduce PhD students to theoretical and empirical issues related to the study of international relations. Registration Restriction: Open only to doctoral students.

POIR 661 International Relations Theory: Advanced
Units: 4 Examines the specialized nomenclature of international relations and the varied interpretations of basic concepts of international theory; conceptual analysis and criticism. Registration Restriction: Open only to doctoral students. Duplicates Credit in former IR 501.

POIR 662 Governance in International Relations
Units: 4 Rules and rule structures in international relations; major theoretical perspectives and empirical research. Registration Restriction: Open only to doctoral students.

POIR 670 International Political Economy
Units: 4 Survey of approaches to international political economy. Intellectual roots; the management of collective goods; North-South relations are examined. Registration Restriction: Open only to doctoral students.

POIR 680 International Security and Foreign Policy
Units: 4 Examination of the interconnected fields of international security and foreign policy, including decision making and patterns of interaction regarding international conflict. Registration Restriction: Open only to doctoral students.

POIR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Grading Option: Graded CR/NC.

POIR 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

POIR 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Grading Option: Graded CR/NC.

Portuguese

PORT 120 Portuguese I

Units: 4 Terms Offered: FaSp For students with no proficiency in Portuguese. Practice in listening comprehension, oral communication, elementary reading and writing. Instruction Mode: Lecture Grading Option: Letter

PORT 150 Portuguese II
Units: 4 Terms Offered: FaSp For students with some language proficiency in Portuguese; increased emphasis on listening, comprehension, oral communication, reading, and writing. Students will be required to take a Portuguese placement exam in the Spanish and Portuguese Department. *Prerequisite:* PORT 120. Instruction Mode: Lecture Grading Option: Letter

PORT 175 Accelerated Portuguese I
Units: 4 Terms Offered: FaSp Encourages rapid acquisition through intensive exposure to Portuguese while following a proficiency-oriented approach. Recommended for students with a background in Spanish or another Romance language. *Recommended Preparation:* at least two years or equivalent of formal study of either Spanish or another Romance language, and/or fluent or native speakers of Spanish or a Romance language, including heritage speakers of Portuguese Instruction Mode: Lecture Grading Option: Letter

PORT 220 Portuguese III
Units: 4 Terms Offered: FaSp Intensive work in listening comprehension, oral communication, reading and writing, with emphasis on free expression; readings related to Portuguese culture and civilization. *Prerequisite:* PORT 150. Instruction Mode: Lecture Grading Option: Letter

PORT 225 Accelerated Portuguese II
Units: 4 Terms Offered: FaSp Continuation of rapid acquisition of Portuguese language. Course follows a proficiency-oriented approach. Recommended for students with a background in Spanish or another Romance language. *Recommended Preparation:* PORT 175 or equivalent. Recommended for students with at least two years or equivalent of formal study of either Spanish or another Romance language. Recommended for fluent or native speakers of Spanish or a Romance language, including heritage speakers of Portuguese. Instruction Mode: Lecture Grading Option: Letter

PORT 240 Portuguese IV
Units: 4 Four-skills course with review of grammar. Writing and reading intensive. Authentic materials related to Lusobrazilian culture and civilization. *Prerequisite:* PORT 220. Instruction Mode: Lecture Grading Option: Letter

PORT 250g Cultures of Brazil and Lusophone Africa
Units: 4 Terms Offered: FaSp Comparative study of Brazil in the context of the Lusophone (Portuguese-speaking) world, especially Portugal's former colonies in Africa. Materials drawn from literature, visual culture, music and cultural theory. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

PORT 300 Introduction to Social and Literary Studies
Units: 4 Terms Offered: FaSp A third year Portuguese course aimed at advanced-level students in Portuguese. Examines and reviews the more complex Portuguese grammatical points, usage, and provide the students further opportunity to perfect their reading, writing and speaking abilities. *Prerequisite:* PORT 120 and PORT 150 and PORT 220 and PORT 240 Instruction Mode: Lecture Grading Option: Letter

PORT 302 Introduction to Brazilian Literature
Units: 4 Terms Offered: FaSp An introduction to Brazilian literature and culture exploring how Brazil has been understood and represented through spatial categories that have become, as it were, "common places" in Brazilian literary studies: the rural Brazil of the backlands, the tropical Brazil of the Amazon, the urban and cosmopolitan Brazil of the large cities, and how they relate to questions of identity and difference in the context of Brazilian society. *Prerequisite:* PORT 120 and PORT 150 and PORT 220 and PORT 240 *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 316 Portuguese for Business and the Professions
Units: 4 Terms Offered: FaSp Aimed at advanced-level students in Portuguese who wish to develop a working knowledge of Portuguese for business and/or for the professions. *Prerequisite:* PORT 240 *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 342 Brazilian Cinema
Units: 4 Terms Offered: FaSp Survey of Brazilian cinema, designed to introduce students to major themes and issues within Brazilian studies through the examination of important Brazilian films within their historical, social and political contexts. *Prerequisite:* **PORT 120 and PORT 150 and PORT 220 and PORT 240** *Recommended Preparation:* PORT 300 Instruction Mode: Lecture Grading Option: Letter

PORT 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PORT 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Political Science

POSC 100g Theory and Practice of American Democracy
Units: 4 Terms Offered: FaSpSm Theoretical, institutional, and functional aspects of American national, state, and local government and politics; contemporary issues. Recommended for freshmen and sophomores. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 110g Ideology and Political Conflict
Units: 4 Modern political ideologies; their assumptions, perceptions, and prescriptions regarding political stability and social injustice: anarchism, communism, socialism, liberalism, conservatism, and fascism. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 120 Comparative Politics
Units: 4 Gateway to the major in political science. Comparative analysis of political institutions and processes in selected industrial, developing and socialist countries, in terms of contrasting ideologies, parties, elites, and economies. Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 130g Law, Politics and Public Policy
Units: 4 Interaction between law and politics; overview of the American legal system; value conflicts and public policy questions which arise within it. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 165g Modern Times
Units: 4 Explores the current major social and political issues that confront scholars, leaders, and citizens in today's modern world. Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 190a Politics and Society
Units: 4 Honors seminar for freshmen and sophomores. Instruction Mode: Lecture Grading Option: Letter

POSC 190b Politics and Society
Units: 4 Continuation of work begun in first semester. Instruction Mode: Lecture Grading Option: Letter

POSC 201x Law and Politics: Electing a President
Units: 4 (Enroll in LAW 201)

POSC 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp (Enroll in SWMS 210) Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World

POSC 220g Critical Issues in American Politics: Presidential Election in Real Time
Units: 4 Terms Offered: FaSpSm Examination of enduring political issues, as well as the political processes and institutions. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 248gw Human Rights
Units: 4 Terms Offered: FaSpSm Overview of human rights controversies across the globe. Introduction to techniques of analysis

for social issues, interdisciplinary research methods, and interpretation of complex political problems. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 250 Critical Issues in Comparative Politics
Units: 4 Critical analysis of major issues in comparative politics such as dependency, crises in political legitimacy, political violence and terrorism, political corruption, genocide, and comparative revolutions. Instruction Mode: Lecture Grading Option: Letter

POSC 255g Cultures, Civilizations and Ethnicities in World Politics
Units: 4 Theories and case studies of conflict and coexistence between cultures, civilizations and ethnic groups in the context of the countervailing force of Western socio-economic globalization. Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

POSC 260 Global Ethnic Politics
Units: 4 A comparative analysis of multi-ethnic societies through case studies of inter-ethnic conflict and coexistence, conflict resolution, prevention of genocide and defense of human rights. Instruction Mode: Lecture Grading Option: Letter

POSC 265gw Environmental Challenges
Units: 4 Terms Offered: Fa Examination of the challenges of environmental problem-solving at the personal, local, national and global scales, focused on the issue of climate change. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 270 Introduction to Environmental Law and Politics
Units: 4 Terms Offered: Sp Overview of environmental policy, law and politics at the international, domestic and local levels. Social science gateway to the environmental studies major. *Prerequisite:* ENST 100. Duplicates Credit in POSC 347. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-270

POSC 300 Principles, Institutions, and Great Issues of American Democracy
Units: 4 Underlying principles of American democracy; major issues of contemporary public policy in national and state institutions. Instruction Mode: Lecture Grading Option: Letter

POSC 311 Political Analysis
Units: 4 Methodological and theoretical problems of micro-analytic studies in political science. Techniques of data collection and assimilation. Instruction Mode: Lecture Grading Option: Letter

POSC 315 Regulation of Elections and Political Finance
Units: 4 The role money plays in elections and public decisions: disclosure requirements, limits on campaign contributions and expenditures, regulation of radio/television time, tax incentives, public funding. Instruction Mode: Lecture Grading Option: Letter

POSC 320 Urban Politics
Units: 4 Evolution of contemporary institutions; differing views of community power; major policies; state and federal relations to local governments; metropolitan community problems. Instruction Mode: Lecture Grading Option: Letter

POSC 321 Urban Political Problems
Units: 4 Social problems and governmental policy in the urban environment, emphasizing such problem areas as education, environment, race, police and the system of criminal justice, and poverty. Instruction Mode: Lecture Grading Option: Letter

POSC 322 Social Construction of Race and Citizenship
Units: 4 Terms Offered: FaSp (Enroll in AMST 320)

POSC 323 Applied Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Provides students with the knowledge and skills necessary to become active in politics based on understanding the history, theory, and practices of public participation. Instruction Mode: Lecture Grading Option: Letter

POSC 325 State Politics
Units: 4 American state politics from a comparative perspective. Examines political processes, differing policy outcomes and the impact of social change on system performance. Instruction Mode: Lecture Grading Option: Letter

POSC 326 Case Studies in Modern Leadership
Units: 4 Terms Offered: FaSp (Enroll in MDA 325)

POSC 328 Asian American Politics
Units: 4 Terms Offered: FaSp Examines political attitudes, behavior and participation of Asian Americans in diverse U.S. society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-328

POSC 333 Stigma and Society: Physical Disability in America
Units: 4 Political activity involving disabled persons; development of public policy regarding disabled citizens. Duplicates Credit in former POSC 233. Instruction Mode: Lecture Grading Option: Letter

POSC 334 Interest Groups and Elite Behavior
Units: 4 Introduction to interest group and elite views of the American system, including recent interest group theory and findings and the general critiques of power distribution in American society. Instruction Mode: Lecture Grading Option: Letter

POSC 335 Political Parties, Campaigns, and Elections
Units: 4 Organization and function of political parties, nominations and elections, strategy and tactics of campaigning, professional candidate management finance, political machines, voting behavior. Instruction Mode: Lecture Grading Option: Letter

POSC 340 Constitutional Law
Units: 4 Development of constitutional law by the courts; leading cases bearing on major constitutional issues; the federal system; powers of government; civil liberties. Instruction Mode: Lecture, Discussion Grading Option: Letter

POSC 345 International Law
Units: 4 Nature, origin, and development of international law; basic principles analyzed and illustrated with cases. Instruction Mode: Lecture Grading Option: Letter

POSC 347 Environmental Law
Units: 4 Introduces students to central concepts and theories in environmental law and regulation; analyzes present environmental laws and regulations. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-347

POSC 349 Women and the Law
Units: 4 Terms Offered: Fa (Enroll in SWMS 349)

POSC 350 Politics of Latin America
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 351 Middle East Politics
Units: 4 Political development in the Middle East, emphasizing historical, cultural, and socioeconomic conditions affecting political structures and functions; modernization and countervailing social, economic, and religious forces. Instruction Mode: Lecture Grading Option: Letter

POSC 352 Politics of Southeast Asia
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 354 Japanese Politics
Units: 4 Contemporary Japanese politics, political economy, and political processes. How political systems are organized; roles of bureaucrats, politicians, interest groups, and social activists in policymaking. *Recommended Preparation:* POSC 120. Instruction Mode: Lecture Grading Option: Letter

POSC 355 Politics of East Asia
Units: 4 Institutions and processes of advanced societies; political culture, interest articulation and aggregation, the governmental process. Instruction Mode: Lecture Grading Option: Letter

POSC 356 Politics in the People's Republic of China
Units: 4 The Chinese revolution; social, political, and economic developments in post-1949 China; China after Mao Zedong

(Mao Tse-tung). Instruction Mode: Lecture Grading Option: Letter

POSC 358 Politics of Sub-Sahara Africa
Units: 4 Theories of development and nation-building; revolutionary and evolutionary modernization; role of history, culture, socioeconomic conditions in affecting political structures and functions. Instruction Mode: Lecture Grading Option: Letter

POSC 360 Comparative Political Institutions
Units: 4 Terms Offered: FaSpSm Institutions and processes of advanced industrial societies; political culture, interest articulation and aggregation, the governmental process. Instruction Mode: Lecture Grading Option: Letter

POSC 363 Cities and Regions in World Politics
Units: 4 Cities and the rise of states; globalization and localization; federalism and decentralization; comparative politics of urban regions in developed and developing countries. *Recommended Preparation:* comparative or urban politics. Instruction Mode: Lecture Grading Option: Letter

POSC 365 World Political Leadership
Units: 4 Comparative analysis of theories of power and leadership; application to leaders from western democracies, Third World, and socialist countries. Societal consequences of their policies. Instruction Mode: Lecture Grading Option: Letter

POSC 366 Terrorism and Genocide
Units: 4 Comparative analysis of the determinants of political violence, terrorism, and genocide and their social and moral consequences; application of theories to contemporary case studies. Instruction Mode: Lecture Grading Option: Letter

POSC 370 European Political Thought I
Units: 4 Basic concepts of Western political thought from Plato through the contract theorists. Instruction Mode: Lecture Grading Option: Letter

POSC 371 European Political Thought II
Units: 4 Western political thought since the French Revolution. Rise of Marxist socialism, communism, anarchism, fascism, National Socialism, other doctrines; the democratic tradition; new theories of the state. Instruction Mode: Lecture Grading Option: Letter

POSC 374 The American Founders: Visions, Values and Legacy
Units: 4 Analysis of the political thought of the American Founders; consideration of alternative visions of patriarchalism, republicanism, and liberal democracy; exploration of Founders' core values and their impact on issues of race, class, and gender. Instruction Mode: Lecture Grading Option: Letter

POSC 375 American Political Thought
Units: 4 Historical and topical review of American political philosophy from the Puritans to the present. Special emphasis on such recurrent themes as equality, democracy, and racism. Instruction Mode: Lecture Grading Option: Letter

POSC 377 Asian Political Thought
Units: 4 Major systems of political thought in Chinese, Japanese, and other Asian cultural traditions. Confucianism, Buddhism, Islam, and other classical systems and their present-day adaptations under the impact of communism and democracy. Instruction Mode: Lecture Grading Option: Letter

POSC 380 Political Theories and Social Reform
Units: 2 or 4 Political theories and philosophies in modern times and their relation to public policy and social reform. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-382

POSC 381 Sex, Power, and Politics
Units: 4 An evaluation of the ways in which different ideologies, institutions, and policies contribute to differences in political power between men and women. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-381

POSC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

POSC 391 Honors I: Undergraduate Seminar
Units: 4 Terms Offered: Fa Selected topics in designated area of political science. Discussion of readings and presentation of papers. Instruction Mode: Lecture Grading Option: Letter

POSC 392 Honors II: Undergraduate Thesis
Units: 4 Terms Offered: Sp Thesis written under supervision, based on research begun in Honors I. Instruction Mode: Lecture Grading Option: Letter

POSC 395 Directed Governmental and Political Leadership Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Intensive experience in governmental and political offices. Minimum time requirement; evaluation by office and intern report required. Permission of the Director of the Institute of Politics and Government required. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-396

POSC 398L Trial Advocacy: Theory and Practice
Units: 1, 2, 4 Max Units: 8.0 Terms Offered: FaSp Course covering substantive law, evidence, public speaking and use of societal mores in courtroom advocacy. Registration Restriction: Open only to Mock Trial team members. Instruction Mode: Lecture Grading Option: Letter

POSC 418 Environmental Sustainability and Public Participation
Units: 4 Examines civic participation in international, national, and local environmental politics and sustainability efforts. Instruction Mode: Lecture Grading Option: Letter

POSC 420 Practicum in the American Political Process
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Fieldwork in governmental institutions and processes. Instruction Mode: Lecture Grading Option: Letter

POSC 421 Ethnic Politics
Units: 4 Analysis of the political behavior and roles of ethnic and racial groups in the American political system; public policy issues and patterns of political action are examined. Instruction Mode: Lecture Grading Option: Letter

POSC 422 Political Attitudes and Behavior
Units: 4 The citizen's political world; political socialization, opinion formation and dissemination; development of political cultures and subcultures; political mobilization; personality and politics. Instruction Mode: Lecture Grading Option: Letter

POSC 423 Presidents and the Presidency
Units: 4 Presidential coalition; sources of presidential power; recent leadership styles; decision-making within the presidency. Instruction Mode: Lecture Grading Option: Letter

POSC 424m Political Participation and American Diversity
Units: 4 Terms Offered: Fa Examines how diverse groups in the U.S. interact with the American political system. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-424

POSC 425 Legislative Process
Units: 4 Individual behavior and decision-making within legislatures; changing executive-legislative functions; legislative functions; relationships to political systems in comparative perspective. Instruction Mode: Lecture Grading Option: Letter

POSC 426 The United States Supreme Court
Units: 4 Role of the court in American politics; overview of major decisions; the politics of appointment; the process of decision-making; impact of judicial decisions. *Recommended Preparation:* POSC 130. Instruction Mode: Lecture Grading Option: Letter

POSC 427 Black Politics in the American Political System
Units: 4 The effects of the organization of the American political system and its operations on blacks and other minorities. Instruction Mode: Lecture Grading Option: Letter

POSC 428 Latino Politics
Units: 4 Terms Offered: Fa Analysis of the historic and contemporary roles of Latinos in the American political system; patterns of political participation and representation are examined. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-428

POSC 430 Political Economy of Mexico
Units: 4 Examination of contemporary Mexico: the role of the state in the Mexican economy; development of the government party and opposition groups. Instruction Mode: Lecture Grading Option: Letter

POSC 431 Political Economy of Central America
Units: 4 Focus on economic, social, and political structures and processes in the

region and in specific countries, especially Guatemala, El Salvador, and Nicaragua. Instruction Mode: Lecture Grading Option: Letter

POSC 432 Politics of Local Criminal Justice
Units: 4 Roles and behavior of major legal and political participants in the criminal justice system including the police, the legal profession, judges, and the public. Instruction Mode: Lecture Grading Option: Letter

POSC 435 Politics and the Economy
Units: 4 Major techniques, politics, and values involved in the allocation of social and economic resources. Includes such topics as determination of priorities in budgetary processes, economic regulation, control of environmental change, and policies for science. Instruction Mode: Lecture Grading Option: Letter

POSC 436 Environmental Politics
Units: 4 The political realities of selected environmental issues; resolving and implementing social priorities; interests, attitudes, strategies, and tactics of pressure groups; institutional biases and opportunities. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENST-436

POSC 437 Mass Media and Politics
Units: 4 Analysis of political content of mass media. Audience response to alternative sources of political information. Consideration of the institutional and economic as well as political aspects of the mass media. Instruction Mode: Lecture Grading Option: Letter

POSC 439 Critical Issues in American Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of American politics. Instruction Mode: Lecture Grading Option: Letter

POSC 440 Comparative Law and the Judicial Process
Units: 4 Analysis of courts in comparative perspective; judicial decision-making and development of public policy through the judicial process; theories of law and jurisprudence. *Recommended Preparation:* POSC 340. Instruction Mode: Lecture Grading Option: Letter

POSC 441m Cultural Diversity and the Law
Units: 4 Jurisprudential approach to the study of cultural differences. Consideration of circumstances under which law should accommodate cultural diversity in the United States and abroad. Instruction Mode: Lecture Grading Option: Letter

POSC 442m The Politics of Human Differences: Diversity and Discrimination
Units: 4 A comparative perspective on social and cultural forces that affect American laws and policies concerning discrimination on the basis of race or ethnicity, gender, sexual orientation, age, and disability. Instruction Mode: Lecture Grading Option: Letter

POSC 443 Law in Film
Units: 4 Analysis of the depiction of law in film; use of film to explore topics in jurisprudence and the politics of law and courts. *Recommended Preparation:* POSC 130. Instruction Mode: Lecture Grading Option: Letter

POSC 444 Civil and Political Rights and Liberties
Units: 4 An examination of debates and controversies surrounding the nature and scope of civil rights and civil liberties. *Recommended Preparation:* POSC 340 or POSC 440. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LAW-444

POSC 448a The Politics of Peace
Units: 4 Issues of social justice, large-scale social change, high technology, impacts on human survival, and uses of national and international institutions. Human rights. Instruction Mode: Lecture Grading Option: Letter

POSC 448b The Politics of Peace
Units: 4 Issues of social justice, large-scale social change, high technology, impacts on human survival, and uses of national and international institutions. Arms limitation, control, and disarmament. Instruction Mode: Lecture Grading Option: Letter

POSC 449 Political Psychology
Units: 4 Psychological forces shaping politics and persons, processes and interactions; emphasis on political socialization and cognitive and affective orientations to politics. Instruction Mode: Lecture Grading Option: Letter

POSC 450 Political Development
Units: 4 Choice of models in nation-building; party and other means of mass mobilization; elite recruitment and differentiation; peculiarities of cultures and subcultures; integration of ethnic and other minorities; political socialization and secularization; legitimization. Instruction Mode: Lecture Grading Option: Letter

POSC 451 Politics of Resources and Development
Units: 4 Comparison of relationships between rich and poor countries involving political and economic resources and prospects for development; impact on industrialized states; interdependence; new international economic order. Instruction Mode: Lecture Grading Option: Letter

POSC 452 Critical Issues in Law and Public Policy
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of special topics in the field of law and public policy. Instruction Mode: Lecture Grading Option: Letter

POSC 453 Political Change in Asia
Units: 4 Modernization and political development in China and Japan; Asia's economic "miracles" (Taiwan, Japan, Korea, etc.); nationalism and communist movements in East and Southeast Asia. Instruction Mode: Lecture Grading Option: Letter

POSC 456 Women in International Development
Units: 4 How various developmental theories analyze the role of women as producers and how Third World women are increasing their role in development. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-456

POSC 463 European Politics
Units: 4 Institutions, cultures and politics of western Europe, eastern Europe and Russia; internationalization; historical and contemporary political, economic, and social change. Instruction Mode: Lecture Grading Option: Letter

POSC 464 Politics of Russia and Eastern Europe
Units: 4 Culture, society, and politics in Russia and in Eastern Europe. Contemporary political institutions and processes. Instruction Mode: Lecture Grading Option: Letter

POSC 469 Critical Issues in Comparative Politics
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of comparative politics. Instruction Mode: Lecture Grading Option: Letter

POSC 475 The Future of California
Units: 4 (Enroll in MDA 475)

POSC 476 Contemporary Political Thought
Units: 4 20th century political philosophy dealing with major movements in psychological, existential, socialist, and nationalist thought as they bear upon the crisis of political authority in our time. Instruction Mode: Lecture Grading Option: Letter

POSC 479 Critical Issues in Political Thought
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive examination of critical issues of particular interest in the field of political thought. Instruction Mode: Lecture Grading Option: Letter

POSC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

POSC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

POSC 500 Methods of Political Science
Units: 4 Empirical political research: social science logic; theory construction; measurement; research design; sampling; data generation; secondary analysis; report and proposal writing; research ethics. Instruction Mode: Lecture Grading Option: Letter

POSC 512 Linkage Politics
Units: 4 Empirical and theoretical investigations of the points at which subnational, national, and international politics converge, overlap, or are otherwise interdependent. Instruction Mode: Lecture Grading Option: Letter Crosslisted as IR-512

POSC 519 Field Research Methods in Comparative Politics and International Studies
Units: 4 (Enroll in IR 519)

POSC 525 Cities, Regions and Global

Society
Units: 4 Comparative and historical examination of cities and regions as political settings, as elements of states and international relations, and as sites of transnational economic and social change. Instruction Mode: Lecture Grading Option: Letter

POSC 535 Seminar in North African and Middle Eastern Politics
Units: 4 Comparative and area study approaches, nation-building; political cultures; mobilization of human and natural resources; political recruitment, integration, socialization, and conflict. Instruction Mode: Lecture Grading Option: Letter

POSC 540 Law and Public Policy
Units: 4 National and comparative approaches to law and politics in organized societies; law as a policy science; administration of justice; political forces influencing legal change. Instruction Mode: Lecture Grading Option: Letter

POSC 545 Critical Issues in Politics and Policy
Units: 4 Terms Offered: Fa Selected topics in politics and policy; focus on current issues shaping the U.S. and the world. Instruction Mode: Lecture Grading Option: Letter

POSC 546 Seminar in Environmental Policy
Units: 4 Issues and theories involved in the formulation, implementation, and effectiveness of different environmental policies. Instruction Mode: Lecture Grading Option: Letter

POSC 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554) Instruction Mode: Lecture Grading Option: Letter

POSC 556 Seminar in Disability and Rehabilitation Policy
Units: 4 Examination of physical disability as a policy issue from a cross-national and multidisciplinary perspective; attitudes toward disability; income maintenance, health care, and related programs.

POSC 560 Feminist Theory
Units: 4 (Enroll in SWMS 560)

POSC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

POSC 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

POSC 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 599 Special Topics
Units: 2, 4, 8 Max Units: 8.0 Terms Offered: FaSpSm Subjects in one or more fields in Political Science. Instruction Mode: Lecture Grading Option: Letter

POSC 600 Seminar in Advanced Research Methods
Units: 4 Multivariate analysis of data, computer applications, and research report preparation; multiple regression; analysis of variance; factor analysis and related techniques; time series analysis. *Prerequisite:* POSC 500. Instruction Mode: Lecture Grading Option: Letter

POSC 610 Seminar in Political Parties
Units: 4 Parties and the political system; formal and informal organization and roles; comparative party systems. Instruction Mode: Lecture Grading Option: Letter

POSC 611 Seminar in the Executive and Legislative Processes
Units: 4 Selected research topics; comparative analyses. Instruction Mode: Lecture Grading Option: Letter

POSC 612 Seminar in Urban Politics
Units: 4 Problems of government and politics in urban, county, and metropolitan areas. Comparative community politics. Instruction Mode: Lecture Grading Option: Letter

POSC 618 Seminar in Problems of American Politics
Units: 4 Theoretical and methodological problems in American politics with emphasis on emerging research paradigms. Instruction Mode: Lecture Grading Option: Letter

POSC 619 Seminar in Supreme Court Politics
Units: 4 Role of the Supreme Court in the American political system. Influences on judicial decision making; appointment and decision making processes; scope of judicial power. *Recommended Preparation:* POSC 540. Instruction Mode: Lecture Grading Option: Letter

POSC 621 Seminar in Public Law
Units: 4 Problems and research in American constitutional and administrative law and in modern jurisprudence. Instruction Mode: Lecture Grading Option: Letter

POSC 622 Seminar in Political Attitudes and Behavior
Units: 4 Determinants, nature, and consequences of political attitudes and behavior exploring psychological-sociological models, political socialization and learning, and factors affecting trends in attitudes and behavior. Instruction Mode: Lecture Grading Option: Letter

POSC 623 Seminar in American Constitutional Development
Units: 4 Evolution of American constitutional law; the influence of social, economic, and political changes on constitutional interpretation. *Prerequisite:* POSC 510 or POSC 540. Instruction Mode: Lecture Grading Option: Letter

POSC 624 Seminar in American Constitutional Law and Theory
Units: 4 Contemporary debates and research on the nature of constitutional interpretation, separation of powers, federalism, civil and political rights and liberties. Instruction Mode: Lecture Grading Option: Letter

POSC 630 Seminar in European Politics
Units: 4 Selected research topics in comparative European politics; political culture, socialization, parties, legislative and executive processes. Instruction Mode: Lecture Grading Option: Letter

POSC 632 Seminar in Latin-American Politics
Units: 4 Comparative analysis of the political structure and institutions of Latin America; participation and alienation; democracies and dictatorships; political forces. Instruction Mode: Lecture Grading Option: Letter

POSC 633 Seminar in East Asian Politics
Units: 4 Comparative analysis of revolutionary and evolutionary modernization; the roots of political thought and behavior; peripheral area relationships; present-day political processes. Instruction Mode: Lecture Grading Option: Letter

POSC 634 Seminar in Southeast Asian Politics
Units: 4 Comparative analysis of political forces, ideologies, processes, and institutions. Instruction Mode: Lecture Grading Option: Letter

POSC 636 Seminar in African Politics
Units: 4 Comparative analysis of political forces, ideologies, and institutions in African nations south of the Sahara. Instruction Mode: Lecture Grading Option: Letter

POSC 637 Seminar in Chinese Politics
Units: 4 Guided research and discussion on the governmental process in the People's Republic of China including leadership, ideology, and popular participation. Instruction Mode: Lecture Grading Option: Letter

POSC 640 Seminar in Problems of Comparative Politics
Units: 4 Theoretical and methodological problems in comparative politics; approaches to comparative analysis; problems and trends. Instruction Mode: Lecture Grading Option: Letter

POSC 641 Seminar in Comparative Judicial Policies, Processes, and Behavior
Units: 4 Cross-national and intranational comparative analysis of judicial policies and processes; legal and judicial elites. Instruction Mode: Lecture Grading Option: Letter

POSC 648 International Human Rights Law and Policy
Units: 4 Historical and contemporary consideration of human rights issues in world politics. Examination of the philosophical foundations of human rights and the institutions that enforce international standards. Instruction Mode: Lecture Grading Option: Letter

POSC 650 Seminar in Western Political Philosophy
Units: 4 Research and special problems. Instruction Mode: Lecture Grading Option:

Letter

POSC 651 Seminar in Non-Western Political Philosophy
Units: 4 Research and special problems. Instruction Mode: Lecture Grading Option: Letter

POSC 652 Seminar in American Political Philosophy
Units: 4 Research and special problems. Instruction Mode: Lecture Grading Option: Letter

POSC 660 Seminar in Problems of Contemporary Political Thought
Units: 4 Research and special problems. Instruction Mode: Lecture Grading Option: Letter

POSC 670 Seminar in International Law
Units: 4 Topics and cases illustrating general principles and problems. Special research. Instruction Mode: Lecture Grading Option: Letter

POSC 695 Social Science Theory
Units: 4 Philosophic foundations of social science, empirical theories current in social science; the relationship between empirical theory and social research. Instruction Mode: Lecture Grading Option: Letter

POSC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

POSC 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

POSC 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Policy, Planning, and Development

PPD 100m Los Angeles, The Enduring Pueblo
Units: 4 Terms Offered: FaSp Gateway to the minor in Planning and Development. Ethnic history of Los Angeles, emphasis placed on architecture, planning, and development. Multiplicity of cross-connections shaped by race, ethnicity, religion, gender, and sexual orientation. Duplicates Credit in former PLDV 100. Instruction Mode: Lecture Grading Option: Letter

PPD 225 Public Policy and Management
Units: 4 Terms Offered: FaSp Institutions, legal context, and processes of public policy and management. Contemporary theories of public policy formulation, implementation, and evaluation. Public managerial challenges and reforms. Instruction Mode: Lecture Grading Option: Letter

PPD 227 Urban Planning and Development
Units: 4 Terms Offered: FaSp Gateway to BS, Public Policy, Management and Planning and minor in Planning and Development. City building and development process; who plans, politics of planning and development; major topics include land use, fiscal policy, transportation, sustainability, and economic development. Instruction Mode: Lecture Grading Option: Letter

PPD 240g Citizenship and Public Ethics
Units: 4 Terms Offered: Fa, Sp Review of legal and ethical traditions of citizenship with emphasis on the latter; consideration of implications for current practice of public policy-making and management. Satisfies New General Education in Category C: Social Analysis Duplicates Credit in former PPMT 240. Instruction Mode: Lecture Grading Option: Letter

PPD 245g The Urban Context for Policy and Planning
Units: 4 Terms Offered: Fa The urban context for planning and policy decisions. Socioeconomic, physical, and spatial structure of cities; and the underlying demographic, economic, and social processes that drive their ongoing transformation. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

PPD 250m Cities in the Developing World
Units: 4 Terms Offered: FaSp The transition from traditional to modern cities in the developing world. Primacy and dualism; comparative urbanism as an expression of cultural variation; contrast in Western cities. Instruction Mode: Lecture Grading Option: Letter

PPD 300 Social Justice Issues in Public Policy and Urban Planning
Units: 4 Terms Offered: FaSp Social justice issues through the lens of public policy and urban planning with main focus on Los Angeles; critical thinking skills about the fields and their relevance to social justice Registration Restriction: Open only to BS, Public Policy and BS, Urban Studies and Planning students Instruction Mode: Lecture Grading Option: Letter

PPD 301 PPD Practices: Internship Seminar
Units: 2 Terms Offered: FaSpSm Policy, planning, and development skills for practice; internship seminar; leadership, group dynamics and presentation skills; application of management; organizational diversity; reflection on experiences. Duplicates Credit in the former PPD 401. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 303 Statistics for Policy, Planning, and Development
Units: 4 Terms Offered: FaSpSm Statistical applications applied to the real world; techniques including probability, sampling; hypothesis formation and testing; correlation, and linear regression. *Prerequisite:* MATH 117g Duplicates Credit in PPD 404 Instruction Mode: Lecture Grading Option: Letter

PPD 306 Visual Methods in Policy, Management, Planning and Development
Units: 4 Terms Offered: FaSp Introduction to graphic design, photodocumentation, and geographic information systems as employed in planning, policy, and development. Visual explanations. Computer and by-hand applications. Duplicates Credit in former PLDV 410. Instruction Mode: Lecture Grading Option: Letter

PPD 313 Finance of the Public Sector
Units: 4 Terms Offered: FaSp Justifications for and effects of government policies; tax and spending sides of government budgets; public goods; externalities; social insurance; redistribution and welfare; tax policy. *Prerequisite:* ECON 203. Duplicates Credit in former PPMT 313. Instruction Mode: Lecture Grading Option: Letter

PPD 314 Public Policy and Law
Units: 4 Terms Offered: Fa Institutional foundations and analysis of public policy issues; policy formulation and implementation; application of theories; case analyses. Instruction Mode: Lecture Grading Option: Letter

PPD 315 Analytic Foundations for Public Policy
Units: 4 Terms Offered: Sp Qualitative methods of analysis; ethical and political implications of policy choices; issue diagnosis and policy design skills; critical reasoning and ethics; policy leadership. Instruction Mode: Lecture Grading Option: Letter

PPD 316 Human Resource Management for Public Organizations
Units: 4 Terms Offered: FaSp Human resource development and management; values and processes in civil service career systems; training practices; human relations in supervision; personnel theory. Duplicates Credit in former PPMT 316. Instruction Mode: Lecture Grading Option: Letter

PPD 318 Financial Accounting in Public and Nonprofit Organizations
Units: 4 Terms Offered: FaSp Basic accounting principles and concepts necessary for the preparation and understanding of financial statements; accounting for service organizations in the public/nonprofit sector; fund accounting. Duplicates Credit in former PPMT 351. Instruction Mode: Lecture Grading Option: Letter

PPD 320 Organizational Behavior in Public Administration
Units: 4 Terms Offered: FaSp Understanding human behavior in public organization: motivation, roles, communication; group behavior and decision-making in public context; managing conflict; leadership and change in public complex organizational systems. Duplicates Credit in former PPMT 485. Instruction Mode: Lecture Grading

Option: Letter

PPD 325 Fundamentals of Health Policy and Management
Units: 4 Terms Offered: FaSp Institutions, policies, and processes affecting health care policy and management; historical and philosophical roots; management of health care delivery; access and quality issues; responsiveness to public needs. Duplicates Credit in the former PPD 230. Instruction Mode: Lecture Grading Option: Letter

PPD 330 Introduction to Health Care Systems
Units: 4 Terms Offered: Sp Concepts and determinants of health and illness; health care delivery organizations and programs; the role of the administrator; issues in health care financing and access; quality evaluation; future trends. Duplicates Credit in former PPMT 330. Instruction Mode: Lecture Grading Option: Letter

PPD 340 The American System of Justice
Units: 4 Terms Offered: Irregular Introduction to the system of justice administration: components — police services, judiciary, corrections; interrelationships and issues; management strategies for change. Duplicates Credit in former PPMT 340. Instruction Mode: Lecture Grading Option: Letter

PPD 342 Crime and Public Policy
Units: 4 Terms Offered: Fa Public policy agenda-setting, alternatives formulation, and implementation for crime and criminal justice; analysis of specific issues including crime control, death penalty and gun control. Duplicates Credit in former PPMT 342. Instruction Mode: Lecture Grading Option: Letter

PPD 343 Terrorism, Homeland Security, and Public Policy
Units: 4 Terms Offered: Fa Overview of terrorism, government policies and practices, issues of civil liberties, challenges to public sector management. Instruction Mode: Lecture Grading Option: Letter

PPD 344 Environmental Policy and Sustainable Development
Units: 4 Introduction to critical issues of environmental policy in looking toward a more sustainable future; the science and policy of climate change; equity and justice; the greening of industry, governing for sustainable development; policy tools in addressing issues of environmental protection and sustainability. Instruction Mode: Lecture Grading Option: Letter

PPD 353 Philanthropy and Social Change
Units: 4 Terms Offered: Fa History, theories, philosophies, and practices of philanthropy; relationship between philanthropy and nonprofit world; grant-making procedures and relation to social innovation. Instruction Mode: Lecture Grading Option: Letter

PPD 357 Government and Business
Units: 4 Terms Offered: FaSp Interrelated roles of business and public institutions; effects of public policies and laws on business sector; incorporates public and business perspectives. *Prerequisite:* ECON 203. Duplicates Credit in former PPMT 357. Instruction Mode: Lecture Grading Option: Letter

PPD 358 Urban and Regional Economics
Units: 4 Terms Offered: Fa Basic concepts of urban and regional economies; how planners intervene in the urban market; housing, transportation, public goods; land use politics; fiscal issues; cost-benefit analysis. Duplicates Credit in former PLDV 402. Instruction Mode: Lecture Grading Option: Letter

PPD 360 Urban Transportation Planning and Policy
Units: 4 Terms Offered: Sp Current transportation planning and policy critiques. Transportation planning; the relationship to urban structure; conventional and para-transit modes; analysis of local plans. Duplicates Credit in former PLDV 480. Instruction Mode: Lecture Grading Option: Letter

PPD 361 Sustainable Communities, Policy and Planning
Units: 4 Terms Offered: FaSp Policy and planning as shaped by sustainability theories; sustainability indicators; topics include water resources, air quality, land use regulations, environmental design, carrying capacity, ecological footprint analysis. Duplicates Credit in former PPD 461 Instruction Mode: Lecture Grading Option: Letter

PPD 371 The Nonprofit Sector and the Public Interest
Units: 4 Terms Offered: Fa Theories of the voluntary nonprofit sector in society and its relationship to government and business; public policies toward the sector. Duplicates Credit in former PPMT 371. Instruction Mode: Lecture Grading Option: Letter

PPD 372m Public Service in an Urban Setting
Units: 4 Terms Offered: Sp Voluntary service in an urban, multicultural context: diverse meanings and practices, history, motivations, relationship to charity and change, dilemmas, public policies; service learning project required. Duplicates Credit in former PPMT 372. Instruction Mode: Lecture Grading Option: Letter

PPD 373 Public Policy and Planning Analysis
Units: 4 Terms Offered: FaSp Applied analytic modeling and data manipulation; visual presentation; interpretation of data; needs assessment and market failure analysis; indexing; extrapolation and simple forecasting; simple risk analysis; benefit-cost analysis. *Prerequisite:* ECON 203, PPD 225, PPD 303. Duplicates Credit in the former PPD 473. Instruction Mode: Lecture Grading Option: Letter

PPD 380a International Perspectives on Urban Problem Solving
Units: 4 Terms Offered: Irregular Research on comparative urban public policy and administration utilizing case study approach; field research includes study in various foreign cities. Duplicates Credit in former PPMT 412ab. Instruction Mode: Lecture Grading Option: Letter

PPD 380b International Perspectives on Urban Problem Solving
Units: 4 Terms Offered: Irregular Research on comparative urban public policy and administration utilizing case study approach; field research includes study in various foreign cities. Duplicates Credit in former PPMT 412ab. Instruction Mode: Lecture Grading Option: Letter

PPD 382 International Development
Units: 4 Terms Offered: FaSp Definitions and measurements of development; impact of globalization; concept and practice of international and development administration and planning at local, national, and global governance levels. Duplicates Credit in former PLDV 405. Instruction Mode: Lecture Grading Option: Letter

PPD 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former PLDV 390 and PPMT 390. Instruction Mode: Lecture Grading Option: Letter

PPD 400 Topics in Public Policy and Urban Studies
Units: 4 Terms Offered: FaSp Seminar in cross cutting topics in public policy and urban studies that engages students with faculty and scholars in interdisciplinary research and analysis of key problems and issues in the fields Registration Restriction: Open only to BS, Public Policy and BS, Urban Studies and Planning majors Instruction Mode: Lecture Grading Option: Letter

PPD 402 Management of Public and Nonprofit Organizations
Units: 4 Terms Offered: Fa Contemporary management theory; the nature of complex organizations; organizational and intergovernmental arrangements; roles and responsibilities of managers; managerial and organizational effectiveness; organizational structure and dynamics. Instruction Mode: Lecture Grading Option: Letter

PPD 403 Management Analysis I
Units: 4 Terms Offered: Sp Introduction to organizational and systems analysis; historical perspective; systems theory; information systems, procedure analysis; management planning; introduction to models. Duplicates Credit in former PPMT 403. Instruction Mode: Lecture Grading Option: Letter

PPD 404 Empirical Methods for Public Policy
Units: 4 Terms Offered: FaSp Introduction to multivariate regression analysis for policy analysis; course begins with Ordinary Least Squares (OLS) estimation and covers some advanced topics such as panel data and experimental methods; application of these tools in a variety of policy contexts such as education, labor, and health. *Prerequisite:* PPD 303 Instruction Mode: Lecture Grading Option: Letter

PPD 405 Fundraising for Policy and Planning
Units: 2 Terms Offered: Sp Fundraising in the nonprofit sector; role and structure of philanthropy; strategic issues in the

solicitation of private funds for the public good; effect of fundraising on behavior of institutions. Instruction Mode: Lecture Grading Option: Letter

PPD 407 Financial Management of Public and Nonprofit Organizations
Units: 4 Terms Offered: Sp Time value of money, risk, government bonds and tax-exempt financing, cost of capital, budgeting, financial statement analysis, and working capital management. Instruction Mode: Lecture Grading Option: Letter

PPD 410 Comparative Urban Development
Units: 4 Terms Offered: Sp Urbanization and urban development and growth through an international scope; globalizing cities. Instruction Mode: Lecture Grading Option: Letter

PPD 411a Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411b Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411c Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 411d Sacramento Semester
Units: 4 Terms Offered: Irregular Exploration of political, economic, and administrative climate of the state government; basic processes and functions considered through seminars, research projects, visitations, group discussions, and internships. Duplicates Credit in former PPMT 411abcd. Instruction Mode: Lecture Grading Option: Letter

PPD 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp (Enroll in SSCI 412)

PPD 413 Administration of Health Care Organizations
Units: 4 Terms Offered: Sp Theory and practice; role of governing bodies, medical staffs and quality review committees; current trends; community responsibility; regulatory and oversight agencies. Duplicates Credit in former PPMT 439. Instruction Mode: Lecture Grading Option: Letter

PPD 414 Community Health Policy and Planning
Units: 4 Terms Offered: Sp Historical perspectives on and the contemporary practice of community health planning; impact of culture, socioeconomics, and environment; policy dimensions; urban planning's role in enhancing and sustaining health. Instruction Mode: Lecture Grading Option: Letter

PPD 415 Health Policy
Units: 4 Terms Offered: Sp Health policy analysis and challenges; price of health; structure of major sectors in health care; role of insurance in policy debates; trade-offs with policy decisions. *Prerequisite:* PPD 325. Instruction Mode: Lecture Grading Option: Letter

PPD 416 Food Policy and Planning
Units: 2 Terms Offered: Sp Key issues related to the practice of food system planning; practice of creating and implementing food policies; understanding of food systems; issues around community food governance. Instruction Mode: Lecture Grading Option: Letter

PPD 420 Environmental Impact Assessment
Units: 4 Terms Offered: Sp Exploration of the role of the National Environmental Policy Act and the California Environmental Policy Act; study of environmental impact assessments including the regulatory aspects, stakeholder and participatory processes, and legal framework. Instruction Mode: Lecture Grading Option: Letter

PPD 421 Land Use, Environment, and Housing in Developing Countries
Units: 4 Comparative analysis of issues in the built environment in the US and abroad; development, land use, and the supply of housing; housing affordability; land tenure. Instruction Mode: Lecture Grading Option: Letter

PPD 422 Transportation and Technology and the Future of Mobility
Units: 4 Introduction of the role that technology will play in facilitating shared mobility, disrupting transportation markets, and reshaping multi-modal urban transportation systems; analyses of governance issues; the interaction between private markets and regulators; changes in the nature of infrastructure and urban planning that will be required to accommodate the wired future of transportation. Instruction Mode: Lecture Grading Option: Letter

PPD 424 Art and the City
Units: 4 Role of art in modern society with a particular emphasis on the urban context including public spaces, the process of gentrification, and redevelopment; theoretical and research approaches. Instruction Mode: Lecture Grading Option: Letter

PPD 427L Geographic Information Systems and Planning Applications
Units: 4 Terms Offered: Fa Basic GIS concepts, ArcView and other GIS software, planning applications and databases, basic cartography; students select, research and prepare a planning GIS analysis project. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 429 Urban Design Practicum
Units: 4 Terms Offered: Irregular Application of design concepts and graphic skills to a local design problem sponsored by a local public or private client in a studio setting; site visits, community contact, presentations. *Prerequisite:* PPD 306, PPD 425 . Duplicates Credit in former PLDV 414. Instruction Mode: Lecture Grading Option: Letter

PPD 431 Undergraduate Policy, Planning, and Development Studio
Units: 4 Terms Offered: FaSp Application of methods in the exploration of a specific project, policy, or organization from the multiple perspectives of the five tracks in the undergraduate program. Registration Restriction: Open only to seniors. Instruction Mode: Lecture Grading Option: Letter

PPD 438 Local Economic Development
Units: 4 Terms Offered: Fa Economic development in a capitalist system, historic review, sectoral review, funding, strategizing, partnerships, evaluation; class project. Duplicates Credit in former PLDV 447. Instruction Mode: Lecture Grading Option: Letter

PPD 439 Housing and Community Development
Units: 4 Terms Offered: Fa Evolution of government housing and community development programs; present practices, e.g., housing elements, economic development, neighborhood rehabilitation; housing needs and market analysis; housing and health. Duplicates Credit in former PLDV 440. Instruction Mode: Lecture Grading Option: Letter

PPD 466 Urban Government and Management
Units: 4 Terms Offered: Irregular Preparation and discussion of cases dealing with selected policy areas including transportation, housing, poverty, and environmental quality. Duplicates Credit in former PPMT 427. Instruction Mode: Lecture Grading Option: Letter

PPD 468 Cross-Cultural Negotiations: Communication and Strategy
Units: 4 (Enroll in COMM 468)

PPD 475 The Future of California
Units: 4 (Enroll in MDA 475)

PPD 476 Politics and Administration
Units: 4 Terms Offered: Sp Administrative relationships to the policy processes; influence of political and economic pressures on administrative policy determination; political behavior by administrators; case analysis. Duplicates Credit in former PPMT 486. Instruction Mode: Lecture Grading Option: Letter

PPD 478 Social Innovation
Units: 4 Terms Offered: Fa Strategies and processes of social innovation and change; examination of social change in the market, government, and within the nonprofit sector; dynamics; civic action and activism. Instruction Mode: Lecture Grading Option: Letter

PPD 482 Comparative Public Administration
Units: 4 Terms Offered: Sp Methodology, theories, and models of comparison;

functional processes of administration in developing and developed nations compared; role of bureaucracy in development and nation-building; ecology of administration. Duplicates Credit in former PPMT 482. Instruction Mode: Lecture Grading Option: Letter

PPD 485m U.S. Immigration Policy
Units: 4 Terms Offered: Fa Examination of the historical and contemporary components of U.S. immigration policy with emphasis on policies addressing legal permanent immigrants, refugees, asylees, the undocumented. Instruction Mode: Lecture Grading Option: Letter

PPD 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Duplicates Credit in former PLDV 490x and PPMT 490x. Instruction Mode: Lecture Grading Option: Letter

PPD 497a Senior Thesis
Units: 2 Terms Offered: FaSp Writing of the honors capstone project in an area of interest related to the track of study; research and writing skills. Instruction Mode: Lecture Grading Option: Letter

PPD 497b Senior Thesis
Units: 2 Terms Offered: FaSp Writing of the honors capstone project in an area of interest related to the track of study; research and writing skills. Instruction Mode: Lecture Grading Option: Letter

PPD 498 Senior Honors Seminar
Units: 4 Terms Offered: FaSpSm Concepts, theories, and methods of analysis of a selected topic within the fields of public policy, management and planning. Students must have a 3.5 GPA in PPD courses; 3.0 GPA overall. Instruction Mode: Lecture Grading Option: Letter

PPD 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in Policy, Management and Planning. Duplicates Credit in former PLDV 499 and PPMT 499. Instruction Mode: Lecture Grading Option: Letter

PPD 500 Intersectoral Leadership
Units: 2 Roles of public, private, nonprofit, and civil society sectors in policy, planning, and development. Leadership skills in negotiation, conflict resolution, institutional design, problem solving. Instruction Mode: Lecture Grading Option: Letter

PPD 501a Economics for Policy, Planning and Development
Units: 2 Microeconomic theory as applied to policy, planning, and development; concepts of efficiency; macroeconomic issues. Instruction Mode: Lecture Grading Option: Letter

PPD 501b Economics for Policy, Planning and Development
Units: 2 Microeconomic analysis and modeling to incorporate Market failure and issues of uncertainty and information failure; organization models; policy instruments; policy and planning applications. Instruction Mode: Lecture Grading Option: Letter

PPD 502x Statistical Foundations for Public Management and Policy
Units: 2 Terms Offered: FaSp Statistical analysis concepts and reasoning; sampling and data sources; focus on basic statistical applications in public management and policy analysis. Instruction Mode: Lecture Grading Option: Letter

PPD 507 Six-Sigma Methods and Applications
Units: 3 Terms Offered: FaSpSm (Enroll in ISE 507)

PPD 508 Health Care Operations Improvement
Units: 3 Terms Offered: Sp (Enroll in ISE 508)

PPD 509 Problems and Issues in the Health Field
Units: 4 Terms Offered: FaSp Principles of epidemiology; disease trends, treatment efficacy, influences on utilization; health promotion, disease prevention and health protection; intergovernmental relationships; management of public health programs. Duplicates Credit in former PUAD 530. Instruction Mode: Lecture Grading Option: Letter

PPD 510a Financial Management of Health Services
Units: 4 Terms Offered: FaSp Accounting principles, financial reports, managerial finance, financial planning, capital investments, working capital analysis; elements of budgeting and reimbursement; performance standards; reporting; developing a management system. *Prerequisite:* PPD 516; *Recommended Preparation:* PPD 502 or competence in statistics. Instruction Mode: Lecture Grading Option: Letter

PPD 510b Financial Management of Health Services
Units: 2 Terms Offered: FaSp Changing practices, emerging issues, strategies and innovations in financial planning, management, and regulation; federal and state policies and requirements. *Prerequisite:* PPD 516; *Recommended Preparation:* PPD 502 or competence in statistics. Instruction Mode: Lecture Grading Option: Letter

PPD 511 Health Information Systems
Units: 2 Terms Offered: FaSm Conceptual framework for data base development; relational data management; use of health statistics; health indicators; confidentiality, security, privacy. *Recommended Preparation:* PPD 502 or competence in statistics and PPD 516 or competence in accounting. Instruction Mode: Lecture Grading Option: Letter

PPD 512 Health Administration Residency Seminar
Units: 2 Supervised study of health care administration, governance, professional staff relations, internal operations and controls, legal and regulatory requirements, management policy and strategy. *Prerequisite:* PPD 509 Instruction Mode: Lecture Grading Option: Letter

PPD 513 Legal Issues in Health Care Delivery
Units: 2 Terms Offered: FaSp Rights of consumers; health-related powers of governments; rights and responsibilities of health care providers; interrelationships of rights, powers, and responsibilities. *Recommended Preparation:* PPD 509 or substantial prior work experience in health care organizations. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 514 Economic Concepts Applied to Health
Units: 4 Terms Offered: FaSpSm Relationships between economic characteristics and health status; impact of economy on health services industry; demand and resources for health services; utilization, prices, costs, health insurance. *Prerequisite:* PPD 501a. Duplicates Credit in former PUAD 537. Instruction Mode: Lecture Grading Option: Letter

PPD 515 Strategic Management of Health Organizations
Units: 4 Terms Offered: FaSpSm Application of principles of health administration in several practice settings. Decision-making; strategic management; organizational performance; communication; provider comparisons. *Prerequisite:* PPD 501a or HMGT 565, PPD 545 or HMGT 520; *Recommended Preparation:* PPD 509 , PPD 511, PPD 513, PPD 514, PPD 557. Instruction Mode: Lecture Grading Option: Letter

PPD 516 Financial Accounting for Health Care Organizations
Units: 4 Accounting as a management tool; accounting systems; basic accounting concepts and procedures; budgets; financial statements. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 517 Concepts and Practices in Managing Health Care Organizations
Units: 2 Terms Offered: FaSm Application of principles of health administration. Role of managers; managing people and programs; human resource management concepts and applications; working with professionals; governance; public relations. Instruction Mode: Lecture Grading Option: Letter

PPD 518 Quality of Care Concepts
Units: 2 Terms Offered: Sp Quality issues and complexities affecting health care; fundamentals of quality improvement programs; examination of quality issues and improvement programs in various health care venues; strategies. Instruction Mode: Lecture Grading Option: Letter

PPD 519 Methods and Applications of Health Services Research
Units: 2 Terms Offered: Fa Examination of policy and management issues for empirical research; indicators and measurement of outcomes; impact on policy and management decisions; methodology; analysis of quantitative and qualitative data. *Prerequisite:* PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 520 Economic Approaches to Health Policy Analysis
Units: 2 Terms Offered: Sp Evaluation of current major health policy challenges and

issues; economic analysis of behavioral responses to change in health care policy; new legislation; policy trade-offs. *Prerequisite:* PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 521a Information Technology Management Systems in Health Care
Units: 2 Terms Offered: Sm Principles and methods of systems analysis; assessment; strategic planning, design consideration; e-health and e-commerce system trends; health care information systems application areas; regulatory requirements. *Prerequisite:* PPD 511. Instruction Mode: Lecture Grading Option: Letter

PPD 521b Information Technology Management Systems in Health Care
Units: 2 Terms Offered: Sm Principles and methods of systems analysis; assessment; strategic planning, design consideration; e-health and e-commerce system trends; health care information systems application areas; regulatory requirements. Analytic methods used to develop data-driven solutions; specific problems in health care organizations; integrating data; communicating data; interpretation; exploration of new approaches for improvement. *Prerequisite:* PPD 511. Instruction Mode: Lecture Grading Option: Letter

PPD 524 Planning Theory
Units: 2 Terms Offered: Fa Development of a critical perspective by becoming more aware of the intellectual roots of the planning profession, with a focus on practical outcomes of actions. Duplicates Credit in former PLUS 501. Instruction Mode: Lecture Grading Option: Letter

PPD 525 Statistics and Arguing from Data
Units: 2 Terms Offered: FaSp Fundamentals of probability and statistics, planning analysis techniques, computing standards, and understanding of the rhetoric related to statistical analysis. Duplicates Credit in former PLUS 502. Instruction Mode: Lecture Grading Option: Letter

PPD 526 Comparative International Development
Units: 2 Terms Offered: Fa Introduction to comparative international development with a focus on regional growth and urban development. Duplicates Credit in former PLUS 505. Instruction Mode: Lecture Grading Option: Letter

PPD 527 The Social Context of Planning
Units: 2 Terms Offered: Sp Examination of the formation of the modern urban environment with its consumer culture, social classes, and racial and ethnic diversity. Duplicates Credit in former PLUS 506. Instruction Mode: Lecture Grading Option: Letter

PPD 529 Legal Environment of Planning
Units: 2 Terms Offered: Sp Understanding of the legal system and its processes and laws applicable to land use and development and the legal nature of powers of public and private entities. Duplicates Credit in former PLUS 509. Instruction Mode: Lecture Grading Option: Letter

PPD 530 Historical Analysis of Urban Form and Planning Practice
Units: 2 Terms Offered: Sp Awareness, analysis, understanding, and influencing the city building process locally and regionally; isolate and exercise tools and methods of visual literacy. Duplicates Credit in former PLUS 510. Instruction Mode: Lecture Grading Option: Letter

PPD 531L Planning Studio
Units: 4, 8, 12 Max Units: 12.0 Terms Offered: FaSp Application of methods in planning, programming, research, and evaluation in a professional context; data collection and analysis; case studies; practical applications. Duplicates Credit in former PLUS 576L and PLUS 676L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 532L International Planning and Development Laboratory Workshop
Units: 4, 5, 6, 7, 8 Terms Offered: Sm Application of planning principles and methods to specific urban planning problems abroad; involves preparation in the spring semester and an overseas field visit and a collaborative practicum. Duplicates Credit in former PLUS 575L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PPD 533 Planning History and Urban Form
Units: 2 History of urban planning with an emphasis on the evolution of how planning shaped the physical environment in response to political, economic, and social issues. Instruction Mode: Lecture Grading Option: Letter

PPD 540 Public Administration and Society
Units: 4 Terms Offered: FaSpSm Administrative concepts, institutions, legal systems, and practices; values; facilitation of responsibilities and rights; professional applications for personal, private sector, and public achievement. Duplicates Credit in former PUAD 500. Instruction Mode: Lecture Grading Option: Letter

PPD 541 Public Financial Management and Budgeting
Units: 4 Terms Offered: Fa Financial management applied to public and nonprofit organizations; financial valuation, financial markets, budgeting, tax administration, debt financing, cost-benefit analysis and financial analysis. Duplicates Credit in PPDE 645. Instruction Mode: Lecture Grading Option: Letter

PPD 542 Policy and Program Evaluation
Units: 4 Terms Offered: Sp Methods and models for policy and program evaluation; methods of collecting and analyzing evaluation data; processes for linking evaluation to policy formulation and program management. *Prerequisite:* PPD 502. Duplicates Credit in former PUAD 525 and former PUAD 529. Instruction Mode: Lecture Grading Option: Letter

PPD 543 Internship Seminar
Units: 1 Terms Offered: FaSp Supervised study of management, analytical, or other professional activities in government; integration of theory, practice and relevant literature. Duplicates Credit in former PUAD 544. Instruction Mode: Lecture Grading Option: Letter

PPD 545 Human Behavior in Public Organizations
Units: 4 Terms Offered: FaSpSm Behavior in organizations; focus on personal, interpersonal, and group level factors that influence such behavior. Duplicates Credit in former PUAD 585. Instruction Mode: Lecture Grading Option: Letter

PPD 546 Capstone in Public Administration
Units: 4 Constitutionally accountable and ethical practice, individually and organizationally; applications of core competencies; practical inquiry, analysis, systems; comparative frameworks; citizenship and public service. *Prerequisite:* PPD 540 and PPD 545 and PPD 542 or PPD 557. Registration Restriction: Open only to master and doctoral students. Instruction Mode: Lecture Grading Option: Letter

PPD 552 Managing and Financing Public Engineering Works
Units: 3 Terms Offered: FaSpSm (Enroll in CE 552)

PPD 554 Foundations of Policy Analysis
Units: 4 Terms Offered: Fa Introduction to public policy analysis; issue diagnosis and policy design; analytic reasoning and argumentation; the role of the public policy professional; ethical issues in policy analysis. Registration Restriction: Open only to MPP and Public Policy Certificate students Instruction Mode: Lecture Grading Option: Letter

PPD 555 Public Policy Formulation and Implementation
Units: 4 Terms Offered: FaSpSm Political and organizational perspectives on policy making process; agenda setting, policy design, adoption, implementation, evaluation, modification or termination. Policy leadership skills: negotiation and strategic mapping. Instruction Mode: Lecture Grading Option: Letter

PPD 557 Modeling and Operations Research
Units: 4 Terms Offered: FaSpSm Management science methods that support decision making in policy, management, and planning settings. Includes linear programming, queuing theory, decision analysis, and forecasting. *Prerequisite:* PPD 502 or PPD 525. Instruction Mode: Lecture Grading Option: Letter

PPD 558 Multivariate Statistical Analysis
Units: 4 Terms Offered: FaSp Applied multivariate statistics in support of policy, management, and planning problem solving. Includes regression analysis, logit models, and an introduction to time-series models and multi-equation estimation. *Prerequisite:* PPD 502 or PPD 525. Instruction Mode: Lecture Grading Option: Letter

PPD 559 Policy Implementation and Evaluation
Units: 4 Terms Offered: FaSp Theoretical

approaches, critical issues, and research methods in public policy implementation. Field-based research project. Duplicates Credit in former PUAD 570. Instruction Mode: Lecture Grading Option: Letter

PPD 560 Methods for Policy Analysis
Units: 4 Terms Offered: Sp Examination of methods used in the analysis of policy methods, including cost benefit analysis, decision and risk analysis, and applied social science methods. *Prerequisite:* PPD 502 and PPD 554 and PPD 501b. Duplicates Credit in former PUAD 572. Instruction Mode: Lecture Grading Option: Letter

PPD 561a Policy Analysis Practicum
Units: 1, 3 Terms Offered: FaSp Application and integration of the knowledge and techniques of analytic, quantitative, managerial, political and ethical analyses to specific public policy problems. Duplicates Credit in former PUAD 589. Instruction Mode: Lecture Grading Option: Letter

PPD 561b Policy Analysis Practicum
Units: 1, 3 Terms Offered: FaSp Application and integration of the knowledge and techniques of analytic, quantitative, managerial, political and ethical analyses to specific public policy problems. Duplicates Credit in former PUAD 589. Instruction Mode: Lecture Grading Option: Letter

PPD 568 Environmental Governance and Sustainability
Units: 2 Terms Offered: Fa Introduction to leading issues of environmental governance and policy in looking toward a more sustainable future; normatively important concerns and the social, cultural, and political dimensions; thematic look from values to action. Instruction Mode: Lecture Grading Option: Letter

PPD 569 Applied International Policy Analysis and Management Project
Units: 4 Terms Offered: Sp Enables students to integrate theory, research and practice into an applied project of their own choosing. The output of this course is a professional report in a selected public policy or management area. Duplicates Credit in former PUAD 507. Instruction Mode: Lecture Grading Option: Letter

PPD 570 Applied Statistics for Planning, Policy and Management
Units: 4 Terms Offered: Sm Use of statistical reasoning to answer questions related to public policy and management. Students will review and understand selected statistical techniques for analyzing data and for addressing public policy and management questions of interest using applied data analysis. Duplicates Credit in former PUAD 523. Instruction Mode: Lecture Grading Option: Letter

PPD 571 International Public Policy and Management Seminar
Units: 4 Terms Offered: Fa An introduction to the concepts and methods of public policy analysis and management. Highlights some of the constraints of the policy process. Includes examples from the United States but also presents comparative views of the contours of public policy in both developed and developing nations. The course applies public policy and management frameworks to selected areas of social policy. Duplicates Credit in former PUAD 524. Instruction Mode: Lecture Grading Option: Letter

PPD 572 Special Issues in International Public Policy
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Current international public policy on issues such as governmental reform, regulation, social welfare, poverty alleviation and international aid. Policy framework and in-depth analysis of specific topics of relevance to governmental agencies and international organizations. Instruction Mode: Lecture Grading Option: Letter

PPD 587 Risk Analysis
Units: 4 Concepts of risk analysis, risk in engineered systems, environmental risk, security risks; fault trees, event trees, risk simulations; risks and decision-making. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ISE 587

PPD 588 Introduction to Transportation Planning Law
Units: 3 (Enroll in CE 579)

PPD 589 Port Engineering: Planning and Operations
Units: 3 (Enroll in CE 589)

PPD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Selected topics in public policy, management and planning. Instruction Mode: Lecture Grading Option: Letter

PPD 600 Management of Managed Care Organizations
Units: 2 Terms Offered: FaSpSm Managed care arrangements, interorganizational relations, management practices and controls, medical staff relations, strategic planning, marketing, utilization review, quality assurance, outcomes measures. *Prerequisite:* PPD 545 or HMGT 520; *Recommended Preparation:* PPD 516, PPD 510a or HMGT 565. Instruction Mode: Lecture Grading Option: Letter

PPD 601 Management of Long-Term Care Organizations
Units: 4 Terms Offered: Fa History, development, trends; major policy issues; organization of systems; principles and techniques of administration; management of institutional and community based programs. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PPD 602 Strategic and Operational Planning for Health Services
Units: 4, 2 years Terms Offered: Fa Strategic, institutional, and program planning theory and methods; governmental and legal requirements, certificate of need processes, reimbursement controls; financing and marketing considerations, practices, and methods. Duplicates Credit in former PUAD 535. Instruction Mode: Lecture Grading Option: Letter

PPD 603 Marketing of Health Services
Units: 4 Terms Offered: Sm Assessing community needs and organizational service capabilities; evaluating competition; qualitative and quantitative market research methods; market communications and advertising; developing marketing plans. *Recommended Preparation:* PPD 502 or competence in statistics. Instruction Mode: Lecture Grading Option: Letter

PPD 604 Seminar in Hospital Administration
Units: 4 Terms Offered: Sm Hospital systems and functions; managerial processes, theory, and practice; governance structures; legal, regulatory, administrative, and professional requirements; medical and professional staff; multi-institutional arrangements; controls. *Prerequisite:* PPD 545 or HMGT 520; *Recommended Preparation:* PPD 516. Instruction Mode: Lecture Grading Option: Letter

PPD 605 Frontline Issues in Health Services Administration and Policy
Units: 2 Max Units: 6.0 Terms Offered: FaSpSm Emphasis on current or emergent issues in the health care industry. Focus on impact of recent health legislation and/or health care system responsiveness. Instruction Mode: Lecture Grading Option: Letter

PPD 606 Urban Health Policy
Units: 4 Terms Offered: Fa Addresses current U.S. health policy issues and the critical processes that shape them, with an emphasis on urban populations; institutional, economic, social, ethical, and political factors. Instruction Mode: Lecture Grading Option: Letter

PPD 607 Introduction to Public Health Policy
Units: 4 Terms Offered: Sp Public health policy and analysis methods; evaluation of the public health system and safety net programs. Instruction Mode: Lecture Grading Option: Letter

PPD 608 Leadership Symposium in Health Management and Policy
Units: 1 Max Units: 3.0 Terms Offered: FaSpSm A forum for leading executives and policymakers to address ways they or their

organizations improve healthcare financing, delivery and management, in the U.S. and internationally. Instruction Mode: Lecture Grading Option: Letter

PPD 609 Physician Practice Management
Units: 2 Terms Offered: Sp Overview of medical practice management issues, structures, systems and strategies for effective clinical and financial performance of physician organizations. *Recommended Preparation:* PPD 509. Instruction Mode: Lecture Grading Option: Letter

PPD 610 Managed Care Contracting
Units: 2 Terms Offered: Fa Provides practical and strategic decision-making skills in managed care contracting, including contract types, terms and conditions; financial assessment; proposal development and analysis; and negotiation. *Prerequisite:* PPD 600; *Recommended Preparation:* PPD 510a or HMGT 565, PPD 514. Instruction Mode: Lecture Grading Option: Letter

PPD 611 Policy Issues in Planning and Development
Units: 4 Terms Offered: Fa Overview of policy issues in planning and development professions in the U.S. and abroad. Special attention to collective decision making, role of institutions, and ethics. Duplicates Credit in former PLUS 503. Instruction Mode: Lecture Grading Option: Letter

PPD 612 Research and Analytical Techniques
Units: 4 Terms Offered: Sp Professional practice-oriented analytic skill; fundamentals of data manipulation; spreadsheet applications and forecasting; and communication of results. Duplicates Credit in former PLUS 504. Instruction Mode: Lecture Grading Option: Letter

PPD 613a Policy, Planning, and Development International Laboratory
Units: 1 Max Units: 0.0 Terms Offered: SpSm Research methods for intensive practical field research and evaluation; policy, management and planning practice in intercultural contexts; preparation for professional-level consulting abroad. Instruction Mode: Lecture Grading Option: Letter

PPD 613b Policy, Planning, and Development International Laboratory
Units: 3 Max Units: 6.0 Terms Offered: SpSm Research methods for intensive practical field research and evaluation; policy, management and planning practice in intercultural contexts; preparation for professional-level consulting abroad. Instruction Mode: Lecture Grading Option: Letter

PPD 614 Management in Planning Practice
Units: 2 or 4, 2 years Terms Offered: Sp Administrative, management, political, and other problems faced by the practicing professional planner. Duplicates Credit in former PLUS 521. Instruction Mode: Lecture Grading Option: Letter

PPD 615 Comparative Urbanization, Development, and Inequality
Units: 4 Terms Offered: Irregular Theories of inequality, dependency and dualism in relation to urbanization, growth, and poverty in developing countries; development and underdevelopment; core-periphery linkages. Duplicates Credit in former PLUS 534. Instruction Mode: Lecture Grading Option: Letter

PPD 616 Participatory Methods in Planning and Policy
Units: 4 Approaches to community participation, introducing students to the theories behind participatory methods as well as to the skills to implement them. Instruction Mode: Lecture Grading Option: Letter

PPD 617 Urban Demography and Growth
Units: 4 Terms Offered: Fa Theory and policy regarding population change in urban areas; housing; cohort analysis; immigration; ethnicity; employment; education. Methods of graphic representation; census data manipulation, interpretation, forecasting. Duplicates Credit in former PLUS 539. Instruction Mode: Lecture Grading Option: Letter

PPD 618 Housing Facilities and Community Development
Units: 4 Terms Offered: Irregular Structure of the building industry and technology. Housing markets and programs; environmental standards. Community development and redevelopment. Planning, program development, finance, and coordination of public facilities and services. Duplicates Credit in former PLUS 540. Instruction Mode: Lecture Grading Option: Letter

PPD 619 Smart Growth and Urban Sprawl: Policy Debates and Planning Solutions
Units: 4 Terms Offered: Irregular Determinants and analytical models of land use; interaction of land uses with environmental quality and natural resources, land use policy instruments; regulation, taxation, public services. Duplicates Credit in former PLUS 562. Instruction Mode: Lecture Grading Option: Letter

PPD 620 General Plans
Units: 4 Terms Offered: Fa Assessment of a recently adopted general plan, analysis of the general plan process, and detailed review of each major element and issue. Duplicates Credit in former PLUS 563. Instruction Mode: Lecture Grading Option: Letter

PPD 621 Environmental Impacts
Units: 4 Terms Offered: Sp Legal, political/institutional, and technical aspects of environmental impact reports for urban planning. Duplicates Credit in former PLUS 561. Instruction Mode: Lecture Grading Option: Letter

PPD 622 Seminar in Urban Development
Units: 4 Terms Offered: Irregular Central city housing and renewal problems and policies. Site selection, organization; land valuation, acquisition, disposition; relocation and management; reuse; site planning and development; politics; financing. Duplicates Credit in former PLUS 541. Instruction Mode: Lecture Grading Option: Letter

PPD 623 Community Development and Site Planning
Units: 4 Terms Offered: Sp Urban form and emerging community design practices; design project development; evaluation and assessment of site planning in cities and local communities. Instruction Mode: Lecture Grading Option: Letter

PPD 624 Local Economic Development: Theory and Finance
Units: 4 Terms Offered: Sp Socioeconomic change, economic development theory, assessment techniques, and economic indicators in the context of planning and development policies and programs. Duplicates Credit in former PLUS 547. Instruction Mode: Lecture Grading Option: Letter

PPD 625 Planning and Economic Development Finance
Units: 4 Terms Offered: Fa Fundamentals for economic development professionals and policy makers including feasibility analysis and the financing of facilities, social services, and community-based enterprises. Duplicates Credit in former PLUS 546. Instruction Mode: Lecture Grading Option: Letter

PPD 626 Public/Private and Mixed Enterprises Planning
Units: 2, 4 Terms Offered: SpFa Case studies of planning and public/private and mixed enterprises; public production of private goods; privatization of public services; public/private partnerships; mixed enterprises. Instruction Mode: Lecture Grading Option: Letter

PPD 627 Design Skills for Urban Planners
Units: 4 Terms Offered: Fa Develop observation, description, analysis, and conceptualization skills related to urban spatial conditions; advance professional communication proficiencies. Duplicates Credit in former PLUS 573. Instruction Mode: Lecture Grading Option: Letter

PPD 628 Urban Planning and Social Policy
Units: 4 Terms Offered: Irregular Urban planning and social work: theory, values, techniques of inquiry, and problem-solving methods appropriate to urban planning and social work. Duplicates Credit in former PLUS 552. Instruction Mode: Lecture Grading Option: Letter

PPD 630 Urban Economic Analysis
Units: 4 Terms Offered: Sp Economic models of cities and city development and structure; housing and land markets; transportation systems; problems of congestion and pollution; evaluation of urban policies. Duplicates Credit in former PLUS 566. Instruction Mode: Lecture Grading Option: Letter

PPD 631 Geographic Information Systems for Policy, Planning, and Development
Units: 2 Introduction to GIS systems and usage in the public sector; spatial data; understanding software and the application of technology; analysis of data using GIS. Instruction Mode: Lecture Grading Option: Letter

PPD 632 Planning Analysis and

Evaluation
Units: 4 Terms Offered: Sp Methods of policy, program, and plan evaluation: economic principles and theoretical concepts introduced, followed by case studies. Duplicates Credit in former PLUS 574. Instruction Mode: Lecture Grading Option: Letter

PPD 633 Urban Transportation Planning and Management
Units: 4, 2 years Terms Offered: Fa Background applications of established urban travel forecasting procedures; land use; trip-generation, trip-distribution, modal-choice, trip-assignment; evaluation; criticisms. Duplicates Credit in former PLUS 580. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-633

PPD 634 Institutional and Policy Issues in Transportation
Units: 4 Terms Offered: Sp Analysis of policies relating to transportation alternatives; institutional environment and background; federal, state, regional, and local agency responsibilities and interactions. Duplicates Credit in former PLUS 581. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-634

PPD 635 Principles of Transportation Systems Analysis
Units: 4 Terms Offered: Fa Planning, design, modeling, and operation of inter- and intra-urban transportation networks. Analysis of contemporary engineering-economic issues relevant to transport, especially questions pertaining to infrastructure. Duplicates Credit in former PLUS 582. Instruction Mode: Lecture Grading Option: Letter

PPD 636 Infrastructure and Modern Society
Units: 2 Terms Offered: Sp Survey of infrastructure issues that relates principles from multiple disciplines to the provision of vital services and encourages critical thinking within a systems context. Instruction Mode: Lecture Grading Option: Letter

PPD 637 Forecasting and Urban Planning: A Survey of Theory and Methods
Units: 4 Terms Offered: Sp Overview of forecasting methods and applications in urban planning processes used to determine urban futures; includes theoretical and institutional factors as well as quantitative methods. Instruction Mode: Lecture Grading Option: Letter

PPD 638 Integrative Seminar
Units: 4 Terms Offered: FaSpSm Individual research and preparation of an integrated comprehensive study coordinated with a sponsor such as a government agency or development firm. *Prerequisite:* PPD 611, PPD 612. Duplicates Credit in former PLUS 591. Instruction Mode: Lecture Grading Option: Letter

PPD 639 Introduction to Community and Economic Development
Units: 4 Terms Offered: FaSp Theories of community and economic development and a contextual understanding of the forces that change the development and community life of urban areas. Instruction Mode: Lecture Grading Option: Letter

PPD 640 Leadership Foundations: Competencies and Core Values
Units: 4 Terms Offered: Sm An intensive introduction to leading through core values. Focuses on developing leadership skills at the personal level to build a foundation for leadership at all levels. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 641 Leading Individuals, Groups and Teams
Units: 4 Terms Offered: Fa Leadership styles in various settings; team demographics, and dynamics; problem-solving; decision-making; diversity and critical thinking skills; effect of culture on small group communication; managing conflict. *Prerequisite:* PPD 640. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 642 Strategic Leadership of Organizations
Units: 4 Terms Offered: Sp Strategic analysis; strategic planning; leadership; performance measurement and management; control systems; organizational structure and networks; organizational culture; organizational learning and change. *Prerequisite:* PPD 641. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 643 Leading Transformations Across Sectors: Integrative Seminar
Units: 4 Terms Offered: Sm Application and practice of leadership skills working across the public, private and nonprofit sectors. Skills include negotiation, collaboration, communication, political management and ethical responsibilities. *Prerequisite:* PPD 642. Registration Restriction: Open only to Executive Master in Leadership students. Instruction Mode: Lecture Grading Option: Letter

PPD 644 Shaping the Built Environment
Units: 4 Introduction to the theories and concepts and good city form. Explores the options for designing more livable and sustainable urban communities. Instruction Mode: Lecture Grading Option: Letter

PPD 645 Professional Development
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: Irregular Selected topics in the practical application of administrative concepts. Duplicates Credit in former PUAD 502. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 646 Fieldwork
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Supervised study of management activities in governmental agencies. Duplicates Credit in former PUAD 503. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 647 Finance of the Public Sector
Units: 4 Terms Offered: Sp Sources of government revenue, intergovernmental financial relations, budgeting, public goods theory. Theoretical and applied skills in analysis of equity and efficiency issues. *Prerequisite:* PPD 501b. Duplicates Credit in former PUAD 513. Instruction Mode: Lecture Grading Option: Letter

PPD 648 Concepts and Practices of Public Budgeting
Units: 4 Terms Offered: Irregular Budget planning, budget formulation, tools for budget analysis and budget implementation. Duplicates Credit in former PUAD 515. Instruction Mode: Lecture Grading Option: Letter

PPD 649 Concepts and Practices in Public Personnel Administration
Units: 4 Terms Offered: FaSm Concepts of man and of work; workforce; government personnel systems, including merit concepts, classification, and compensation; collective bargaining; organizational justice; training and development. Duplicates Credit in former PUAD 516. Instruction Mode: Lecture Grading Option: Letter

PPD 650 Organization Development in Public Administration
Units: 4 Terms Offered: FaSp Overview of concepts and methodologies of organization development; diagnosing organizational needs; developing change strategies; selecting appropriate interventions. Duplicates Credit in former PUAD 517. Instruction Mode: Lecture Grading Option: Letter

PPD 651 Seminar in the Administration of Local Government
Units: 4 Terms Offered: Irregular Intensive consideration of the functions of the municipal executive and his environment. Research preparation and discussion of cases. Duplicates Credit in former PUAD 520. Instruction Mode: Lecture Grading Option: Letter

PPD 652 Financial Administration in Local Government
Units: 4 Terms Offered: Irregular Revenue sources, fees and charges, benefit assessments; financing economic development and redevelopment, issuing and managing debt, current asset management, and state-local relations. Duplicates Credit in former PUAD 521. Instruction Mode: Lecture Grading Option: Letter

PPD 653 Training in the Public Sector
Units: 4 Terms Offered: Fa Emergence of public service training; learning theories; program development process — assessing needs, design, delivery, and evaluation; role of media; individual, group, organization development; managing training. Duplicates Credit in former PUAD 522. Instruction Mode: Lecture Grading Option: Letter

PPD 654 Information Technology Management in the Public Sector
Units: 4 Terms Offered: FaSpSm Application of computer and information technology in government; e-government; information technology architecture; systems project management. Duplicates Credit in former PPD 518. Instruction Mode: Lecture Grading Option: Letter

PPD 655 Administrative Law and Public

Management
Units: 4 Terms Offered: FaSpSm Administrative perspectives on legal principles of agency rule-making and adjudication; distinctions between the two; informal administrative actions; decision-making; judicial review; public control of administrative decisions. Instruction Mode: Lecture Grading Option: Letter

PPD 656 Political Management: Theory and Applied Techniques
Units: 4 Terms Offered: Sm Political management theories; strategy formation; research and data collection approaches; computer applications; electronic databases; issue management; problem-solving techniques; ethical considerations. Duplicates Credit in former PUAD 545. Instruction Mode: Lecture Grading Option: Letter

PPD 657 Political Leadership in Public Organizations
Units: 4 Terms Offered: Sp Concepts and skills for public executives and senior managers; understanding the dynamics of governmental institutions and policy processes; organizational and personal assessment skills. Duplicates Credit in former PUAD 546. Instruction Mode: Lecture Grading Option: Letter

PPD 658 Advocacy in Public Administration
Units: 4 Terms Offered: Fa Perspectives on advocacy in the policy process; practice of advocacy; accessing the policy process; simulation of the advocacy process; ethical considerations. Duplicates Credit in former PUAD 547. Instruction Mode: Lecture Grading Option: Letter

PPD 659 National Security Administration and the Domestic and International Environment
Units: 4 Terms Offered: Irregular Interplay of domestic and international environments; resultant constraints upon national security program administration; administrative and organizational implications for future scenarios. Duplicates Credit in former PUAD 549. Instruction Mode: Lecture Grading Option: Letter

PPD 660 Local Agency Debt and Cash Administration
Units: 4 Terms Offered: Irregular Overview of methods of debt and cash administration including official statement analysis; mechanics of different types of issues; and cash management principles. Duplicates Credit in former PUAD 550. Instruction Mode: Lecture Grading Option: Letter

PPD 661 Intergovernmental Management: Local Perspective
Units: 4 Terms Offered: Fa Role of city, special district, and metropolitan governments in intergovernmental relations; intergovernmental impacts on local policy process and service delivery; management problems and alternatives. Duplicates Credit in former PUAD 552. Instruction Mode: Lecture Grading Option: Letter

PPD 662 Intergovernmental Management: State Perspective
Units: 4 Terms Offered: FaSp Role of state government in intergovernmental relations, emphasis on California experience; financial aspects of intergovernmental system. Duplicates Credit in former PUAD 553. Instruction Mode: Lecture Grading Option: Letter

PPD 663 Intergovernmental Management: Federal Perspective
Units: 4 Terms Offered: Irregular Role of national government in intergovernmental process; impact of federal legislative, executive, and judicial actions on state and local government; intergovernmental policy-making process. Duplicates Credit in former PUAD 554. Instruction Mode: Lecture Grading Option: Letter

PPD 664 Contract Management
Units: 2 Terms Offered: Sp Contract management techniques in the public and private sectors; micro and macro management; compliance and negotiation; conflicts of interest and ethical issues. Instruction Mode: Lecture Grading Option: Letter

PPD 665 Contemporary Issues in Philanthropy
Units: 4 Motivations and strategies of philanthropists; philanthropic foundations and emerging institutions for philanthropy; issues of philanthropic stewardship, public policy and public accountability. Instruction Mode: Lecture Grading Option: Letter

PPD 666 Administrative Research and Analysis
Units: 4 Terms Offered: Irregular Theory and methods for study of administrative effectiveness: problem solving, performance measurement, administrative and organizational research, quality improvement, and change implementation. *Prerequisite:* PPD 502. Duplicates Credit in former PUAD 506. Instruction Mode: Lecture Grading Option: Letter

PPD 667 Public Ethics
Units: 4 Terms Offered: Sp Following an introduction to the study of ethics, relationships among administrative, political and policy ethics are examined, emphasizing the ethics of the administrative role. Duplicates Credit in former PUAD 560. Instruction Mode: Lecture Grading Option: Letter

PPD 668 Entrepreneurship in the Public Sector
Units: 4 Terms Offered: Irregular Providing public services through the private and nonprofit sectors; public-private partnerships; political and organizational skills required for public entrepreneurship. Duplicates Credit in former PUAD 561. Instruction Mode: Lecture Grading Option: Letter

PPD 669 Federal Management Systems
Units: 4 Terms Offered: FaSp Principal institutions and processes in federal government for overhead leadership and control; examines Office of Management and Budget, Office of Personnel Management, Merit Systems Protection Board, General Services Administration, and General Accounting Office. Duplicates Credit in former PUAD 564. Instruction Mode: Lecture Grading Option: Letter

PPD 670 Management of Intergovernmental Programs
Units: 4 Terms Offered: Sp Analysis of relationships among governmental units in delivery of governmental programs; historical development of intergovernmental relations; present status and future implications. Duplicates Credit in former PUAD 566. Instruction Mode: Lecture Grading Option: Letter

PPD 671 Decision-Making in Regulatory Agencies
Units: 4 Terms Offered: Irregular Risk assessment, management, and communication concepts and practices; comparisons of regulatory decision making in regulatory agencies; emerging benefit assessment, cost-effectiveness, and communication issues. Duplicates Credit in former PUAD 567. Instruction Mode: Lecture Grading Option: Letter

PPD 672 Presidency, Congress, and the Bureaucracy
Units: 4 Terms Offered: SpSm Relationships in national government among political executive, legislative, and administrative units; reviews institutions, formal processes, and political dynamics. Duplicates Credit in former PUAD 568. Instruction Mode: Lecture Grading Option: Letter

PPD 673 Strategic Planning in the Public Sector
Units: 4 Terms Offered: Sp Analysis/ field application of action research models for strategic planning in public agencies; design of effective public systems; citizens/ administrators' roles in strategic decision-making. Duplicates Credit in former PUAD 574. Instruction Mode: Lecture Grading Option: Letter

PPD 674 Science, Technology, and Government
Units: 4 Terms Offered: Irregular Impact of science/technology on governmental policy, processes, institutions; critical policy areas in science/technology; machinery for formulating science policy; governmental impact on science/technology. Duplicates Credit in former PUAD 575. Instruction Mode: Lecture Grading Option: Letter

PPD 675 Nonprofit Management and Leadership
Units: 4 Terms Offered: FaSpSm Issues in nonprofit management and leadership including: the role of boards; strategic planning; marketing and fund-raising; financial management; and volunteer and human resource management. *Recommended Preparation:* PPD 689. Instruction Mode: Lecture Grading Option: Letter

PPD 676 Comparative Public Administration
Units: 4 Terms Offered: Irregular Methodologies, theories and models of comparison; administrative systems; role and functions of the public sector; administrative cultures. Duplicates Credit in former PUAD 579. Instruction Mode: Lecture Grading Option: Letter

PPD 677 International Development

Administration
Units: 4 Terms Offered: Sp Development of theories; role of international institutions in resource exchanges; foreign investment and trade policies; national planning and allocation systems; development and modernization strategies and implementation. Duplicates Credit in former PUAD 581. Instruction Mode: Lecture Grading Option: Letter

PPD 678 Processes of Change in Developing Societies
Units: 4 Terms Offered: Irregular Nature of traditional and transitional societies; theories and practice of developmental change; role of bureaucracy in development; institution building; public enterprise; technology assessment and transfer. Duplicates Credit in former PUAD 582. Instruction Mode: Lecture Grading Option: Letter

PPD 679 Financial Administration in Developing Countries
Units: 4 Terms Offered: Sm Public sector finance; tax policy and administration; budgeting and auditing; debt management; public enterprise and development banks; planning; techniques; project assessment. Duplicates Credit in former PUAD 583. Instruction Mode: Lecture Grading Option: Letter

PPD 680 Development of Effective Groups and Organizations
Units: 4 Terms Offered: Fa Theories and techniques of assessing and improving interpersonal relationships and group dynamics in an organizational context; action research-based approaches to implementing organizational change. Duplicates Credit in former PUAD 586. Instruction Mode: Lecture Grading Option: Letter

PPD 681 Public Organization and Management Theory
Units: 4 Terms Offered: FaSp Nature and management of public organizations; examination of organizational characteristics, forms, and processes, including the relationship with the broader environment. Duplicates Credit in former PUAD 595. Instruction Mode: Lecture Grading Option: Letter

PPD 682 Justice Administration: A Management Perspective
Units: 4, 2 years Terms Offered: Fa Justice administration as an interactive system: law, etiology of crime, police, the judiciary and corrections. Interface of offenders with community and political force fields. Duplicates Credit in former PUAD 540. Instruction Mode: Lecture Grading Option: Letter

PPD 683 Homeland Security and Public Policy
Units: 4 Terms Offered: FaSp Definition and history of terrorism, counterterrorism, domestic policy and public sector management; intelligence/information sharing and analysis; emergency preparedness planning, response and recovery. Instruction Mode: Lecture Grading Option: Letter

PPD 684 Leadership Development in the Public and Nonprofit Sectors
Units: 2 Terms Offered: Fa An overview of leadership concepts, frameworks and skills; application of leadership in complex or inter-sectoral settings. Instruction Mode: Lecture Grading Option: Letter

PPD 685 Human Resources Management in Public and Non-Profit Sectors
Units: 2 Terms Offered: Fa Merit principles, position classification, recruitment and selection, compensation, organizational development, labor relations; challenges and strategies for managing a diverse workforce. Instruction Mode: Lecture Grading Option: Letter

PPD 686 U.S. Immigration Policy
Units: 4 Terms Offered: Sp Overall understanding of contemporary U.S. immigration policy. Instruction Mode: Lecture Grading Option: Letter

PPD 687 Strategic Management in the Nonprofit Sector
Units: 4 Terms Offered: Sp Strategic management of nonprofit organizations, social entrepreneurship, and management practice. *Prerequisite:* PPD 675 and PPD 689. Instruction Mode: Lecture Grading Option: Letter

PPD 688 Business and Public Policy
Units: 4 Terms Offered: Irregular The business-government relationship; effects of selected public policies (antitrust, economic, and social regulation, industrial policies, legal policy) on firm and industry behavior. *Prerequisite:* PPD 501b. Duplicates Credit in former PUAD 557. Instruction Mode: Lecture Grading Option: Letter

PPD 689 The Nonprofit Sector and Philanthropy
Units: 4 Terms Offered: FaSp Nonprofit organizations and their relation to government and business; the role of philanthropy, social enterprise and public support; and implications for policy, strategy and management. Instruction Mode: Lecture Grading Option: Letter

PPD 690 Alternative Dispute Resolution
Units: 4 Terms Offered: Fa Theory and methods of conflict analysis, negotiation, facilitation and mediation in the public sector. Duplicates Credit in former PUAD 519. Instruction Mode: Lecture Grading Option: Letter

PPD 692 Transportation and the Environment
Units: 4 Terms Offered: Sp Analysis of the benefits and costs of urban transportation; concepts of social costs; benefits and externalities; environmental costs; social justice issues; policy and planning alternatives for sustainable transportation. *Prerequisite:* PPD 501a. Duplicates Credit in former PPD 584. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CE-692

PPD 693 Communicating Public Policy
Units: 4 Exploring the complex relationships that exist among policies, policymakers, and the media; analyzing the role of journalists and policy analysts in the public policy process. Instruction Mode: Lecture Grading Option: Letter

PPD 694 Coastal Policy and Planning
Units: 4 Terms Offered: Sp Coastal management issues in the context of public and private users competing for land resources, the costs and benefits of seaports, compare coastal development models. Instruction Mode: Lecture Grading Option: Letter

PPD 695 Clinical Issues for Managers
Units: 1 Terms Offered: Fa Introduces key information and concepts for managers of clinical services. Examines problems and issues facing health care managers and clinician relations. Instruction Mode: Lecture Grading Option: Letter

PPD 696 Health Care Venture Development
Units: 2 Terms Offered: SpSm Focuses on developing the resourcefulness, know-how and decision support skills needed to identify, assess and develop new health ventures. Includes business planning, financing, strategy, entrepreneurship. *Recommended Preparation:* PPD 510a or HMGT 565. Instruction Mode: Lecture Grading Option: Letter

PPD 697 Cultural Proficiency in Health Management and Policy
Units: 2 Terms Offered: Sp Provides an understanding of what social factors contribute to racial/ethnic, socioeconomic, and gender disparities in health and the culturally proficient provision of health care. Instruction Mode: Lecture Grading Option: Letter

PPD 698 Strategic Management and Change
Units: 4 Theory and applied skills in management of social sector organizations with applications in international settings. Strategic management and planning; communication strategies, marketing and promotion; leadership skills; organizational development and change. Instruction Mode: Lecture Grading Option: Letter

PPD 700 Teaching Seminar
Units: 2 Pedagogy: learning objectives, curriculum design, teaching methods, evaluation. Duplicates Credit in former PPD 700ab. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 706 Paradigms of Research and the Design of Inquiry
Units: 4 Terms Offered: FaSp Philosophy of social science; applied social research; research design; sampling and validity; overview of qualitative and quantitative methods. Instruction Mode: Lecture Grading Option: Letter

PPD 707 Survey Research Methods
Units: 4 Terms Offered: Sp Collection and use of survey data: basic orientation, mechanics of using SAS, and interpretation of survey tabulations. *Prerequisite:* PPD 525. Duplicates Credit in former PLUS 608. Instruction Mode: Lecture Grading Option: Letter

PPD 708 Qualitative Methods
Units: 4 Terms Offered: Sp Reflective and critical approach that questions data

collection techniques, positions relative to those being studied, and explanatory methods. *Recommended Preparation:* PPD 525 or PPD 612. Duplicates Credit in former PLUS 609. Instruction Mode: Lecture Grading Option: Letter

PPD 709 Applications in the Advanced Quantitative Methods
Units: 4 Terms Offered: Sp Statistical and econometric modeling in real estate finance, urban economics, public policy, and planning research. Building, estimating and adjusting models for real-world. *Prerequisite:* PPD 525. Instruction Mode: Lecture Grading Option: Letter

PPD 710a Research Seminar
Units: 2 Terms Offered: FaSp Research fields and design; literature reviews; critical reading and critiquing; project development. *Prerequisite:* PPD 706. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 710b Research Seminar
Units: 2 Terms Offered: FaSp Research fields and design; literature reviews; critical reading and critiquing; project development. *Prerequisite:* PPD 706. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 711 Theoretical Foundation of Public Management
Units: 4 Terms Offered: Fa Theories of the role, structure, and growth of the public sector; political economy of public bureaucracies; the voluntary nonprofit sector. *Prerequisite:* PPD 501b. Instruction Mode: Lecture Grading Option: Letter

PPD 712 Seminar in Public Policy
Units: 4 Terms Offered: Fa Critical analysis of the policy field; theoretical foundations; integration of quantitative, organizational, and political considerations; policy research. *Prerequisite:* PPD 501b, PPD 554. Duplicates Credit in former PUAD 626. Instruction Mode: Lecture Grading Option: Letter

PPD 713 Advanced Planning Theory
Units: 4 Terms Offered: Fa Positive and normative attitudes of public plans, policies, programs, organizational and institutional settings; policy analysis; modeling of social choices; evaluation; applied welfare analysis; performance assessment. Duplicates Credit in former PLUS 605. Instruction Mode: Lecture Grading Option: Letter

PPD 714 Advanced Urban Development
Units: 4 Terms Offered: Fa Urbanization, urban economics, land use, the politics of growth, governance, regulation, and the state, immigration, and place promotion. Instruction Mode: Lecture Grading Option: Letter

PPD 715 Political Economy and Institutional Analysis
Units: 4 Institutional dimension of political economy; analytic approaches in institutional analysis and their relevance for understanding the interactions between political and economic factors in public-sector issues. *Prerequisite:* PPD 501a. Instruction Mode: Lecture Grading Option: Letter

PPD 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 18.0 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Duplicates Credit in former PLUS 790 and PUAD 790. Instruction Mode: Lecture Grading Option: Credit/No Credit

PPD 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Duplicates Credit in former PLUS 794abcdz and PUAD 794abcdz. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PPD 795 Law of the Political Process
Units: 2, 3, 4 Max Units: max 8 (Enroll in LAW 795)

PPD 797 Public Policy in Law: Analysis and Advocacy
Units: 1, 2, 3, 4 (Enroll in LAW 797)

Policy, Planning, and Development — Expanded

PPDE 580 Social Innovation
Units: 4 Strategies and processes of social innovation in the context of economics, institutional, and innovation theory. How social innovation materializes across all sectors, including the government, nonprofit, and for-profit spheres. Critical thinking and practical application development to solve social problems. Instruction Mode: Lecture Grading Option: Letter

PPDE 589 Public Policy and Administration in the European Union, Germany, and the United States
Units: 6 Terms Offered: Sm Governance issues from a comparative perspective with a special focus on the US, Germany and the European Union. Instruction Mode: Lecture Grading Option: Letter

PPDE 610 Population Health Management
Units: 2 Terms Offered: Sm Principles and concepts of population health management; application of key principles that drive health and well being of populations; development and evaluation of strategies in management of disease and prevention of illness. Instruction Mode: Lecture Grading Option: Letter

PPDE 628 Introduction to Lean Health Care
Units: 2 Performance improvement methods and principles in health care; how Lean, Six-Sigma, and Human Centered Design (HCD) methodologies are applied to health care organizations to improve quality and efficiency. Instruction Mode: Lecture Grading Option: Letter

PPDE 629 Transitional Care and Hospital Readmission Prevention
Units: 2 Alternatives within the healthcare delivery system beyond the acute hospital; how social, medical and financial determinants provide alternatives to acute care and impact a patient's disposition; Hospital Readmission Penalty Program; effect of the Affordable Care Act of 2010 on patient care. Instruction Mode: Lecture Grading Option: Letter

PPDE 630 Community Health Planning
Units: 4 Terms Offered: Sp The role of planning in sustaining community health; examines relationship between health and environment; historical development, conceptualization and practice of community health planning. Instruction Mode: Lecture Grading Option: Letter

PPDE 631 Public Space: Theory, Policy, and Design
Units: 4 Examination of contemporary issues and practices in the design, production, and uses of public space in a comparative perspective; implications for future design and public policy. Instruction Mode: Lecture Grading Option: Letter

PPDE 632 Sustainable Cities
Units: 4 Terms Offered: FaSp Exploration of environmental problems linked to urbanization, drawing on historical analysis, social theory, scientific research, and city planning/design practice. Alternative policy options for urban sustainability. Duplicates Credit in the former GEOG 601. Instruction Mode: Lecture Grading Option: Letter

PPDE 633 Communicating City Design: Positions and Representations
Units: 2 Communicating the processes, products, and concepts of city design; merging theoretical and skill-based exercises for effective communication; verbal and graphic communication; physical components of urban landscape and dimensional attributes. Instruction Mode: Lecture Grading Option: Letter

PPDE 634 Methodology, Methods and Tools for Urban Sustainability
Units: 2, 3, 4 Terms Offered: FaSp Methodology, assessment and planning methods for urban sustainability and land use planning; how the choice and use of theory and methods impact the planning process;

systems and spatial analysis. Instruction Mode: Lecture Grading Option: Letter

PPDE 635 Housing and Land Use in Rapidly Urbanizing Regions
Units: 4 Terms Offered: Fa Interdisciplinary approach to conceptualize urban land and property rights; property rights strategies; design and policy interventions; the struggle for rights to space in the city. Instruction Mode: Lecture Grading Option: Letter

PPDE 636 Urban Spatial Ethnography and Critical Cartography
Units: 4 Theories and methods of how to develop original data about, analyze, and produce visualizations of urban space; conventional conceptualization and representations of cities and urban spatial data. *Recommended Preparation:* PPD 631 or other GIS course work Instruction Mode: Lecture Grading Option: Letter

PPDE 637 Urban Mass Transit
Units: 4 Terms Offered: Fa Fundamentals of urban mass transit planning. Topics include the fiscal context of mass transit planning, fares and farebox recovery, ridership forecasts, land development near transit, and transit operations, scheduling, and network design. Instruction Mode: Lecture Grading Option: Letter

PPDE 644 Land Use and Transportation Planning
Units: 4 Key theories of land use — transportation interactions; understanding of land markets and derived-demand approach; use of evidence for information; travel data collection methods; application of land use. Instruction Mode: Lecture Grading Option: Letter

PPDE 645 Financial Management of Nonprofit Organizations
Units: 4 Accounting and financial management principles and practices in nonprofit organizations: budgeting financial analysis, internal controls, financial policies, grant making and financial reporting. Duplicates Credit in PPD 541. Instruction Mode: Lecture Grading Option: Letter

PPDE 646 Grant Writing Practicum
Units: 2 Grant making process and proposal development; philanthropic foundations; strategies for funding; budgeting, logic models, and evaluation; peer review. Instruction Mode: Lecture Grading Option: Letter

PPDE 647 Civic Engagement in Governance
Units: 4 Terms Offered: Sp Roles of citizens, civic associations, nonprofit organizations, government and business in democratic governance; civil society as the interface among these entities; techniques, purposes and contexts of civic engagement. Instruction Mode: Lecture Grading Option: Letter

PPDE 648 Performance Management
Units: 2 Concept and practice of performance management; examination of performance measurement; analysis and reporting practices for organizational accountability and improvements; performance design, indicators, utilization of information. Instruction Mode: Lecture Grading Option: Letter

PPDE 649 International Development NGOs: Theory, Policy and Management Issues
Units: 4 Critical issues involved in International Development NGO management; theoretical work and analytical framework to understand organizational features; NGO management, issues and challenges. Instruction Mode: Lecture Grading Option: Letter

PPDE 660 Environmental Policy Design and Analysis
Units: 2 Terms Offered: Sp Analytical foundation for design of institutions and policies; environmental policy; welfare economics and market failure; policy evaluation; economic policy instruments; climate change policy issues; other policy issues. *Prerequisite:* PPD 501a; *Recommended Preparation:* PPD 501b. Instruction Mode: Lecture Grading Option: Letter

PPDE 661 Methods for Equity Analysis
Units: 4 Techniques to measure inequality and segregation. Policy evaluation using techniques for casual inference. *Prerequisite:* PPD 558. Instruction Mode: Lecture Grading Option: Letter

PPDE 662 China from a US Policy Perspective
Units: 4 Examination of China through the lens of the US federal government; trade issues; economic coordination and stability; environment and sustainability; defense and security; human development. Instruction Mode: Lecture Grading Option: Letter

PPDE 663 Media for Policy Change
Units: 4 Terms Offered: Sp The use of media as an implement of social policy and change at the state and federal level; analysis of social problems and the effect policy practitioners influence on change. Instruction Mode: Lecture Grading Option: Letter

PPDE 664 Seminar in Social Justice and Public Policy
Units: 4 Major theories of social justice in the US and globally; how theories of social justice influence policy, urban planning, and public administration; how to bridge theories about justice for professional practice. Instruction Mode: Lecture Grading Option: Letter

PPDE 665 Economic Impact Analysis: Methods and Applications
Units: 2 Terms Offered: Sp Economic models for understanding and measuring impacts of man-made and natural disasters; analysis of public policy initiatives to mitigate environmental threats; model construction and software. *Prerequisite:* PPD 501a Instruction Mode: Lecture Grading Option: Letter

PPDE 680 Board Governance and Leadership
Units: 2 Governance of nonprofit organizations; responsibilities and expectations of boards; board effectiveness; and changes in governance as a result of recent federal and state legislation. Instruction Mode: Lecture Grading Option: Letter

PPDE 681 Fund Development for Nonprofit Organizations
Units: 4 Key aspects of the fundraising process for nonprofit organizations; theoretical foundations and general fundraising principles; techniques sources of donations; key aspects of managing the process. Instruction Mode: Lecture Grading Option: Letter

PPDE 682 Capstone in Nonprofit Leadership and Management
Units: 4 Mission-mandated accountable and ethical practice, individually and organizationally; applications of core competencies; practical inquiry, analysis, systems; comparative frameworks; strategic leadership and management of public value production. *Prerequisite:* PPD 542 and PPD 675 and PPD 689 Instruction Mode: Lecture Grading Option: Letter

PPDE 683 Social Finance and Development
Units: 4 Critical analysis on the innovations, merits and challenges of wealth creation and poverty reduction based on the microfinance model. Instruction Mode: Lecture Grading Option: Letter

Public Relations

PR 209 Effective Writing for Strategic Public Relations
Units: 4 Terms Offered: FaSp Focus on the unique writing requirements of social, online, broadcast, print and other media in public relations/strategic communication; emphasis on judgment, context and audience understanding. Duplicates Credit in the former JOUR 209 Instruction Mode: Lecture Grading Option: Letter

PR 250 Strategic Public Relations: An Introduction
Units: 4 Terms Offered: FaSp Strategies and practices in the growing field of public relations/strategic communication, including landmark cases; special emphasis on historical roots, evolution, current and future practice. Duplicates Credit in former JOUR 250 and former JOUR 350 Instruction Mode: Lecture Grading Option: Letter

PR 253 Theoretical Foundations of Strategic Public Relations
Units: 4 Terms Offered: FaSp Emphasis on conceptual, intellectual and analytical skills; knowledge of applied theory for the changing field of public relations/strategic communication. *Prerequisite:* PR 250 Duplicates Credit in former JOUR 253 and former JOUR 353 Instruction Mode: Lecture Grading Option: Letter

PR 340 Introduction to Advertising
Units: 4 Terms Offered: FaSp History and development of advertising; basic advertising campaigns showing relationships of marketing, creative, print and electronic media. Duplicates Credit in former JOUR 340 Instruction Mode: Lecture Grading Option: Letter

PR 341 Advertising Copywriting
Units: 4 Terms Offered: Fa Writing and editing for advertising and commercial copy

for all media. *Prerequisite:* PR 340 or JOUR 340 Duplicates Credit in former JOUR 341 Instruction Mode: Lecture Grading Option: Letter

PR 342 Advertising Media and Analysis
Units: 4 Terms Offered: Fa Selling, planning, buying for the media; advertising's relationship to society and business; media choice. *Prerequisite:* PR 340 or JOUR 340 [Inactive] Duplicates Credit in former JOUR 342 Instruction Mode: Lecture Grading Option: Letter

PR 343 Advertising Design and Production
Units: 4 Terms Offered: Sp Production of advertising materials; emphasis on the creation and design of advertising elements. *Prerequisite:* PR 340 or former JOUR 340 [Inactive] Duplicates Credit in former JOUR 343 Instruction Mode: Lecture Grading Option: Letter

PR 351a Strategic Public Relations Media and Content
Units: 4 Terms Offered: FaSp Introduction to media relations, social media and influencer engagement; intensive writing and creating multimedia content for traditional, emerging and social media. *Prerequisite:* (PR 209 or JOUR 209) and (PR 250 or JOUR 250) Duplicates Credit in former JOUR 351a Instruction Mode: Lecture Grading Option: Letter

PR 351b Strategic Public Relations Media and Content
Units: 4 Terms Offered: FaSp Advanced course in writing, digital content and multimedia creation; production of communications collateral for social and owned media channels targeting an array of audiences. *Prerequisite:* PR 351a or JOUR 351a Duplicates Credit in former JOUR 351b Instruction Mode: Lecture Grading Option: Letter

PR 352 Public Relations Media and Content for Non-Majors
Units: 4 Learn advanced public relations writing and editing, basic design skills and sophisticated video planning, shooting, editing and production skills. Open only to declared Public Relations minors. *Prerequisite:* PR 209 and PR 250 Instruction Mode: Lecture Grading Option: Letter

PR 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Duplicates Credit in former JOUR 390 Instruction Mode: Lecture Grading Option: Letter

PR 391 Made in Italy-The Marketing of an Ideal
Units: 4 Terms Offered: FaSp (Enroll in COMM 391)

PR 392 Media and Migration in Times of European Crisis
Units: 4 Terms Offered: FaSp (Enroll in COMM 392)

PR 410 London Calling: Public Relations in the UK Hub
Units: 4 Examines how politics affects and influences public relations campaigns in the UK and Europe. Registration Restriction: Open only to Annenberg majors Instruction Mode: Lecture Grading Option: Letter

PR 428 Social, Legal and Ethical Foundations of Public Relations
Units: 4 Terms Offered: FaSp Covers the complex intersection of legal standards and regulations, ethical practices and decision making, and social responsibilities for public relations/strategic communication practitioners. *Prerequisite:* PR 250 or JOUR 250 [Inactive] Duplicates Credit in former JOUR 428 Instruction Mode: Lecture Grading Option: Letter

PR 429 Business and Economic Foundations of Public Relations
Units: 4 Terms Offered: FaSp Relationship between public relations/strategic communication and other organizational disciplines; understanding business goals and objectives; economic literacy; financial/investor relations; how PR/communication agencies are built and managed. *Prerequisite:* PR 351a or JOUR 351a Duplicates Credit in former JOUR 429 Instruction Mode: Lecture Grading Option: Letter

PR 450 Advanced Strategic Public Relations
Units: 4 Terms Offered: FaSp In-depth study of methods for planning, managing and evaluating strategic communication campaigns; critical analysis of contemporary cases; development of campaigns for real world clients. *Prerequisite:* (PR 351b or JOUR 351b) and (PR 463 or JOUR 463) Duplicates Credit in former JOUR 450 Instruction Mode: Lecture Grading Option: Letter

PR 451 Promotional Public Relations
Units: 4 Principles and practices of public relations as a basic component in the promotion and marketing of goods and services; regulatory considerations; consumerism. *Prerequisite:* PR 250 or JOUR 250 [Inactive] Duplicates Credit in former JOUR 451 Instruction Mode: Lecture Grading Option: Letter

PR 452 Public Relations in Entertainment
Units: 4 Terms Offered: Sp Public relations in the design, promotion, and presentation of popular entertainment, including films, broadcasting, music, expositions, amusement parks, resorts and arenas. Duplicates Credit in former JOUR 452 Instruction Mode: Lecture Grading Option: Letter

PR 453 Public Relations Strategies for Working with Athletes
Units: 4 Sports Public Relations isn't only getting press for a team or player; it's managing communications among influencers. Complements overview course giving students advanced look at practitioners' role with professional athletes. Duplicates Credit in ASCJ 420 Instruction Mode: Lecture Grading Option: Letter

PR 454 Sports Public Relations
Units: 2 Terms Offered: FaSpSm Introduction to the field of sports information and promotion, including lectures, media assignments, role-playing, and presentations by sports professionals. Duplicates Credit in former JOUR 454 Instruction Mode: Lecture Grading Option: Letter

PR 455 Public Relations for Non-Profit Organizations
Units: 4 Terms Offered: FaSpSm Introduction to the specialized field of public relations for non-profit and non-governmental organizations; emphasis on case studies, strategic and critical thinking, and campaign development. Duplicates Credit in former JOUR 455 Instruction Mode: Lecture Grading Option: Letter

PR 456 Public Relations for Diverse Audiences
Units: 4 Terms Offered: FaSpSm Researching, planning, executing and evaluating communications campaigns aimed at audiences segmented by culture, lifestyle and other factors. *Prerequisite:* PR 250 or JOUR 250 [Inactive] Duplicates Credit in former JOUR 456 Instruction Mode: Lecture Grading Option: Letter

PR 457 The Role of Celebrity in Public Relations
Units: 4 Understanding of the history and application of celebrity in public relations, focusing on the entertainment industry and the notoriety attached to politics and the media. Duplicates Credit in former JOUR 457 Instruction Mode: Lecture Grading Option: Letter

PR 458 Public Relations in Politics and Political Campaigns
Units: 4 Terms Offered: Fa Application of public relations principles to the context of political campaigns; emphasis on message development and delivery; relationship between candidate, news media, and electorate. Duplicates Credit in former JOUR 458 Instruction Mode: Lecture Grading Option: Letter

PR 463 Strategic Public Relations Research, Analysis and Insights
Units: 4 Terms Offered: FaSp Identification of key strategic insights that drive successful communication campaigns, based on research techniques including surveys, content evaluation and social media monitoring. *Prerequisite:* PR 351a or JOUR 351a [Inactive] Duplicates Credit in former JOUR 463 Instruction Mode: Lecture Grading Option: Letter

PR 473 Emerging Media Strategies for Communication and Public Relations
Units: 4 Terms Offered: Sp In-depth, hands-on study of emerging tradigital, social and owned media channels; Emphasis on the evaluation of such media as effective tools for audience engagement. Open only to juniors and seniors in the School for Communication and Journalism. Registration Restriction: Open only to juniors and seniors in the School for Communication and Journalism. Duplicates Credit in former JOUR 473 Instruction Mode: Lecture Grading Option: Letter

PR 478 Social Media Analytics: Data and Content Creation for Real-time Public Relations
Units: 4 Application of monitoring tools to become social media analysts and real-time content creators; interpretation of

large data sets drawn from the social web; understanding of how to present data visually for optimal impact. Duplicates Credit in former JOUR 478 Instruction Mode: Lecture Grading Option: Letter

PR 481 Careers and Strategies in Health Communication
Units: 4 Understanding of the dynamic, changing world of U.S. healthcare; knowledge of healthcare audiences and how to reach them; creating effective strategic communications initiatives. Duplicates Credit in former JOUR 481 Instruction Mode: Lecture Grading Option: Letter

PR 482 Comparative Media in Europe
Units: 4 Terms Offered: Sm (Enroll in JOUR 482)

PR 485 Multimedia PR Content: Digital/ Social Media Lab
Units: 2 Terms Offered: Fa Hands-on lab; Web and new social distribution platforms; development and management of online content and personal brands; social media trends and applications. Duplicates Credit in former JOUR 485 Instruction Mode: Lecture Grading Option: Letter

PR 486 Multimedia PR Content: Introduction to Digital Design Tools
Units: 2 Terms Offered: Sp Hands-on lab; producing multimedia content; basic principles of design; tools and techniques to create digital images and layouts. Duplicates Credit in former JOUR 486 Instruction Mode: Lecture Grading Option: Letter

PR 487 Multimedia PR Content: Introduction to Audio/Video Tools
Units: 2 Terms Offered: Fa Hands-on lab; audio/video tools for conceiving, shooting, editing, delivering and archiving compelling stories for online audiences; personal brand building; digital storytelling trends and applications. Duplicates Credit in former JOUR 487 Instruction Mode: Lecture Grading Option: Letter

PR 488 Multimedia PR Content: Visual Communication of Information
Units: 2 Overview of tools and techniques available to convey messages and experiences; exploration into graphic design, visual branding, design methods and processes. Duplicates Credit in former JOUR 488 Instruction Mode: Lecture Grading Option: Letter

PR 490 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

PR 491 Transmedia, New Media and Strategic Public Relations
Units: 4 Study of the new rules of message development and dissemination in strategic communication and marketing: Participatory Culture, Transmedia Branding, Spreadable Media, and Crowdsourcing. Open only to seniors and master students in public relations and strategic public relations. Registration Restriction: Open only to juniors, seniors and graduate students Duplicates Credit in former JOUR 491 Instruction Mode: Lecture Grading Option: Letter

PR 492 Personal Branding
Units: 4 Terms Offered: Fa Learn to build, promote and manage a personal brand through critical analysis, case study, interactive interpretation and creative problem solving. Duplicates Credit in former JOUR 492 Instruction Mode: Lecture Grading Option: Letter

PR 498 Public Relations Honors Seminar
Units: 2 Terms Offered: Sp Leadership workshop inspires students to be braver and more creative; encourages them to discover their leadership potential/explore new challenges inside and outside of classroom. Registration Restriction: Admission to Honors Program Instruction Mode: Lecture Grading Option: Letter

PR 499 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Terms Offered: FaSpSm Selected topics in public relations. Instruction Mode: Lecture Grading Option: Letter

PR 501 Advocacy Communications
Units: 4 Study and evaluation of communications campaigns by civil society actors to influence public policy with a focus on messaging and efforts to shape news coverage. Duplicates Credit in former JOUR 501 Instruction Mode: Lecture Grading Option: Letter

PR 504 Strategic Public Relations Research, Evaluation and Insights
Units: 3 Covers use of primary and secondary research methods, analysis, web monitoring and analytics, pre- and post-campaign testing, and other techniques in program planning and evaluation. *Prerequisite:* PR 508 or JOUR 508 Duplicates Credit in former JOUR 504 Instruction Mode: Lecture Grading Option: Letter

PR 508 Introduction to Strategic Public Relations
Units: 3 Terms Offered: Fa A survey of the profession, focusing on the key role of strategic public relations in today's information-based society; provides a social, economic and political context for the program. Duplicates Credit in former JOUR 508 Instruction Mode: Lecture Grading Option: Letter

PR 510 Legal, Ethical and Social Foundations of Strategic Public Relations
Units: 3 Terms Offered: FaSp Explores the origins, effects of, and processes for adhering to the complex network of legal, ethical and social responsibilities of the contemporary PR practitioner. Duplicates Credit in former JOUR 510 Instruction Mode: Lecture Grading Option: Letter

PR 527 Multimedia Content Creation for Strategic Public Relations
Units: 3 Terms Offered: FaSpSm Covers the conceptualization and creation of strategy-based, engaging, primarily web-based multimedia content for use by organizations of all types. *Prerequisite:* (PR 508 or JOUR 508) and (PR 535 or JOUR 535) Duplicates Credit in former JOUR 527 Instruction Mode: Lecture Grading Option: Letter

PR 529 Business and Economic Foundations for Public Relations
Units: 3 Speaking the language of the board room; understanding business goals and objectives; economic literacy; financial/investor relations; understanding organizational disciplines and how they relate to corporate communication; PR/ communication business processes and managed. Instruction Mode: Lecture Grading Option: Letter

PR 530 Strategic Public Relations Management
Units: 3 Terms Offered: Sp An analytical, case study-based approach to strategic campaign planning, management and execution, with heavy emphasis on problem solving and the role of research. Duplicates Credit in former JOUR 530 Instruction Mode: Lecture Grading Option: Letter

PR 532 International Public Relations
Units: 3 Public information policies and practices of national and supranational government units and national and multinational corporations involved in international relations. Duplicates Credit in former JOUR 532 Instruction Mode: Lecture Grading Option: Letter

PR 534 Case Studies in Public Relations
Units: 3 Terms Offered: Sp Analysis of landmark and contemporary public relations cases; evaluation of current literature, programs, and professional personnel; identification of emerging issues. Duplicates Credit in former JOUR 534 Instruction Mode: Lecture Grading Option: Letter

PR 535 Writing for Strategic Public Relations
Units: 3 Terms Offered: FaSpSm Intensive focus on the specialized writing requirements of online, broadcast, print and other public relations media; includes content analysis of strategic public relations materials. Duplicates Credit in former JOUR 535 Instruction Mode: Lecture Grading Option: Letter

PR 536 Digital, Social and Mass Media Public Relations Strategies
Units: 3 Terms Offered: FaSp Analysis of shifting media environment; development and execution of multi-platform campaigns based on organizational goals and audience characteristics. Duplicates Credit in former JOUR 536 Instruction Mode: Lecture Grading Option: Letter

PR 537 Public Relations and Branding
Units: 3 Terms Offered: Fa Concept of branding, including brand definition, brand engagement, brand management and the role of public relations in creating brand value. Duplicates Credit in former JOUR 537 Instruction Mode: Lecture Grading Option: Letter

PR 538 Image Management in Entertainment
Units: 3 Terms Offered: FaSpSm In-depth study of the creation and protection of reputations for entertainment properties of all types and the characteristics that distinguish it from other disciplines. Duplicates Credit in former JOUR 538 Instruction Mode: Lecture

Grading Option: Letter

PR 540 International Journalism Seminar I
Units: 3 (Enroll in JOUR 540)

PR 561 Principles of Public Relations
Units: 4 Terms Offered: Other Practical and theoretical survey of the public relations profession as it is currently practiced, providing a social/contextual backdrop for further study of the field. Duplicates Credit in former JOUR 561 Instruction Mode: Lecture Grading Option: Letter Crosslisted as CMGT 561

PR 562 Foundations of Effective PR Writing
Units: 4 Terms Offered: Other Specialized writing for persuasive and strategic communication contexts. Intensive focus on public relations writing for print, online, broadcast, and social media. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CMGT 562

PR 563 Promotional and Product Public Relations
Units: 3 Terms Offered: Sp Planning, managing and evaluating integrated communications campaigns utilizing public relations strategies in concert with advertising and other marketing disciplines; emphasis on research, case studies and campaign development. Duplicates Credit in former JOUR 563 Instruction Mode: Lecture Grading Option: Letter

PR 565 Corporate Public Relations and Reputation
Units: 3 Learn all aspects of corporate communications and reputation management through real-time news analysis, cases and senior guest speakers from the world's largest, most admired companies. Duplicates Credit in former JOUR 565 Instruction Mode: Lecture Grading Option: Letter

PR 566 Public Relations for Multicultural and Niche Audiences
Units: 2 Developing, managing and evaluating campaigns designed to reach audiences segmented by culture, lifestyle and other factors. Duplicates Credit in former JOUR 566 Instruction Mode: Lecture Grading Option: Letter

PR 568 Crisis Management in Strategic Public Relations
Units: 3 Terms Offered: FaSpSm Focuses on theories, concepts and practices in risk assessment, issues monitoring, and crisis anticipation/management in a wide variety of organizational contexts, and from multiple perspectives. Duplicates Credit in former JOUR 568 Instruction Mode: Lecture Grading Option: Letter

PR 569 Ethics in Public Relations
Units: 3 Application of public relations principles to ethical conduct in a business, government agency, non-profit organization or consulting entity; emphasis on applicable cases and dialogue. Duplicates Credit in former JOUR 569 Instruction Mode: Lecture Grading Option: Letter

PR 583 Managing Communication in the Entertainment Industry
Units: 4 (Enroll in CMGT 543)

PR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

PR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

PR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

PR 597 Financial and Investor Communications
Units: 3 Terms Offered: Fa Provides a practical, working understanding of financial communications, concerned primarily with articulating a company's value. This applies to matters of corporate image and financial/investment environment. Open only to public relations and strategic public relations majors. *Prerequisite:* PR 508 or JOUR 508 [Inactive] Registration Restriction: Open only to Public Relations and Strategic Public Relations majors. Duplicates Credit in former JOUR 597 Instruction Mode: Lecture Grading Option: Letter

PR 599 Special Topics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 8 Terms Offered: FaSpSm Seminar in selected topics in journalism. Instruction Mode: Lecture Grading Option: Letter

Pharmaceutical Sciences

PSCI 501 Drugs: Principles of ADME and Bioavailability
Units: 4 Terms Offered: Fa Principles of drug formulation, delivery, metabolism and transport; influence of physicochemical properties, physiology, and pharmacogenetics on these properties; drug-drug interactions; and pharmacokinetics. Instruction Mode: Lecture Grading Option: Letter

PSCI 502 Principles of Therapeutic Mechanisms
Units: 4 Terms Offered: Fa Principles of mechanisms of actions of common drug classes, medicinal chemistry, pharmacology, drug interactions with protein targets, biologics, drug targeting and nanotechnology. Instruction Mode: Lecture Grading Option: Letter

PSCI 511 Drugs: Solubility, Dissolution and Absorption
Units: 2 Terms Offered: Fa Drug formulation based on physicochemical properties, ionization, solubility, rate of solution, partitioning; methods to improve these properties to enhance absorption. Instruction Mode: Lecture Grading Option: Letter

PSCI 512 Drugs: Metabolism and Transporters
Units: 2 Terms Offered: Sp Drug metabolism and transport, mechanism of CYP P450 enzymes, chemistry of metabolic pathways, prediction of metabolism, mechanism of drug uptake and efflux, drug-drug interactions. Instruction Mode: Lecture Grading Option: Letter

PSCI 513 Drugs: Biologics and Specialty Pharmaceuticals
Units: 2 Terms Offered: Sp Formulation and delivery of biologics, mechanism of action and use of biologics in major disease states, and value of specialty pharmaceuticals. Instruction Mode: Lecture Grading Option: Letter

PSCI 515 Drugs: Genetics and Pharmacogenetics
Units: 2 Terms Offered: Sp Drug-related genetics principles; pharmacogenetics influencing drug action, including individual responses to drugs based on SNPs; and genetic engineering and gene therapy. Instruction Mode: Lecture Grading Option: Letter

PSCI 531 Cell Biology
Units: 4 (Enroll in INTD 531)

PSCI 556 Principal Research Approaches and Scientific Writing
Units: 4 Terms Offered: Fa Familiarizes new graduate students with basic approaches used in biomedical research, with a focus on approaches in pharmaceutical, pharmacological and translational sciences. Provides an understanding of what to expect in the coming years as a graduate student doing biomedical research and in scientific writing. Instruction Mode: Lecture Grading Option: Letter

PSCI 557 Introduction to Tools and Techniques for Chemical Biology
Units: 2 Terms Offered: Sp Multidisciplinary science where the knowledge of chemistry is utilized to solve problems in biology, and biological systems are evolved to gain new functions. This course aims to establish a great opportunity for graduate students at the interface of biology and chemistry. *Recommended Preparation:* formal course work in chemistry and biochemistry. Instruction Mode: Lecture, Discussion Grading Option: Letter

PSCI 561 Molecular Biology
Units: 4 Terms Offered: Fa (Enroll in INTD 561)

PSCI 571 Biochemistry
Units: 4 Terms Offered: Fa (Enroll in INTD 571)

PSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for

the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. *Prerequisite:* completion of all required course work for the MS degree. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Topics in advanced pharmaceutical sciences. Instruction Mode: Lecture Grading Option: Letter

PSCI 633 Free Radical Chemistry, Biology, and Medicine
Units: 4 Terms Offered: Fa (Enroll in GERO 666)

PSCI 655 Immunopharmaceutics
Units: 2, 2 years Terms Offered: Fa Lectures and discussion sessions on pharmaceuticsrelated immunology, including drugs affecting the immune system, antibodies and cytokines as drugs, and new developments in immunobiotechnology. Instruction Mode: Lecture Grading Option: Letter

PSCI 662 Advanced Pharmacokinetics/ Pharmacodynamics
Units: 2 Max Units: 4.0 Terms Offered: FaSp Principles of advanced pharmacokinetics/ pharmacodynamics. Mathematical description of drug disposition processes. Design and evaluation of pharmacokinetic/ pharmacodynamic studies. Advanced approaches to parameter estimates. Instruction Mode: Lecture Grading Option: Letter

PSCI 664 Drug Discovery and Design
Units: 4 Terms Offered: FaSpSm Principles of drug discovery, design and characterization. Mechanisms of action of major classes of drugs. *Recommended Preparation:* college level chemistry and biology. Instruction Mode: Lecture Grading Option: Letter

PSCI 665 Drug Transport and Delivery
Units: 4 Terms Offered: Fa Principles of cellular drug transport, in vivo drug transport, and modern drug delivery, including drug targeting. *Recommended Preparation:* college level chemistry and biology. Instruction Mode: Lecture Grading Option: Letter

PSCI 667 Intracellular Drug Delivery and Targeting
Units: 2, 2 years Terms Offered: Sp Mechanisms of membrane trafficking and intracellular transport and the utilization of these mechanisms in drug delivery and targeting. *Recommended Preparation:* college level chemistry and biology, INTD 531. Instruction Mode: Lecture Grading Option: Letter

PSCI 756a Seminar in Pharmaceutical Sciences
Units: 1 Terms Offered: FaSpSm Review of current pharmaceutical and related research topics. Instruction Mode: Lecture Grading Option: Letter

PSCI 756b Seminar in Pharmaceutical Sciences
Units: 1 Terms Offered: FaSpSm Review of current pharmaceutical and related research topics. Instruction Mode: Lecture Grading Option: Letter

PSCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSCI 791L Research
Units: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: no max Directed research for the MS thesis or PhD dissertation.

PSCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Psychology

PSYC 100Lg Introduction to Psychology
Units: 4 Terms Offered: FaSpSm Factors that influence human behavior, including learning, thinking, perception, motivation, and emotion; analysis of determinants of development, adjustment, and maladjustment. Satisfies New General Education in Category D: Life Sciences Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 165Lg Drugs, Behavior and Society
Units: 4 Terms Offered: Irregular An integrative systems perspective of drugs; including their historical, economic, and cultural importance, psychopharmacology, addiction, relationship to crime, and therapeutic use in treating psychological disorders. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 201Lg The Science of Happiness
Units: 4 Evaluates scientific research on human happiness. Integrates research from psychology, economics, and neuroscience in the evaluation of personal and public policy choices. Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp (Enroll in SWMS 210) Satisfies Global Perspective in Category G: Citizenship in a Diverse World

PSYC 240gx Scientific Inquiry and Reasoning in Health Care
Units: 4 Critical analysis and reasoning skills required to solve scientific problems in human behavior, including presentation of data, logic of research design, statistics, and research ethics. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture Grading Option: Letter

PSYC 274Lg Statistics
Units: 4 Terms Offered: FaSpSm Introduction to the use of statistics in psychology: basic ideas in measurement; frequency distributions; descriptive statistics; concepts and procedures in statistical inference. *Recommended Preparation:* PSYC 100. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 275Lg Language and Mind
Units: 4 Terms Offered: FaSp (Enroll in LING 275)

PSYC 290x Supervised Research in Psychology
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Supervised Research with department faculty. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 301L Cognitive Processes
Units: 4 Terms Offered: Irregular Experimental and theoretical aspects of human memory, perception, thinking, and language. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 304L Sensation and Perception
Units: 4 Terms Offered: Irregular Receptor processes and stimulus organization; traditional topics in the perception of objects, space, time. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 305 Learning and Memory
Units: 4 Terms Offered: Irregular Principles involved in classical and operant conditioning. Concentration on basic causes of behavior; consideration of the relevance of simple behavioral laws to complicated human behavior. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 314L Research Methods
Units: 4 Terms Offered: FaSpSm Experimental research methods in psychology; nature and concepts of scientific method. *Prerequisite:* PSYC 100 and PSYC 274. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 316L Non-Experimental Research Methods
Units: 4 Terms Offered: FaSpSm Non-experimental research methods in psychology. Observational, survey and data analysis exercises. *Prerequisite:* PSYC 100 and PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 320 Principles of Psychobiology
Units: 4 Terms Offered: Irregular The integrative study of bio-behavioral systems. Evolutionary, developmental, ecological, social, ethological, and physiological factors mediating representative behavioral and psychological phenomenon are examined in detail. *Prerequisite:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 326 Behavioral Neuroscience
Units: 4 Terms Offered: FaSp Neural bases of behavior. Concentration on sensory and motor processes and the interaction of neural, chemical, and hormonal systems. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 336L Developmental Psychology
Units: 4 Terms Offered: FaSp Child and adolescent behavior and associated theories; exploration of the continuity between child and adult behavior. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 337L Adult Development and Aging
Units: 4 Genetic, physical, and social influences during adult years on perception, learning and memory, intelligence, personality, social roles, and normal and deviant behavioral patterns. *Prerequisite:* PSYC 100. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 339Lg Origins of the Mind
Units: 4 Terms Offered: Sp Exploration of ancient philosophical questions concerning the origins of human knowledge through empirical studies of infants, animals, and adults from diverse cultures. Satisfies New General Education in Category D: Life Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 353g Close Relationships
Units: 4 Terms Offered: FaSp Scientific perspective of close relationships: intimate relationships, friendships and others, evolutionary and biological bases of attraction and love, historical, social , cultural influences. *Prerequisite:* PSYC 100. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

PSYC 355 Social Psychology
Units: 4 Terms Offered: FaSp Theoretical and experimental analysis of human behavior. Social processes involved in attitudes, conformity, compliance, interpersonal perception, liking, affiliation, aggression, altruism, and group dynamics. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 360 Abnormal Psychology
Units: 4 Terms Offered: FaSp The commonly diagnosed behavior pathologies; biological, social, cultural, and developmental antecedents of abnormal behavior; principles of learning, perception, and motivation, as they relate to psychopathology. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 361 Introduction to Clinical Psychology
Units: 4 Terms Offered: Irregular Introduction to the scientist-practitioner model of clinical psychology, including research methods, psychological assessment and diagnosis, psychotherapeutic interventions, and treatment of special populations. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 363 Criminal Behavior
Units: 4 Genetic, biological, psychological, and sociological characteristics of those who evidence criminal behavior; theoretical formulations to be reviewed and appraised. *Prerequisite:* PSYC 100. Duplicates Credit in the former PSYC 463. Instruction Mode: Lecture Grading Option: Letter

PSYC 365 Introduction to Forensic Psychology
Units: 4 Terms Offered: FaSpSm Survey of current topics, technologies and techniques. Students acquire a basic understanding of how forensic psychologists contribute their unique expertise to the American legal system. *Prerequisite:* PSYC 100. Duplicates Credit in the former PSYC 465. Instruction Mode: Lecture Grading Option: Letter

PSYC 367g Stress, Health, and the Mind-Body Connection
Units: 4 Terms Offered: Fa Introduction to psychological, biological, and behavioral processes affecting physical health, including stress, coping with disease, health behaviors, and socioeconomic and cultural influences on health. *Prerequisite:* PSYC 100 Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

PSYC 372 Human Sexuality
Units: 4 Psychological and physiological base of sexuality; gender identity, childbearing, birth control, venereal diseases; dysfunctions and treatments. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-372

PSYC 380 Junior Honors Seminar
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Advanced study of scientific inquiry in psychology with in-depth analysis of current research by faculty in the Psychology Department. Preparation for senior honors thesis research. *Corequisite:* PSYC 314. Instruction Mode: Lecture Grading Option: Letter

PSYC 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PSYC 391 Directed Field Experience in Psychology
Units: 1, 2, 3, 4 Max Units: 4.0 Terms Offered: FaSpSm Individual field experience and independent study supervised by an on-site professional and USC faculty sponsor. *Prerequisite:* PSYC 100; *Recommended Preparation:* minimum of three courses completed in psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 404L Psychophysiology of Emotion
Units: 4 Terms Offered: Irregular Introduction to the scientific study of emotional behavior. Emphasizes research into relations between physiological and psychological variables underlying emotional experience. *Prerequisite:* PSYC 100, PSYC 274, and PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 405 Child Language Acquisition
Units: 4 (Enroll in LING 405)

PSYC 406 Psycholinguistics
Units: 4 (Enroll in LING 406)

PSYC 407 Atypical Language
Units: 4 (Enroll in LING 407)

PSYC 412 Current Topics In Social Psychology
Units: 4 Terms Offered: Sp Extensive examination of select current research in social psychology, based on original research papers. Specific topics change by semester. *Prerequisite:* PSYC 274Lg and PSYC 314L Instruction Mode: Lecture Grading Option: Letter

PSYC 415L Psychological Measurement
Units: 4 Classical and modern approaches to psychological measurement; scaling; test construction; true score reliability model; generalizability theory; validity; decision theoretic selection; item analysis; item response theory. *Prerequisite:* PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 418 Experimental Exploration into the Origins of Cognition
Units: 4 Exploration of the origins of cognition via the basics of experimental design, 3D computer modeling, data analysis, and scientific presentation. *Recommended Preparation:* PSYC 314 or background in experimental research. Instruction Mode: Lecture Grading Option: Letter

PSYC 420 Animal Behavior
Units: 4 Exploration of human nature through studies of nonhuman animals, including topics of navigation, culture, object representation, social cognition, music, and morality. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 421L Data Analysis for Psychological Research
Units: 4 Multivariate analysis emphasizing

model estimation and testing; topics vary, e.g., multiple regression, logistic regression, factor analysis, multilevel linear modeling, structural equation modeling, multiway frequency analysis. *Prerequisite:* PSYC 314. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 422 Human Judgment and Decision Making
Units: 4 Descriptive and normative models of decision making; topics include probability judgments, inference, correlation, emotion, mental accounting, decision analysis, lens model, equity, social dilemmas, time, risk. *Prerequisite:* PSYC 314. Instruction Mode: Lecture Grading Option: Letter

PSYC 423 User Experience
Units: 4 Terms Offered: FaSp (Enroll in MDA 423)

PSYC 424 Neuropsychology
Units: 4 Terms Offered: Irregular Effects of brain damage on human behavior and abilities, particularly language, memory, and emotion. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR 424

PSYC 425 Functional Imaging of the Human Brain
Units: 4 Terms Offered: Irregular Introduction to the physical and physiological bases of Magnetic Resonance Imaging (MRI), and principles of functional MRI, safety, design and analysis of experiments, and operation. *Prerequisite:* PSYC 100Lg and PSYC 274Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 426 Motivated Behaviors and Addiction
Units: 4 Terms Offered: Other Social, environmental, and physiological influences on behaviors associated with aggression, eating, reproduction, and sleep. Will focus on behavioral disorders such as addiction. *Prerequisite:* PSYC 100 *Recommended Preparation:* Junior or Senior Standing Instruction Mode: Lecture Grading Option: Letter

PSYC 428 Advanced Psychobiology Seminar
Units: 4 Terms Offered: FaSp Topics in psychobiology, including brain mechanisms that provide for perception, motivation, and memory. Student led mini-lectures and discussion in seminar format. *Prerequisite:* PSYC 304L or PSYC 326 Instruction Mode: Lecture Grading Option: Letter

PSYC 430 Social Development of Infants, Children and Adolescents
Units: 4 An analysis of selected topics and issues in child social development. *Prerequisite:* PSYC 100; *Recommended Preparation:* PSYC 274, PSYC 314, PSYC 336. Instruction Mode: Lecture Grading Option: Letter

PSYC 433 Children's Learning and Cognitive Development
Units: 4 Principles of cognitive development, learning, and motivation applied to the development of literacy; includes tutoring a child two hours per week. *Prerequisite:* PSYC 336. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-433

PSYC 434 Intelligence, Problem Solving and Creativity
Units: 4 Psychometric and experimental approaches to the study of intelligence, problem solving, reasoning and creativity, including analysis of mental test construction and validity. *Prerequisite:* PSYC 100 and PSYC 274. Instruction Mode: Lecture Grading Option: Letter

PSYC 437 Adolescent Development
Units: 4 Terms Offered: FaSp The adolescent years from both an applied and a research-oriented perspective. Topics include physical, cognitive, and moral development; socialization; and sexual and sex-role development. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 438 Behavioral Genetics
Units: 4 Terms Offered: Irregular Inheritance and evolution of behavioral characteristics in man and other species. *Prerequisite:* PSYC 274. Instruction Mode: Lecture Grading Option: Letter

PSYC 440 Introduction to Cognitive Neuroscience
Units: 4 Terms Offered: Sp Introduction to the major components of cognition (perception, memory, intelligence) in terms of the neural coding characteristic of the relevant brain areas. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NEUR-440

PSYC 450 Neural Network Models of Social and Cognitive Processes
Units: 4 Terms Offered: Irregular Introduction to using neural network or connectionist models to simulate cognitive, social, emotional and motivational processes; basic concepts and tools in computational neuroscience. *Prerequisite:* PSYC 100Lg *Recommended Preparation:* Basic knowledge of programming is helpful, but not required Instruction Mode: Lecture Grading Option: Letter

PSYC 451 Formation and Change of Attitudes
Units: 4 Terms Offered: Irregular Effects of socialization, personal influence, propaganda and social structure on private attitudes and public opinion. *Prerequisite:* PSYC 100 and PSYC 355. Instruction Mode: Lecture Grading Option: Letter

PSYC 453 Intergroup Relations
Units: 4 Examination of the nature of relations between human groups and the psychological mechanisms relating to intergroup conflict, war, genocide, stereotyping, prejudice, and discrimination. *Prerequisite:* PSYC 355. Instruction Mode: Lecture Grading Option: Letter

PSYC 454 Social Cognition
Units: 4 Terms Offered: Irregular Theory and research on cognitive processes in social behavior, to include social inference, cognition and emotion, the Self, social categorization, person memory, and attribution processes. *Prerequisite:* PSYC 100; PSYC 355 recommended. Instruction Mode: Lecture Grading Option: Letter

PSYC 456 Conservation Psychology
Units: 4 Terms Offered: Fa Examination of theories, research, interventions regarding psychology of environmental sustainability including cognition, emotion, behavior, attitudes, persuasion, values, social identity, consumerism, and science of happiness. *Recommended Preparation:* PSYC 100Lg Instruction Mode: Lecture Grading Option: Letter

PSYC 459 Industrial/Organizational Psychology
Units: 4 I/O Psychologists develop and apply scientifically supported solutions to the workplace. "Industrial" deals with human resource functions, and "Organizational" with psychological aspects of the organization. *Prerequisite:* PSYC 100 *Recommended Preparation:* PSYC 316 Instruction Mode: Lecture Grading Option: Letter

PSYC 462m Culture and Mental Health
Units: 4 Terms Offered: Irregular The influence of culture, ethnicity, race and gender on human behavior. Mental health issues relevant to ethnic minorities in the U.S. *Recommended Preparation:* sophomore standing or higher; PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 464 Psychology of Marriage and the Family
Units: 4 Theories and research on family relationships across the life span, including research methods, cultural and developmental perspectives, communication, conflict, attachment, individual psychopathology and family violence. *Prerequisite:* PSYC 100. Instruction Mode: Lecture Grading Option: Letter

PSYC 469 Schizophrenia Research
Units: 4 Terms Offered: Irregular Current research on possible causes of schizophrenia. Topics: history, diagnosis, genetics, neural development, obstetrics, psychosocial factors, brain imaging, psychopharmacology, premorbid signs and aging. *Prerequisite:* PSYC 100; *Recommended Preparation:* read current professional journals related to schizophrenia. Instruction Mode: Lecture Grading Option: Letter

PSYC 480x Senior Honors Seminar
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Advanced study of empirical approaches in psychology. Progress presentations and evaluations of Senior Honors Thesis research. In-depth exploration of issues in science. *Prerequisite:* senior standing in Psychology Undergraduates Honors Program. Instruction Mode: Lecture Grading Option: Letter

PSYC 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

PSYC 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Selected topics in the various specialty areas within psychology. Topic will vary from semester to semester. *Prerequisite:* PSYC 100. Instruction Mode: Lecture

Grading Option: Letter

PSYC 500L An Overview of Quantitative Methods in Psychology
Units: 4 Team taught introduction to analysis of variance, regression analysis, multivariate measurement, and significance testing. Computer laboratory linked to class material using SAS, SPSS, and R. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 501L Statistics in Psychological Research
Units: 4 Terms Offered: Fa Basic statistical principles and techniques as well as modern improvements on classic inferential methods. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 502L Analysis of Variance and Experimental Design
Units: 4 Terms Offered: Sp ANOVA, including three-way and within groups designs, multiple comparisons, ANCOVA, plus related methods based on robust smoothers and multivariate techniques. *Prerequisite:* PSYC 501. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 503L Regression and the General Linear Model
Units: 4 Terms Offered: Fa Multiple regression as a tool in experimental and non-experimental data; analysis of variance and covariance as regression on coded variables. Computer applications Laboratory exercises. *Prerequisite:* PSYC 501. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 504 Research Design
Units: 4 Terms Offered: Sp Intensive review of research methods in the behavioral sciences. Problem analysis, formulation of research propositions, and procedures for research inference. Instruction Mode: Lecture Grading Option: Letter

PSYC 505 Research Methods in Applied Social Psychology
Units: 4 Terms Offered: FaSpSm Various research techniques that are useful in a variety of different real world settings, such as business, governmental agencies and charities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 506 Learning and Cognition
Units: 4 Terms Offered: Irregular Survey of learning theory and research, including conditioning and information-processing approaches with human and animal subjects. Instruction Mode: Lecture Grading Option: Letter

PSYC 508 Historical Foundations of Psychology
Units: 4 Terms Offered: Irregular History of psychology: clinical, cognitive, developmental, experimental, quantitative, and social; epistemology and philosophy of science as applied to psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 512 Seminar in Social Psychology
Units: 4 Terms Offered: Fa Problems and theories of the person in the social context. Person perception, interpersonal relations, attitude dynamics, social systems. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-601

PSYC 513 Attitudes and Social Influence
Units: 4 Terms Offered: FaSpSm Current theories of attitudes and behavior, measurement, attitudes as predictors of behaviors, effects on changing attitudes and behavior. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 514 Psychopathology
Units: 4 Terms Offered: Fa Study of psychopathology: in-depth survey of theory and research concerning psychological disorders; introduction of diagnosis. (One of three clinical psychology core courses: PSYC 514, PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 515 Clinical Assessment
Units: 4 Terms Offered: Fa Study of clinical assessment: test construction, measurement and prediction of behavior, major cognitive and personality assessment instruments. (One of three clinical psychology core courses: PSYC 514 , PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 517 Group Dynamics and Leadership
Units: 4 Terms Offered: FaSpSm Theory and research on effective teams and characteristics of strong leaders. Negotiation, morale-building, managing expectancies, utilization of cultural diversity as a strength. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 520 Fundamentals of Psychological Measurement
Units: 4 Factor analysis; latent variable; scaling; test construction; classical true score reliability model; generalizability theory; validity; decision theoretic approaches to selection; item analysis; item response theory. Instruction Mode: Lecture Grading Option: Letter

PSYC 521 Cross Cultural Psychology in Applied Settings
Units: 4 Terms Offered: FaSpSm Examination of major theoretical frameworks mapping worldwide cultures and values with a focus on applying that knowledge in organizations. Registration Restriction: Open only to students in Applied Psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 524 Research Design in Developmental Psychology
Units: 4 Terms Offered: Irregular Review and practice in the analysis and design of experimental and quasiexperimental paradigms for research on ontogenetic age changes and generational differences in behavior. Instruction Mode: Lecture Grading Option: Letter

PSYC 530 Concepts and Principles of Behavior Analysis
Units: 3 Terms Offered: Fa Provides intensive training in behavioral principles and laws of learning and motivation. Focuses on broad application of principles, from basic research with nonhumans, to application across human clinical populations. Instruction Mode: Lecture Grading Option: Letter

PSYC 531 Behavioral Assessment
Units: 2 Terms Offered: Fa Studies theory and application of behavioral methods for skill assessment, functional assessment of destructive behavior, and learner motivation. Discusses relative strengths and limitations of direct versus indirect methods. Instruction Mode: Lecture Grading Option: Letter

PSYC 532 Ethics for Behavior Analysts
Units: 3 Terms Offered: Fa Provides training in legal and ethical issues as they pertain to the professional practice of behavior analysis. Reviews the Guidelines for Responsible Conduct for Behavior Analysts, as well as the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct. Instruction Mode: Lecture Grading Option: Letter

PSYC 533 Cognitive Development in Children
Units: 4 Terms Offered: Sp Review of theories of cognitive development. Analysis of research on brain functioning, perception, memory, language, reasoning and academic skills from birth to adolescence. Instruction Mode: Lecture Grading Option: Letter

PSYC 534 Social and Emotional Development in Children
Units: 4 Terms Offered: Fa Theories of social and emotional development, including sociocultural perspectives. Analysis of research on temperament, social relationships, individuation and moral development from birth to adolescence. Instruction Mode: Lecture Grading Option: Letter

PSYC 535 Research Methods in Behavior Analysis
Units: 3 Terms Offered: Sp Survey of methods for measuring behavior. Examines theoretical background for single subject research methods, practical application of research methods to treatment evaluation, and analyzes strengths and limitations of single subject research methods. Instruction Mode: Lecture Grading Option: Letter

PSYC 536 Behavioral Interventions
Units: 3 Terms Offered: Sp Examines empirically supported behavioral interventions across a range of socially relevant behavioral excesses, skill deficits, disorders, and age ranges. Focuses on least-intrusive, person-centered approaches. Instruction Mode: Lecture Grading Option: Letter

PSYC 537 Development and Supervision of Intervention Systems
Units: 2 Terms Offered: Fa Analyzes evidence-based approaches to designing behavior change systems at the individual, family, group, and organizational levels.

Examines family and systems variables that affect the likelihood of initial and continued success of interventions. *Prerequisite:* PSYC 530 and PSYC 536 Instruction Mode: Lecture Grading Option: Letter

PSYC 538 Origins of Human Nature
Units: 4 Exploration of the evolutionary and developmental origins of human nature. Topics include navigation, object and number cognition, culture, sexual behavior, cooperation, language, and morality. Instruction Mode: Lecture Grading Option: Letter

PSYC 539 Behavioral Approaches to Skill Acquisition
Units: 2 Terms Offered: Fa Examines contemporary research on behavioral procedures for teaching complex skills to individuals of a variety ages and populations, including language, social, cognitive, vocational, and independent living skills. Instruction Mode: Lecture Grading Option: Letter

PSYC 540 Cognitive Neuroscience
Units: 4 Terms Offered: Sp An examination of the major components of cognition (e.g., perception, memory, intelligence) in terms of the neural coding characteristic of the relevant brain areas. Instruction Mode: Lecture Grading Option: Letter Crosslisted as NSCI 533

PSYC 544 Psychophysiology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Recent research on relations between basic psychological states (e.g., cognition, learning, emotion) and physiological response processes (e.g., autonomic responses, covert muscle activity). Instruction Mode: Lecture Grading Option: Letter

PSYC 545 Neuropsychology
Units: 4 Terms Offered: Irregular Brain mechanisms underlying perceptual and cognitive functioning: brain damage, loss of function, and clinical assessment. Instruction Mode: Lecture Grading Option: Letter

PSYC 547 Functional Neuroanatomy
Units: 4 Terms Offered: Irregular Regional organization and systems of the mammalian nervous system and their functions. Instruction Mode: Lecture Grading Option: Letter

PSYC 550a Proseminar in Human Behavior
Units: 4 Terms Offered: FaSpSm The nature of the human mind, social interactions, conflicts, cooperative behavior, mutual influence and effectiveness. Application of psychological principles to the dynamics of commercial entities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 550b Proseminar in Human Behavior
Units: 4 Terms Offered: FaSpSm The nature of the human mind, social interactions, conflicts, cooperative behavior, mutual influence and effectiveness. Application of psychological principles to the dynamics of commercial entities. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 551 Decision Neuroscience
Units: 4 Neuroscientific studies attempting to understand the neural basis of judgment and decision-making, social behavior, and market economies. *Recommended Preparation:* PSYC 547. Instruction Mode: Lecture Grading Option: Letter

PSYC 552 Principles of Consumer Psychology
Units: 4 Examination of the attitudes and decisions of consumers, and how to effectively reach consumers by using persuasion and proper positioning in the marketplace. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 555 Introduction to Functional Magnetic Resonance Imaging
Units: 4 Terms Offered: FaSp The physical and physiological bases of MRI and fMRI. Design and analysis of fMRI experiments. Operation of a magnetic resonance imaging system. Instruction Mode: Lecture Grading Option: Letter

PSYC 556 Psychology of Interactive Media
Units: 4 Examination of the diverse methods of communicating with a target audience with a special emphasis on the newest computer-based tools for providing information and influence. Registration Restriction: Open only to Applied Psychology (MS) students Instruction Mode: Lecture Grading Option: Letter

PSYC 565x Organizational Psychology
Units: 4 Terms Offered: FaSpSm Examination of the psychological factors that impact employee motivation, job satisfaction, teamwork, leadership, and organizational development. Registration Restriction: Open only to Master of Applied Psychology students. Instruction Mode: Lecture Grading Option: Letter

PSYC 566 The Psychology of Employee Selection and Assessment
Units: 1 Max Units: 04 Terms Offered: FaSpSm Develop an understanding of recruitment and selection practices, processes, and approaches into the strategic role that recruitment and selection plays in organizational success. *Prerequisite:* PSYC 565x Registration Restriction: Open only to graduate Applied Psychology students Instruction Mode: Lecture Grading Option: Letter

PSYC 575L Multivariate Analysis of Behavioral Data
Units: 4 Terms Offered: Irregular Multivariate statistical models and contemporary computer methods in multiple regression, multivariate analysis of variance, factor analysis, canonical correlation, repeated measures analysis, and structural equation modeling. *Prerequisite:* PSYC 500. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PSYC 576 Psycholinguistics
Units: 3 Terms Offered: Fa (Enroll in LING 576)

PSYC 577 Analysis of Covariance Structures
Units: 4 Terms Offered: Irregular Multivariate analysis of non-experimental data, including structural equation modeling, path analysis, and confirmatory factor analysis. Computer applications using variety of optimization routines and purpose-written software. *Prerequisite:* PSYC 503. Instruction Mode: Lecture Grading Option: Letter

PSYC 578 Workshop in Quantitative Methods
Units: 4 Max Units: 8.0 Practical, hands-on experience in the application of selected quantitative methods to empirical data. Includes training in use of relevant computer software. *Prerequisite:* PSYC 501 and either PSYC 502 or PSYC 503. Instruction Mode: Lecture Grading Option: Letter

PSYC 586 Advanced Psycholinguistics
Units: 3 Max Units: max 9 (Enroll in LING 586)

PSYC 587 Practicum in Applied Behavior Analysis
Units: 2 Max Units: 10 Terms Offered: FaSpSm Provides supervised practical experience in implementing behavior analytic assessment and treatment services. Meets supervision requirements for the Board Certified Behavior Analyst exam. Students meet with course instructor to present and discuss cases for two hours per week every semester, including one summer session. Practicum hours in the field vary from 18-20 hours per week during the academic year to 30 hours per week during the summer. Instruction Mode: Lecture Grading Option: Letter

PSYC 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 591 Applied Psychology Internship
Units: 2, 3, 4, 5, 6, 7, 8 Max Units: 8.0 Terms Offered: FaSpSm Internship in a non-university setting, such as business, governmental agency, or NGO. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 592 Applied Psychology Treatise
Units: 2 Terms Offered: FaSpSm Requires a research paper of substantial length and high quality that integrates the Internship experience with concepts and principles of human behavior. Registration Restriction: Open only to M.S., Applied Psychology students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593) Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 594a Master's Thesis

Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 594b Master's Thesis
Units: 2 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 594z Master's Thesis
Units: 0 Terms Offered: FaSp Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 595 Practicum in Clinical Psychology
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Supervised experience in interviewing skills and assessment, including psychological test administration and the preparation of reports. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 596 Advanced Behavioral Theory
Units: 2 Terms Offered: Sp Examines advanced topics in behavioral theory and philosophy, including a comprehensive behavioral approach to language and cognition. Discusses the nature of productive relations between behavior analysis and other psychological theories. *Prerequisite:* PSYC 530 Instruction Mode: Lecture Grading Option: Letter

PSYC 597a Capstone Project in Behavior Analysis
Units: 2 Terms Offered: FaSp Supervision for completing independent project, consisting of practical treatment evaluation, program development, or literature review. Instruction Mode: Lecture Grading Option: Letter

PSYC 597b Capstone Project in Behavior Analysis
Units: 2 Terms Offered: FaSp Supervision for completing independent project, consisting of practical treatment evaluation, program development, or literature review. Instruction Mode: Lecture Grading Option: Letter

PSYC 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in the various speciality areas within psychology at the graduate level. Topic will vary from semester to semester. Instruction Mode: Lecture Grading Option: Letter

PSYC 602 Self-concept and Motivation
Units: 4 Graduate-level depth-and-breadth course using a social psychological perspective on self-concept. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDUC-602

PSYC 612 Seminar in Advanced Social Psychology
Units: 4 Max Units: 16.0 Terms Offered: Irregular An intensive consideration of selected concepts, theories, and research problems in social psychology. *Prerequisite:* PSYC 512. Instruction Mode: Lecture Grading Option: Letter

PSYC 616 Research Techniques for Non-Experimental Social Science
Units: 4 Terms Offered: Irregular Quasiexperimental designs; causal inference from correlational research, techniques for evaluating measures of attitude, personality, and social motives: observational methods; content analysis; sampling and survey techniques. Instruction Mode: Lecture Grading Option: Letter

PSYC 619 Psychological Intervention
Units: 4 Terms Offered: Sp Study of clinical psychological treatment: research and theory about major psychological approaches to intervention. (One of three clinical psychology core courses: PSYC 514, PSYC 515, PSYC 619.) Instruction Mode: Lecture Grading Option: Letter

PSYC 621 Seminar in Quantitative Psychology
Units: 4 Max Units: 12.0 Terms Offered: Irregular Selected topics in mathematical psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 622 Decision Analysis and Behavioral Decision Theory
Units: 4 Terms Offered: Irregular Normative and descriptive theories and research on human decision-making, with special emphasis on applications to real social decision problems. Instruction Mode: Lecture Grading Option: Letter

PSYC 625 Advanced Big Data Methods
Units: 4 Machine learning techniques, including Bayesian and Neural Networks, for analyzing different types of human-generated data. *Recommended Preparation:* PSYC 501. Instruction Mode: Lecture Grading Option: Letter

PSYC 626 Computational Social Sciences
Units: 4 Discussion of advances in computational social sciences, including automated text and network analysis. *Recommended Preparation:* PSYC 625. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CSCI-626

PSYC 660 Seminar in Clinical Psychology
Units: 4 Max Units: 8.0 Terms Offered: Irregular Selected topics in clinical psychology. Instruction Mode: Lecture Grading Option: Letter

PSYC 663 Computational and Cognitive Neuroscience
Units: 4 (Enroll in CSCI 663)

PSYC 676 Seminar in Psycholinguistics
Units: 3 Max Units: max 12 (Enroll in LING 676)

PSYC 691a Internship in Clinical Psychology
Units: 0 Terms Offered: FaSp Supervised clinical work in an approved mental health setting. *Prerequisite:* good standing in clinical program and departmental approval. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 691b Internship in Clinical Psychology
Units: 0 Terms Offered: FaSp Supervised clinical work in an approved mental health setting. *Prerequisite:* good standing in clinical program and departmental approval. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 695 Advanced Practicum in Clinical Psychology
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSp Didactic practicum combining theory and research on psychological intervention with clinical practice in assessment and treatment, focused on particular client groups or disorders. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PSYC 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PSYC 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Physical Therapy

PT 509 Cellular and Systems Physiology
Units: 3 Terms Offered: Fa Selected subjects in cellular and systems physiology. Emphasis on molecular and cellular aspects of neuromuscular function; also renal and endocrine physiology. Instruction Mode: Lecture Grading Option: Letter

PT 514L Musculoskeletal Anatomy
Units: 4 Terms Offered: Fa Musculoskeletal anatomy, innervation, blood supply, and function: intensive study of the head, neck, trunk, and limbs. Lecture, dissection laboratory. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 516 Principles of Disease
Units: 1 Terms Offered: Sm Principles and mechanisms of genetics, immunology, infection, wound healing, and oncology. Instruction Mode: Lecture Grading Option: Letter

PT 521L Basics of Patient Management
Units: 4 Terms Offered: Fa Development of basic decision-making skills, professional behaviors and impairment assessment in patients with musculoskeletal neurologic and/or cardiopulmonary dysfunction. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 529 Life Span Motor Control
Units: 2 Terms Offered: Sm Introduction to sensorimotor systems, overview of current perspectives in motor control from fetus through late adulthood, and clinical tests of motor proficiency. Instruction Mode: Lecture Grading Option: Letter

PT 530a Therapeutic Exercise
Units: 2 Terms Offered: Sp Theoretical and practical principles for evaluation of exercise need and prescription of exercise programs. Emphasis on approaches for patients with musculoskeletal deficits. Duplicates Credit in former PT 530. Instruction Mode: Lecture Grading Option: Letter

PT 530b Therapeutic Exercise
Units: 2 Terms Offered: Sm Examination of needs analysis and prescription of exercise programs for special patient populations and assessment of current community trends in exercise and wellness. Duplicates Credit in former PT 530. Instruction Mode: Lecture Grading Option: Letter

PT 534L Neuroanatomy
Units: 3 Terms Offered: Fa Organized approach to structures in the brain, spinal cord and peripheral nervous systems that subserve motor, sensory, and integrative functions, memory, cognitive and special senses. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 536 Pathology of Cardiopulmonary Disease and General Medical Conditions
Units: 3 Terms Offered: Fa Pathology and pathophysiological mechanisms in disease of the cardiac, pulmonary and circulatory systems; examination of diabetes, burns, and other disabling medical disorders. *Prerequisite:* PT 509, PT 514, PT 516, PT 621, PT 529. Instruction Mode: Lecture Grading Option: Letter

PT 539 Clinical Pharmacology
Units: 1 Terms Offered: Fa Effects of commonly used drugs in patients with physical disability; side effects that alter physical performance or responses to exercise. Instruction Mode: Lecture Grading Option: Letter

PT 546 Neuropathology
Units: 3 Terms Offered: Sp Pathology in the central and peripheral nervous systems that alter motor and sensory performance. Emphasis on loss of motion, excessive and involuntary movement disorders. *Prerequisite:* PT 516, PT 534. Instruction Mode: Lecture Grading Option: Letter

PT 549L Clinical Exercise Physiology
Units: 4 Terms Offered: Fa Adaptation of the human body to exercise and the use of exercise to modify human function. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 551L Therapeutic Application of Physical Agents
Units: 3 Terms Offered: Sm Physiologic responses to the application of thermal, mechanical, electromagnetic and hydrodynamic therapeutic procedures. Evaluation procedures and intervention planning. *Prerequisite:* PT 521L Instruction Mode: Lecture, Lab Grading Option: Letter

PT 554L Analytical Anatomy
Units: 3 Terms Offered: Sp Detailed kinesiologic analysis of axial, spine, head, neck, face and bulbar muscles. *Prerequisite:* PT 514. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 561a Evidence for Physical Therapist Practice
Units: 2 Introduction to a patient-centered Evidence Based Practice model with emphasis on professional communication skills, ethics, professional guidelines, laws and regulations. Instruction Mode: Lecture Grading Option: Letter

PT 561b Evidence for Physical Therapist Practice
Units: 2 Introduction to acquiring, appraising and integrating research evidence. Instruction Mode: Lecture Grading Option: Letter

PT 561c Evidence for Physical Therapist Practice
Units: 2 Advanced critical analysis and application of research of evidence. Instruction Mode: Lecture Grading Option: Letter

PT 561d Evidence for Physical Therapist Practice
Units: 2 Advanced integration of patient values as influenced by culture, ethnicity, lifestyles, gender, and age into patient-centered clinical decision making. Instruction Mode: Lecture Grading Option: Letter

PT 561e Evidence for Physical Therapist Practice
Units: 2 Analysis of the integration of physical therapist practice into the national health care system; administration, budgeting and reimbursement for physical therapist services. Instruction Mode: Lecture Grading Option: Letter

PT 566 Disorders of the Musculoskeletal System
Units: 3 Terms Offered: Sp Regional description of pathology and pathophysiological mechanisms of disorders of bone, connective tissue, and joints. Lecture, demonstration. Instruction Mode: Lecture Grading Option: Letter

PT 569 Fundamentals of Neuroscience
Units: 4 Terms Offered: Sp Detailed analysis of neurophysiologic mechanisms underlying normal and abnormal motor and sensory function. *Prerequisite:* PT 509, PT 516, PT 529, PT 534. Instruction Mode: Lecture Grading Option: Letter

PT 571L Clinical Management of Cardiopulmonary Dysfunction
Units: 4 Terms Offered: Fa Physical therapy evaluation and intervention in the care of patients with circulatory, cardiac, or pulmonary dysfunction. Lecture, case presentations, laboratory. *Prerequisite:* PT 521. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 574 Clinical Biomechanics
Units: 3 Terms Offered: Sp Introduction to the principles of biomechanics (statics, dynamics) as they apply to physical therapy practice. Emphasis on tissue mechanics, joint function and gait. *Prerequisite:* PT 554. Instruction Mode: Lecture Grading Option: Letter

PT 581L Clinical Management of the Patient with Neurological Dysfunction
Units: 5 Terms Offered: Sp Physical therapy theory and methods for intervention in neurological dysfunction. *Prerequisite:* PT 509, PT 516, PT 521 , PT 529, PT 534. Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 582 Mechanics of Human Gait
Units: 2 Terms Offered: Fa Introduction to both normal and pathological gait. Emphasis on the basic components of abnormal ambulation including temporal-spatial factors, joint motion, kinetics, kinematics, and muscle activity. Instruction Mode: Lecture Grading Option: Letter

PT 583L Clinical Electrophysiology
Units: 1 Terms Offered: Sp Use of electrical currents to evaluate and treat musculoskeletal, neurological and wound disorders. Theory and practice. *Prerequisite:* PT 514L and PT 554L Instruction Mode: Lecture, Lab Required Grading Option: Letter

PT 600a Clinical Experience
Units: 1 Terms Offered: FaSpSm Practical experience in two- or six-week physical therapy manual skills, decision making and professional behaviors. Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600b Clinical Experience
Units: 3 Terms Offered: FaSpSm Practical experience in six-week physical therapy manual skills, decision making, and professional behaviors. *Prerequisite:* PT 600a Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600c Clinical Experience
Units: 1 Terms Offered: FaSpSm Practical experience in two-week physical therapy psychomotor skills, decision making and professional behaviors. *Prerequisite:* PT 600b Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600d Clinical Clerkship
Units: 4 Terms Offered: FaSpSm Practical experience in eight week physical therapy psychomotor skills, decision making and professional behaviors. *Prerequisite:* PT 600c Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 600z Clinical Clerkship
Units: 0 Terms Offered: FaSpSm Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 606 Clinical Imaging
Units: 2 Terms Offered: Sp Elements of reading roentgenographs, CAT and MRI scans for the physical therapist. Lecture, demonstration, practical experience. Instruction Mode: Lecture Grading Option: Letter

PT 621L Clinical Management of the Patient with Musculoskeletal Dysfunction
Units: 5 Terms Offered: Sp Physical therapy theory and methods of evaluation and treatment of orthopedic dysfunction. *Prerequisite:* PT 514, PT 521. Instruction Mode: Lecture, Lab Required Grading

Option: Letter

PT 630 Integrated Management of the Upper and Lower Extremities
Units: 3 Terms Offered: FaSp Advanced evaluation and management of upper and lower extremity disorders and related movement dysfunction. *Prerequisite:* PT 600e . Instruction Mode: Lecture Grading Option: Letter

PT 631 Integrated Patient Management of the Axial Skeletal System and Related Movement Disorders
Units: 3 Terms Offered: FaSp Advanced assessment and management of axial skeletal dysfunctions and related movement disorders. *Prerequisite:* PT 600e . Instruction Mode: Lecture Grading Option: Letter

PT 632 Integrated Patient Management Seminar
Units: 5 Terms Offered: FaSp Integration of physical therapy management of complicated patients with concurrent musculoskeletal, cardiopulmonary and/or neurologic disorders. *Prerequisite:* PT 571, PT 581, PT 621. Instruction Mode: Lecture Grading Option: Letter

PT 650 Differential Diagnosis in Physical Therapy
Units: 2 Terms Offered: Sm Consideration of principle of differential diagnosis with emphasis on mastering this skill. *Recommended Preparation:* completion of years 1 and 2. Instruction Mode: Lecture Grading Option: Letter

PT 660 Advanced Clinical Experience with Academic Integration
Units: 5 Terms Offered: FaSp A 16-week clerkship consisting of a minimum of 24 hours per week in a part-time setting. Emphasis on the care of orthopedic, neurologic, pediatric or complicated medical conditions. *Prerequisite:* PT 600e Instruction Mode: Lecture Grading Option: Credit/No Credit

PT 665 Advanced Clinical Experience
Units: 8 Terms Offered: FaSp A 16-week clerkship consisting of a minimum of 36 hours per week in a full-time setting. Emphasis on care of orthopedic, neurologic, pediatric or complicated medical conditions. *Prerequisite:* PT 600e Instruction Mode: Lecture Grading Option: Credit/No Credit

Petroleum Engineering

PTE 202x Energy and Society
Units: 4 Terms Offered: Irregular Study of the impact of the development, production, and global distribution of energy on societal, political, and economic behavior. Not available for major credit to engineering majors. *Prerequisite:* pass Math Skill Level. Instruction Mode: Lecture Grading Option: Letter

PTE 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

PTE 411 Introduction to Transport Processes in Porous Media
Units: 3 Terms Offered: Fa Properties of porous rocks; capillarity effect, single-phase and multiphase fluid flow through porous media; diffusion and dispersion, miscible displacement heat transfer. Lecture, 3 hours. Not available for credit to Petroleum Engineering majors. *Prerequisite:* (CHEM 105aLg or CHEM 115aLg) and (CE 309 and MATH 245 and PHYS 151Lg) Instruction Mode: Lecture Grading Option: Letter

PTE 412x Petroleum Reservoir Engineering
Units: 3 Terms Offered: Fa Properties of reservoir fluids, volumetric and material balances for gas and oil reservoirs; reservoir modeling concepts. Instruction Mode: Lecture Grading Option: Letter

PTE 461 Formation Evaluation
Units: 3 Terms Offered: Fa Concepts of petroleum geology, interpretation of downhole surveys and measurements including well logs, MWD, mud logs and samples. *Corequisite:* PTE 463. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-461, AME-461

PTE 462 Economic, Risk and Formation Productivity Analysis
Units: 4 Terms Offered: Sp Principle of economic evaluation, risk analysis, reserves estimation, decline curves, energy prices, and well transients for flow prediction. *Prerequisite:* PTE 461. Instruction Mode: Lecture Grading Option: Letter Crosslisted as CHE-462, ME-462, AME-462

PTE 463L Introduction to Transport Processes in Porous Media
Units: 3 Terms Offered: Fa Properties of porous rocks; capillarity effect, single-phase and multiphase flow through porous media; diffusion and dispersion, miscible displacement, heat transfer. *Prerequisite:* MATH 245, CHEM 105a or CHEM 115a, PHYS 151. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHE-463, ME-463, AME-463

PTE 464L Petroleum Reservoir Engineering
Units: 3 Terms Offered: Sp Properties of reservoir fluids, volumetric and material balances for gas and oil reservoirs; reservoir modeling concepts. *Prerequisite:* PTE 463. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as CHE-464, AME-464

PTE 465L Drilling Technology and Subsurface Methods
Units: 3 Terms Offered: Fa Theory and practice in drilling technology; mechanical properties of reservoir rocks; well completion; acidizing and fracturing, oil production technology. *Prerequisite:* PTE 464. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as AME-465, CHE-465

PTE 466 Petroleum Geology
Units: 3 Terms Offered: Sm Introductory topics of physical and historical geology will be focused on the components that relate to the formation of oil and gas accumulations. Instruction Mode: Lecture Grading Option: Letter

PTE 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

PTE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Course content to be selected each semester from recent developments in petroleum engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

PTE 500 Computational Reservoir Modeling
Units: 3 Terms Offered: Fa Introduction to mathematical and computational methods in characterizing, modeling, and describing the subsurface flow and transport phenomena. *Recommended Preparation:* Familiarity with basic calculus, differential equation, and MATLAB programming. Registration Restriction: Open only to Engineering students. Instruction Mode: Lecture Grading Option: Letter

PTE 502 Advanced Reservoir Characterization
Units: 3 Terms Offered: Irregular Sources of data for reservoir characterization; cross-disciplinary integration; geologic models; sequence stratigraphic, lithologic, well test and geophysical models; 4-D seismic; compartmentalized and fractured reservoirs; error and risk analysis. *Prerequisite:* PTE 411, PTE 461. Instruction Mode: Lecture Grading Option: Letter

PTE 503 Technology of Unconventional Oil and Gas Resources Development
Units: 3 Terms Offered: Fa Geology of unconventional resources, exploration, development, laboratory testing, drilling, formation evaluation, design and monitoring of hydraulic fracturing, forecasting, technology of oil sand and environmental issues. *Recommended Preparation:* PTE 507, graduate standing in petroleum engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 504 Geophysics for Petroleum Engineers
Units: 3 Terms Offered: Sm Geosciences concepts and technologies with applications in petroleum engineering: 2D-3D-4D seismic, borehole geophysics, passive seismic, controlled source electromagnetics, geophysical and geological modeling and inversion. *Recommended Preparation:* familiarity with Matlab. Instruction Mode: Lecture Grading Option: Letter

PTE 505 Inverse Modeling for Dynamic Data Integration
Units: 3 Terms Offered: Sp Introduction to fundamentals of deterministic and stochastic inverse modeling, integration of dynamic data into predictive reservoir models, reservoir parameterization, derivation of adjoint models. *Recommended Preparation:* PTE 508, basic knowledge of calculus, linear algebra and probability/statistics. Instruction Mode: Lecture Grading Option: Letter

PTE 506 Geothermal Reservoirs
Units: 3 Terms Offered: Fa Geothermal reservoirs, heat and mass flow in fracture

network, enhanced geothermal systems (EGS), exploration methods, exploitation of hydrothermal and EGS fields, stimulation, forecasting, power generation. *Recommended Preparation:* familiarity with Matlab. Registration Restriction: Open only to Engineering and Geological Sciences students. Instruction Mode: Lecture Grading Option: Letter

PTE 507 Engineering and Economic Evaluation of Subsurface Reservoirs
Units: 3 Terms Offered: Fa Studies, data and methods for estimating size of underground fluid deposits for predicting physical and economic behavior of designed flow schemes, and for quantifying uncertainty. *Prerequisite:* PTE 464. Instruction Mode: Lecture Grading Option: Letter

PTE 508 Numerical Simulation of Subsurface Flow and Transport Processes
Units: 3 Terms Offered: Sp Formulation and solution of the equations describing the underground flow of fluids through porous media. Includes mass (contaminant) transport in single and multiphase flow. *Recommended Preparation:* PTE 507. Instruction Mode: Lecture Grading Option: Letter

PTE 511 Advanced Phase Behavior of Petroleum Reservoir Fluids
Units: 3 Terms Offered: Irregular From classical thermodynamics to engineering application; equations of state based calculations; PVT experiments; reservoir fluid characterization; PT-flash calculations and stability analysis; compositional grading; transport properties. *Recommended Preparation:* CHE 330, MATH 226. Instruction Mode: Lecture Grading Option: Letter

PTE 512 Gas Injection Processes — Analytical Solutions and Analysis
Units: 3 Terms Offered: Fa Gas injection and enhanced oil/gas recovery; conservation equations; flow and phase behavior; displacement efficiency; dispersion; method of characteristics; development of multicontact miscibility in multicomponent systems. *Recommended Preparation:* CHE 330, MATH 226 and MATH 245 (or similar). Instruction Mode: Lecture Grading Option: Letter

PTE 514 Drilling Engineering
Units: 3 Terms Offered: Sp Graduate level course on drilling engineering with an emphasis on field design and applications. Topics covered include well planning; rock mechanics; rotary drilling processes; drilling rig components; drill string and bottom hole assemblies; well hydraulics and drilling muds; casing design and cementing; directional drilling; offshore drilling and drilling economics. Registration Restriction: Open only to Engineering graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 515 Natural Gas Engineering
Units: 3 Terms Offered: Sp Characterization, development and prediction of natural gas reservoirs, including natural gas surface production equipment and systems, forecasting natural gas well and reservoir performance and current LNG developments *Prerequisite:* PTE 411 and PTE 412x *Recommended Preparation:* Good handle of Excel, running VBA apps, programming macros and Matlab programming; concurrent enrollment in a computer programming class would be helpful Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 517 Testing of Wells and Aquifers
Units: 3 Terms Offered: Sp Principles of well testing; down hole device; Aquifer tests; slug tests; DST; pressure transient modeling in homogeneous and heterogeneous systems; parameter estimation; computer aided techniques. *Prerequisite:* PTE 464. Instruction Mode: Lecture Grading Option: Letter

PTE 519 Integrated Physical and Cyber Security for Oil and Gas Operations
Units: 3 Terms Offered: Fa Infrastructure Security, Resilience and Management of Digital Oil Fields, Process Control Networks in exploration and production, refining and chemical plants, Asset Integrity principles, case histories. Registration Restriction: Open only to graduate students. Instruction Mode: Lecture Grading Option: Letter

PTE 531 Enhanced Oil Recovery
Units: 3, 2 years Terms Offered: Sm Survey of current enhanced oil recovery processes, including water-flooding, miscible displacement, and thermal oil recovery. *Prerequisite:* PTE 464; *Recommended Preparation:* PTE 507. Instruction Mode: Lecture Grading Option: Letter

PTE 542 Carbonate Rocks
Units: 3 Terms Offered: Fa Classification; porosity development; source rocks; wettability; capillary pressure curves; compressibility; surface areas; relative permeabilities; various petrophysical properties; formation evaluation; overpressures; thin section analysis. *Recommended Preparation:* Basic familiarity with linear algebra and general reservoir engineering Registration Restriction: Open only to graduate Engineering students Instruction Mode: Lecture Grading Option: Letter

PTE 545 Corrosion Control in Petroleum Production
Units: 3 Terms Offered: Sp Types of corrosion encountered in petroleum production; methods for practical control including use of inhibitors, coatings, and cathodic protection. *Prerequisite:* CHEM 430 or CHEM 430a Registration Restriction: Open only to graduate students in Engineering Instruction Mode: Lecture Grading Option: Letter

PTE 555 Well Completion, Stimulation, and Damage Control
Units: 3 Terms Offered: Sm This course reviews current practices related to well completion methods, wellbore stimulation, and damage control. Formation damage prevention and stimulation methods are emphasized. *Prerequisite:* graduate standing. Instruction Mode: Lecture Grading Option: Letter

PTE 572 Geostatistics
Units: 3 Terms Offered: Irregular Use of geostatistical methods for exploration and development of mineral and petroleum resources, application of semivariogram, kriging, cokriging, nonlinear and parametric estimation and conditional stimulation. Graduate standing. *Recommended Preparation:* knowledge of statistics. Instruction Mode: Lecture Grading Option: Letter

PTE 574 Optimization Methods for Subsurface Energy Resources Development
Units: 3 Terms Offered: Sp Optimization algorithms for oilfield development, including well control optimization, well placement, open-loop and closed-loop model predictive control, and robust optimization. *Prerequisite:* PTE 500; *Recommended Preparation:* Familiarity with linear algebra, vector calculus, general reservoir engineering and MATLAB programming language. Registration Restriction: Open only to Engineering graduate students. Instruction Mode: Lecture Grading Option: Letter

PTE 578 Advanced Production Engineering
Units: 3 Terms Offered: Sp Principles of onshore and offshore oil well & gas well production; design of artificial lift systems and surface operations; field problems of enhanced oil recovery operations. Registration Restriction: Open only to graduate students in the School of Engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 581 Environmental Technology in the Petroleum Industry
Units: 3 Terms Offered: Irregular This course examines engineering and scientific principles necessary for understanding, assessing, and remediating environmental problems in the petroleum industry including drilling, production, transportation and refining operations. Graduate standing. Instruction Mode: Lecture Grading Option: Letter

PTE 582 Fluid Flow and Transport Processes in Porous Media
Units: 3, 2 years Terms Offered: Fa Principles of single and multiphase flow through porous media; mechanisms of immiscible and miscible displacement; momentum, heat and mass transport in porous media. Instruction Mode: Lecture Grading Option: Letter

PTE 586 Intelligent and Collaborative Oilfield Systems Characterization and Management
Units: 3 Terms Offered: Fa Review of soft computing methods such as neural networks, fuzzy logic, problematic reasoning in reservoir characterization, dynamic reservoir modeling, oilfield data integration and analysis of uncertainty in prediction. Limited to students with graduate standing. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 587 Smart Completions, Oilfield Sensors and Sensor Technology
Units: 3 Terms Offered: Sp Intelligent

Wellbore completion, technology of subsurface and surface sensors, deployment and data acquisition, telemonitoring and feedback, reliability of sensors, data transmission, systems networks. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 588 Smart Oilfield Data Mining
Units: 3 Terms Offered: Fa Methods for oilfield data mining, data preparation mining images, prediction and knowledge discovery, subset selection, pattern recognition. Limited to students with graduate standing. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 589 Advanced Oilfield Operations with Remote Immersive Visualization and Control
Units: 3 Terms Offered: Sp Immersive subsurface and surface environments, web based monitoring and feedback, visualizing risk, unattended operation. Limited to students with graduate standing. *Recommended Preparation:* prerequisites for non-majors. Instruction Mode: Lecture Grading Option: Letter

PTE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 591 Petroleum Geochemistry
Units: 3 Terms Offered: Fa Application of chemical principles to the study of the origin, migration, accumulation, and alteration of petroleum. Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 592 Computational Geomechanics
Units: 3 Terms Offered: Sp Physical, mathematical and simulation aspects of coupled fluid flow and geomechanics in petroleum reservoirs. *Recommended Preparation:* PTE 500, PTE 508, AME 535a, AME 404, AME 507, and CE 529a Registration Restriction: Open only to master's and doctoral students Instruction Mode: Lecture Grading Option: Letter

PTE 594 Formation Damage in Petroleum Reservoirs
Units: 3 Terms Offered: Fa Overview of background and techniques required for understanding, assessing, and mitigating formation damage in petroleum and subsurface reservoirs. *Recommended Preparation:* Reservoir engineering, thermodynamics, petroleum reservoir fluids, fluid mechanics, Excel worksheets Registration Restriction: Open only to graduate students Instruction Mode: Lecture Grading Option: Letter

PTE 594a Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 594b Master's Thesis
Units: 2 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 594z Master's Thesis
Units: 0 For the master's degree. Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 599 Special Topics
Units: 2, 3, 4 Max Units: 9.0 Course content will be selected each semester to reflect current trends and developments in the field of petroleum engineering. Instruction Mode: Lecture Grading Option: Letter

PTE 611 Stochastic Modeling and Simulation
Units: 3 (Enroll in CE 611)

PTE 690 Directed Research
Units: 1, 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Laboratory study of specific problems for candidates for the degree engineer in petroleum engineering. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

PTE 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

PTE 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Public Administration

Frequency of course offerings varies from campus to campus. Check with individual campuses regarding availability.

PUAD 613 Seminar in Financial Policy
Units: 4 Terms Offered: Irregular Historical development and trends in public revenues and expenditures. Political, economic, and administrative significance of decisions in the field of financial management. *Prerequisite:* PPD 647. Instruction Mode: Lecture Grading Option: Letter

PUAD 617 Seminar on Behavioral Aspects of Training and Development
Units: 4 Terms Offered: Irregular Theoretical concepts governing the administration of socio-technical systems, organization development, action training and research, and other development and change processes utilized in public service. Instruction Mode: Lecture Grading Option: Letter

PUAD 675 Institutional Context of the Public Sector
Units: 4 Terms Offered: Sp Theories of the role, structure and growth of the public sector; public choice processes; political economy of public bureaucracies; the voluntary nonprofit sector. *Prerequisite:* PPD 501b. Instruction Mode: Lecture Grading Option: Letter

PUAD 685 Seminar on Organizational Behavior in Public Systems
Units: 4 Terms Offered: FaSp Organizing processes; decision-making; communication; leadership; behavioral models; political and social behavior in organizations. *Prerequisite:* PPD 545. Instruction Mode: Lecture Grading Option: Letter

PUAD 692 Multivariate Statistical Analysis
Units: 4 Terms Offered: Fa Multivariate analysis of qualitative and quantitative variables including multiple linear regression, multiple contingency table analysis, log-linear and logit models, and path analysis. *Prerequisite:* PPD 502. Instruction Mode: Lecture Grading Option: Letter

PUAD 695 Seminar in Administrative Theory
Units: 4 Terms Offered: FaSp Assessment of current normative and descriptive theories of public administration; variety of conceptual systems; operationalism; levels of organizational analysis. *Prerequisite:* PPD 540. Instruction Mode: Lecture Grading Option: Letter

PUAD 697 Seminar in Public Management
Units: 4 Terms Offered: Irregular Public management research and theory; differences between private and public organizations: contextual influences on public management; contemporary empirical studies; bibliographic research. *Prerequisite:* admission to the DPA program. Instruction Mode: Lecture Grading Option: Letter

PUAD 791a Public Administration Research Seminar
Units: 1 Terms Offered: FaSp Presentation and discussion of research histories and current research projects of members of the faculty and distinguished guest scholars. Registration Restriction: Open only to Ph.D. and D.P.A. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUAD 791b Public Administration Research Seminar
Units: 1 Terms Offered: FaSp Presentation and discussion of research histories and current research projects of members of the faculty and distinguished guest scholars. Registration Restriction: Open only to Ph.D. and D.P.A. students. Instruction Mode: Lecture Grading Option: Credit/No Credit

Public Diplomacy

PUBD 369w Public Diplomacy and Global Citizenship

Units: 4 Introduces public diplomacy as a central feature of contemporary international relations and challenges students to locate themselves as both its target and practitioners. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 369

PUBD 417 Global Engagement: Designing Public Diplomacy Strategies
Units: 4 Examines issues on the global political agenda and the tools and approaches that the Public Diplomacy practitioner might profitably employ to address them. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 417

PUBD 418 International Exchanges and Public Diplomacy
Units: 4 Examines international exchanges, their role in the foreign policy process, and their challenges in a world marked by rapid change and innovation in communication technologies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 418

PUBD 419 Public Diplomacy in Los Angeles
Units: 4 Examines how the City of Los Angeles and other local actors use public diplomacy tools to strengthen ties between themselves and foreign audiences. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 419

PUBD 420 Regional Studies in Public Diplomacy
Units: 4 Max Units: 08 Analyzes the role and effectiveness of public diplomacy in different countries, examining a region's influence on global affairs and the development of diplomatic strategies. Instruction Mode: Lecture Grading Option: Letter Crosslisted as COMM 420

PUBD 500 Introduction to the Advanced Study of Public Diplomacy
Units: 4 Introduction to the advanced academic study of public diplomacy from multidisciplinary perspectives: including media and communication, international relations and history. Instruction Mode: Lecture Grading Option: Letter

PUBD 502 Historical and Comparative Approaches to Public Diplomacy
Units: 4 Examines historical and comparative approaches to public diplomacy. Explores public diplomacy operations in public and private settings, by individuals and institutions. Reviews traditional, critical, war, and peace perspectives. Instruction Mode: Lecture Grading Option: Letter

PUBD 504 Global Issues and Public Diplomacy
Units: 4 Focuses on critical global issues/ challenges that require some form of intervention from the international community. Taught with active leading strategies: case studies and "problem-based learning." Instruction Mode: Lecture Grading Option: Letter

PUBD 508 The Rhetoric of War and Peace
Units: 4 Special exercise in "Think Tank" procedure that explores rhetorics of war and peace from a 21st century perspective. Instruction Mode: Lecture Grading Option: Letter

PUBD 509 Advocacy in Public Diplomacy: Argumentation and Debate
Units: 4 Skills and theory based approach to the criticism and development of public diplomacy campaigns. Emphasizes the instruction of advocacy skills to assess the utility of specific campaigns. Instruction Mode: Lecture Grading Option: Letter

PUBD 510 Technologies and Public Diplomacy
Units: 4 Explores relationship between diplomacy and technological change. Emphasis on question of how new media may force us to rethink traditional frameworks of public diplomacy. Instruction Mode: Lecture Grading Option: Letter

PUBD 512 Cultural Diplomacy
Units: 4 Provides overview of formal cultural diplomacy and concentrates on ways in which non-governmental entities communicate across international boundaries and the effects of those interchanges. Instruction Mode: Lecture Grading Option: Letter

PUBD 514 Corporate Diplomacy
Units: 4 Provides basic public diplomacy and public relations tools for global organizations and their foreign publics. Instruction Mode: Lecture Grading Option: Letter

PUBD 515 Transnational Diplomacy and Global Security
Units: 4 Examination of the historical and theoretical basis of diplomatic relationships between states, international organizations, and transnational nonstate actors in developing global peace and security policies. Instruction Mode: Lecture Grading Option: Letter

PUBD 516 International Broadcasting
Units: 4 History, context and practice of global international broadcasting strategies; technological and financial parameters that shape future international broadcasting strategies; use of radio, television, and Internet. Instruction Mode: Lecture Grading Option: Letter

PUBD 518 International Exchanges and Public Diplomacy
Units: 4 Examination of educational and cultural exchanges; variety and experience of participants, flagship exchange programs, economic and social implications of the programs, and measurement of outcomes. Instruction Mode: Lecture Grading Option: Letter

PUBD 519 News Media and the Foreign Policy Process
Units: 4 Analysis of news media's role in contemporary diplomacy; historical context; consideration of the professional practices of journalists and those who devise and implement foreign policy. Instruction Mode: Lecture Grading Option: Letter

PUBD 520 Regional Studies in Public Diplomacy
Units: 4 Max Units: 16.0 In-depth examination of historical, political, economic, cultural factors that influence public diplomacy efforts within specific geographic regions. Instruction Mode: Lecture Grading Option: Letter

PUBD 522 Hard Power, Soft Power and Smart Power
Units: 4 Institutional and cultural perspectives on instruments of state power: military, intelligence, trade, and traditional diplomacy; strategic analyses for determining proper use; desirability of combining resources. Instruction Mode: Lecture Grading Option: Letter

PUBD 524 The Public Diplomacy of Trade
Units: 4 Public diplomacy's role in shaping ideas about trade and development and in creating trade agreements, and the use of trade agreements as public diplomacy. Instruction Mode: Lecture Grading Option: Letter

PUBD 526 Public Diplomacy Evaluation
Units: 4 Critical examination of challenges and benefits of measuring public diplomacy's impact; terminology and mechanics of evaluation, the measurement community, and varying approaches for evaluation. Instruction Mode: Lecture Grading Option: Letter

PUBD 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the school. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUBD 596 Practicum in Public Diplomacy Research
Units: 4 Development and production of original research-based project in the area of public diplomacy. Instruction Mode: Lecture Grading Option: Credit/No Credit

PUBD 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Special topics in the area of public diplomacy. Instruction Mode: Lecture Grading Option: Letter

Quantitative Biology

QBIO 105 Introduction to Quantitative Biology Seminar
Units: 2 Terms Offered: FaSp Introduction to quantitative biology including a definition of its role within the Biological Sciences and relationship with Chemistry, Computer Science, Engineering, Mathematics, Medicine and Physics. Registration Restriction: Open to QBIO majors or by permission of the department Instruction Mode: Lecture Grading Option: Letter

Real Estate Development

RED 362 Real Estate Development Fundamentals
Units: 4 Real estate overview; evolution of cities and neighborhoods; product types; introduction to valuation. *Prerequisite:* (PPD 227 or PPD 245) and (MATH 108 or MATH 117 or MATH 118 or MATH 125) Instruction Mode: Lecture Grading Option: Letter

RED 375 Real Estate Development Analysis
Units: 4 Terms Offered: FaSp Real estate development feasibility and analysis;

underwriting local fundamentals including neighborhood and city change, real estate capital flows *Prerequisite:* BUAD 215x and ECON 203g and RED 362 Duplicates Credit in the former PPD 375 Instruction Mode: Lecture Grading Option: Letter

RED 417 History of Planning and Development
Units: 4 Terms Offered: FaSp Historical evolution of planning and development. How changing modes of planning and development have shaped the built landscape throughout the century. *Prerequisite:* PPD 227 or PPD 245g Duplicates Credit in the former PPD 417 Instruction Mode: Lecture Grading Option: Letter

RED 425 Designing Livable Communities
Units: 4 Terms Offered: FaSp Theories and concepts of livable communities and good city form; case studies of historical and current best practices; field visits; collaborative design project. *Prerequisite:* PPD 227 or PPD 245g Duplicates Credit in the former PPD 425. Instruction Mode: Lecture Grading Option: Letter

RED 435 Analyzing Real Estate Markets
Units: 4 Terms Offered: FaSp Macro and micro-analysis of urban property markets; demographics; location choice; regulation *Prerequisite:* PPD 303 and RED 375 Duplicates Credit in the former PPD 435 Instruction Mode: Lecture Grading Option: Letter

RED 437 Advanced Finance and Investment for Real Estate Development
Units: 4 Terms Offered: FaSpSm Advanced real estate principles. Underwriting property valuation and deal structure including risk and return. Debt and equity markets; difference between development and existing assets. *Prerequisite:* RED 435 Duplicates Credit in the former PPD 437 Instruction Mode: Lecture Grading Option: Letter

RED 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

RED 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: FaSpSm Selected topics in real estate development. Instruction Mode: Lecture Grading Option: Letter

RED 500 Real Estate Development and the Economy
Units: 2 Terms Offered: Sm Linkages between national and regional economies and the performance of the real estate sector. Anticipating development trends. Public policy applications. Instruction Mode: Lecture Grading Option: Letter

RED 509 Market Analysis for Real Estate
Units: 4 Terms Offered: Fa Explores macro and micro aspects of residential, retail, office, and industrial markets and examines methodologies for analyzing such markets for real estate development/investment purposes. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 510 Real Estate Practice and Principles
Units: 4 Terms Offered: FaSp Fundamental principles of real estate analysis; economics; capital markets; development decision-making; relationships between real estate markets and federal, state and local government policies; property value. Instruction Mode: Lecture Grading Option: Letter

RED 511 Foundations of Real Estate Analysis
Units: 4 Terms Offered: FaSp Principles of real estate analysis; capital markets; importance of uncertainty and metrics of risk; investments; valuation techniques; use of debt and equity, leases, taxes. *Prerequisite:* RED 510. Instruction Mode: Lecture Grading Option: Letter

RED 512 Real Estate Project Analysis
Units: 4 Terms Offered: FaSp Fundamental economic theories; analytical techniques; practical applications for market analysis of various forms of real estate. *Prerequisite:* RED 511. Instruction Mode: Lecture Grading Option: Letter

RED 541 Finance Fundamentals for Real Estate Development
Units: 2 Terms Offered: Sm Introduction to the general principles of finance with application to real estate development, including capital markets, financial institutions, valuation and risk management. Instruction Mode: Lecture Grading Option: Letter

RED 542 Finance of Real Estate Development
Units: 3 Terms Offered: FaSm Theory and methods of real estate finance and investment. Real estate investment analysis, real estate entities, taxation; introduction to securization of real estate equities, debt. *Prerequisite:* RED 541. Instruction Mode: Lecture Grading Option: Letter

RED 544 Real Estate Capital Markets
Units: 2 Terms Offered: Fa Explore structure, instruments and institutions of real estate capital markets. Consider linkages between real estate and capital markets. Assess role of Real Estate Investment Trusts. *Prerequisite:* RED 542 Instruction Mode: Lecture Grading Option: Letter

RED 545 Advanced Real Estate and Financial Modeling
Units: 2 Terms Offered: Sp Quantitative problem solving using computerized modeling. Complex debt financing, including lender participation, subordination, joint venture structuring, systematic treatment of real estate portfolios. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 546 Applications of Real Estate Finance to Problems of Development
Units: 3 Terms Offered: Sp Advanced topics in finance applied to cases and problems of real estate development; emphasis on structuring, finance and evaluation of various types of development projects. *Prerequisite:* RED 542. Instruction Mode: Lecture Grading Option: Letter

RED 547 Project Management and Construction
Units: 2 Terms Offered: Sm Managing the building phase of development. Architectural and engineering aspects of construction management for the real estate developer. Instruction Mode: Lecture Grading Option: Letter

RED 551 The Approval Process
Units: 4 Terms Offered: FaSpSm Approval process for real estate development including land use entitlement, site selection, zoning, environmental review, community and government relations, infrastructure financing, ethical issues, negotiation skills. Instruction Mode: Lecture Grading Option: Letter

RED 562 Legal Issues in Real Estate Development
Units: 4 Terms Offered: FaSp Ownership and transfer of real estate; formation and enforcement of contracts; business associations; environmental regulation; taxation of property transfers; acquiring, financing, leasing of commercial property. Duplicates Credit in former RED 662. Instruction Mode: Lecture Grading Option: Letter

RED 563 Introduction to the Asset Management of Real Estate
Units: 2 Terms Offered: Fa Overview of institutional asset management: creating and implementing investment and portfolio strategies through the development, acquisition, underwriting, and operational stages of the investment, asset disposition. Instruction Mode: Lecture Grading Option: Letter

RED 564 Issues in Asset Management of Real Estate
Units: 2 Terms Offered: Sp Advanced issues in institutional asset management. How value is created during investment process with focus on tactical, operational, and strategic goals of asset and owner. *Prerequisite:* RED 563. Instruction Mode: Lecture Grading Option: Letter

RED 571 Introduction to Appraisal Principles, Procedures, and Standards
Units: 4 Terms Offered: Fa Valuation concepts. Theory and problem solving. Cost, sales comparison, and income approaches. Instruction Mode: Lecture Grading Option: Letter

RED 572 Advanced Appraisal Approaches and Applications
Units: 2 Terms Offered: Sp Highest and best use. Advanced income capitalization. Advanced cost and sales comparison approaches. Advanced applications. *Recommended Preparation:* RED 571. Instruction Mode: Lecture Grading Option: Letter

RED 573 Design History and Criticism
Units: 2 Terms Offered: Sm The concepts, language and metaphors of design-related disciplines are examined in relation to design and construction values and choices in real estate development. Duplicates Credit in former RED 673. Instruction Mode: Lecture Grading Option: Letter

RED 574 Building Typologies

Units: 2 Terms Offered: Fa The exploration of categories of building types, including retail, industrial, residential, office and institutional, using key examples or case studies from each. Duplicates Credit in former RED 674. Instruction Mode: Lecture Grading Option: Letter

RED 575L Community Design and Site Planning
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: Sp Physical implementation of development projects. Students will develop concept plan, preliminary design and marketing plan for selected domestic and/or international development sites. Duplicates Credit in former RED 675L. Instruction Mode: Lecture, Lab Required Grading Option: Letter

RED 583 International Development Opportunities
Units: 2 Terms Offered: Sp A survey of various markets prominent in the global real estate community. Protocols for analyzing international development opportunities and cultural, political, and socioeconomic considerations. Instruction Mode: Lecture Grading Option: Letter

RED 585 Comparative International Development Workshop
Units: 2, 3, 4 Terms Offered: Sm Comparative study tour focused on understanding international real estate development practices and markets, site visits and meeting with principals. Instruction Mode: Lecture Grading Option: Letter

RED 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RED 598 Real Estate Product Development
Units: 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm An evaluation of various real estate development types. Case studies and site visits. Instruction Mode: Lecture Grading Option: Letter

RED 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Current issues, trends, and developments in real estate development. Instruction Mode: Lecture Grading Option: Letter

Religion

REL 111g The World of the Hebrew Bible
Units: 4 The Hebrew Bible in the cultural setting of the Ancient Near East; the formation of theological and ethical concepts which have shaped Western culture. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 112g Religions of Ancient Egypt and the Near East
Units: 4 Religions, cultures, and values of ancient Egypt and Near East (Iran, Iraq, Israel, Syria, Lebanon, Arabia, Turkey) and their legacies in contemporary society. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 114g The Mediterranean: A Religious History
Units: 4 Explores multiple religious traditions of the Mediterranean as networks that emerge within and among the landscapes, cultures, and politics of this highly interconnected geographic space. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 115g Jerusalem, City of Three Faiths
Units: 4 History of Jerusalem as a window onto the nature of the three Abrahamic faiths. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 121g The World of the New Testament
Units: 4 Historical investigation of New Testament characters, events, ethics and theology in relation to its social, intellectual, and religious contexts in the Jewish and GrecoRoman world. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 125gp Introduction to Christianity
Units: 4 Survey of the changing beliefs and practices of the Christian religion from obscure origins to globalized present, with special attention to the varieties of Christian literature. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 132g Origins of Western Religions
Units: 4 Examination of Judaism, Christianity, and Islam in their origins and their development in relation to Western civilization. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category I: Western Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 134g Introduction to Buddhism
Units: 4 Focus primarily on works of Buddhist literature written in a variety of genres. Introduction of basic teachings that link Buddhist traditions across time and space. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 135g Chinese Religions and Culture
Units: 4 Historical and thematic survey of Chinese religious history from earliest times to the present. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 136g Sense and Sensuality in Indian Religions and Culture
Units: 4 Exploration of the senses and the technologies of pleasure in India, relating this material to some fascinating examples of Hindu, Jain, and Buddhist literature. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 137g Introduction to Islam
Units: 4 Introduction to Islam, emphasizing its historical and cultural development since the seventh century C.E., and the basic teachings of Islam. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

REL 138g Japanese Religions and Culture
Units: 4 Major religious traditions of Japan (such as Buddhism, Shinto, Christianity, Confucianism) and their broader social and cultural contexts. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 141g Global Religions in Los Angeles
Units: 4 Congregational and individual expressions of religion in Los Angeles. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 147g Religion, Media and Popular Culture
Units: 4 Exploration of the manner in which the media frame discussions and understandings of ethical issues, moral dilemmas, spirituality and religious imagination. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 301 Introduction to the Study of Religion
Units: 4 Terms Offered: Fa Survey of academic approaches to the study of religion. When possible this course will be taken during the first year of the major or minor. Instruction Mode: Lecture Grading Option: Letter

REL 302 Religions of Ancient Egypt and the Near East
Units: 4 Religious experience and values of ancient Egypt and Near East through material culture, literature, art, and cultic practices; and their legacies in contemporary society. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-301

REL 303g Exploring Ancient Ways of Living: Experimental Archaeology

Units: 4 Active learning course enables students to acquire and experience survival skills devised in pre-modern times and to apply this knowledge in an experimental context. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

REL 304 Ethics and Global Heritage
Units: 4 Archaeology and global heritage debates, laws, ethical conundrums, and stakeholder perspectives reveal goals and guiding values of society's exploration of the past. *Recommended Preparation:* REL 301 or ANTH 202g Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as ARCG 304, ANTH 318

REL 305L Virtual and Digital Culture, Heritage and Archaeology
Units: 4 (Enroll in ARCG 305L)

REL 310 Anti-Semitism, Racism and Other Hatreds
Units: 4 Terms Offered: FaSp (Enroll in JS 315g)

REL 311g The Bible in Western Literature
Units: 4 Comparative analysis of biblical works and how they were employed by various writers in major works of Western literature. Instruction Mode: Lecture Grading Option: Letter

REL 312 Biblical Wisdom Literature
Units: 4 Survey of and inquiry into the biblical wisdom literature; emphasis on the Book of Job. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 314 Introduction to Shiism
Units: 4 Examination of the major branches of Shiism, the second largest articulation of Islam, both historically and in the world today. Instruction Mode: Lecture Grading Option: Letter

REL 315 Thought and Life of Islam
Units: 4 History, thought, institutions, and religious practices of Islam. Instruction Mode: Lecture Grading Option: Letter

REL 316 Women and the Islamic Tradition
Units: 4 Terms Offered: Fa Overview of social and legal status of women in Islamic society, past and present. Examination of social roles established both for and by Muslim women. Instruction Mode: Lecture Grading Option: Letter

REL 317g The Bible in Its Ancient Context
Units: 4 A close consideration of ancient Near Eastern myths — especially those from Mesopotamia and Canaan — with special attention to their influence on the Bible. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 319 Religious and Ethical Issues in Death and Dying
Units: 4 Analysis of religious and ethical approaches to death and dying, including refusal of treatment for competent and incompetent patients, voluntary and involuntary euthanasia, and resuscitation. Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 323 Aegean Archaeology
Units: 4 (Enroll in CLAS 323) Instruction Mode: Lecture Grading Option: Letter

REL 324g Sex and the Bible: Gender, Sexuality, and Scripture
Units: 4 Role the Bible has played in debates about sex, gender, and sexuality in Western history. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

REL 325 Religious Experience in the Greco-Roman World
Units: 4 Varieties of religious experience as reflected in the literature, art, and cultic practices of the Hellenistic world. Instruction Mode: Lecture Grading Option: Letter

REL 326gp Historical Jesus
Units: 4 Examination of the question of how ancient and modern Christians and scholars have reconstructed the life of Jesus of Nazareth, founding figure of Christianity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

REL 328 Archaeology of Religion in the Greco-Roman World
Units: 4 (Enroll in CLAS 328)

REL 329 Themes in the Religions of China
Units: 4 A study of selected themes in the history of Chinese religions and culture. Compares cases and materials from several historical periods and religious traditions. Instruction Mode: Lecture Grading Option: Letter

REL 330 Introduction to the Religions of India
Units: 4 Terms Offered: FaSpSm History, teaching, and practice of Hinduism, Buddhism, and other religious traditions of India. Instruction Mode: Lecture Grading Option: Letter

REL 331 Religions of East Asia
Units: 4 History, teaching, and practice of the religions of China, Tibet, and Japan. Instruction Mode: Lecture Grading Option: Letter

REL 332 Religions of Japan
Units: 4 The development of religious thought and practice in the Japanese islands, with Buddhism and Shinto being the most prominent. Instruction Mode: Lecture Grading Option: Letter

REL 333 Religion in the Borderlands
Units: 4 Survey of religious history of U.S./Mexico borderlands. Emphasis is given to definitions of place and transformations in culture and forms of belief. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-333

REL 334 Religion and Colonial Encounter
Units: 4 Survey of religious responses to colonial encounter in the Americas. Emphasis given to study of religious innovations of Amerindians, Africans, and Europeans. Instruction Mode: Lecture Grading Option: Letter

REL 335 Gender, Religion, and Sexuality
Units: 4 The construction of gender and sexuality in Western religious traditions; its continued impact on contemporary intellectual, cultural, and social life. Instruction Mode: Lecture Grading Option: Letter

REL 336 Re-viewing Religion in Asian America
Units: 4 Interdisciplinary analysis of the religions traditions, institutions, and experiences of Asians and Pacific Islanders in the U.S. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-336

REL 337 Islam in Black America: From Slavery to Hip Hop
Units: 4 (Enroll in AMST 337)

REL 338 Mysticism and Religious Desire
Units: 4 How human appetites for sex, food, community or immortality are articulated as mystical desires in different religions, either within institutional structures or working against them. Instruction Mode: Lecture Grading Option: Letter

REL 339 Studies in the History of Christianity
Units: 4 In-depth exploration of one of the pivotal moments in the history of Christianity and Western society. Instruction Mode: Lecture Grading Option: Letter

REL 340 Introduction to Indian Philosophy
Units: 4 An introduction to Indian philosophy, including major schools of thought in Hindu, Buddhist, and Jain philosophies. No previous knowledge of Indian religions or philosophy required. Instruction Mode: Lecture Grading Option: Letter

REL 341 Technology, Culture, and Ethics
Units: 4 Examination of value questions arising from the impact of technology on individuals, social institutions, and culture. Instruction Mode: Lecture Grading Option: Letter

REL 342g Buddhist Modernism
Units: 4 Examines various topics in the process of rapid modernization and globalization in Buddhism including environmentalism, gender, nationalism, social activism, and war and peace. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

REL 344 Islamic Law and American Society
Units: 4 (Enroll in AMST 344)

REL 359g Culture in Diaspora: The Jews of Spain
Units: 4 Course traces the Jewish diaspora from Spain and Portugal with particular attention to how Sephardic Jews maintained ties of culture, commerce, language, and identity. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies

Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as HIST-371

REL 360 Ethical Issues in the New Medical Revolution
Units: 4 Multimedia-oriented analysis of issues; definition of life and death; research on human subjects, health care delivery, euthanasia, abortion, genetic counseling, behavior control. Instruction Mode: Lecture Grading Option: Letter

REL 364 Religion and Ethics
Units: 4 Traces the development of how religious ideas have informed ethics, or accounts of the good life, including notions of justice, righteousness, virtue, duty, charity and happiness. Instruction Mode: Lecture Grading Option: Letter

REL 365 Global Ethics
Units: 4 Provide an overview of debates concerning moral, cultural ethics in a globalizing world. Encourage critical reflection on global justice, ethical systems, role of religion. Instruction Mode: Lecture Grading Option: Letter

REL 366 Religion and Social Change
Units: 4 Empirical and theoretical analysis of social change and its effect on religious institutions as well as the impact of religious movements on society. Instruction Mode: Lecture Grading Option: Letter

REL 370 Religion and Visuality
Units: 4 Examination of the deep connections between visuality and religions, including visions, controversies over religious images, and other connections between religion and visual art. Instruction Mode: Lecture Grading Option: Letter

REL 371 Religion and the Supernatural
Units: 4 Methods of religious studies, history, anthropology, and psychology used to analyze religious beliefs in and responses to the supernatural. Instruction Mode: Lecture Grading Option: Letter

REL 376g Religion and Human Rights
Units: 4 Close examination and discussion of a variety of religious views regarding human rights. Forges useful frameworks for interpreting the complexity of competing ideas. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture Grading Option: Letter

REL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

REL 394 Archaeology of Egypt and the Near East
Units: 4 Study of archaeology and excavated artifacts from Egypt and the Near East. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-304, MDES-394

REL 401 Seminar in Religious Studies
Units: 4 Terms Offered: Sp Survey of methods and selected issues in the field of religious studies; required of all majors during their junior or senior year. *Recommended Preparation:* REL 301. Duplicates Credit in former REL 399. Instruction Mode: Lecture Grading Option: Letter

REL 402 Cultural Heritage, Religion, and Politics in the Middle East
Units: 4 Terms Offered: Fa In-depth exploration of archaeology and heritage issues in the Middle East and their implications for politics and practice in modern Islam, Judaism and Christianity. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-402, IR-405, MDES-402

REL 414 History of Islamic Law
Units: 4 Terms Offered: Sp Examines legal methods and religious sources used in Islamic law. Emphasis is placed on the way cultural developments affect legal thought and the administration of justice. Instruction Mode: Lecture Grading Option: Letter

REL 415 Seminar in Buddhism
Units: 4 Seminar on selected aspects of the Buddhist tradition. Instruction Mode: Lecture Grading Option: Letter

REL 417 Seminar in South Asian Religions
Units: 4 Exploration of particular themes and/or traditions in South Asian religions. Instruction Mode: Lecture Grading Option: Letter

REL 425 Communicating Religion
Units: 4 (Enroll in COMM 425)

REL 426 Religion, Media and Hollywood: Faith in TV
Units: 4 (Enroll in COMM 426)

REL 431 The Taoist Tradition
Units: 4 (Enroll in EALC 431)

REL 435 Religious Thought After the Enlightenment
Units: 4 Changes in religious thought between the late 18th and early 20th centuries in the wake of the emergence of modernity in the West. Instruction Mode: Lecture Grading Option: Letter

REL 440 Christian Thought in the 20th Century
Units: 4 Examination of dynamic new directions taken by Christian understandings of self, God, and salvation in response to the novel conditions of modern culture, politics and philosophy. Instruction Mode: Lecture Grading Option: Letter

REL 441 Origins of Modern Theology
Units: 4 19th century liberal, rationalist, and historical theology. Instruction Mode: Lecture Grading Option: Letter

REL 442 Religion and Science
Units: 4 Explores whether religion and science offer competing or complementary models for understanding the world and the human place within it. Instruction Mode: Lecture Grading Option: Letter

REL 448m Islam in France
Units: 4 Terms Offered: FaSp (Enroll in FREN 448)

REL 455 Philosophy of Religion: Bases of Belief and Disbelief
Units: 4 Rational and empirical foundations for religious faith and for skepticism. Instruction Mode: Lecture Grading Option: Letter

REL 460 Senior Seminar: Medical Ethics
Units: 4 Analysis of ethical problems related to new developments in medical science. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 462 Religion and Violence
Units: 4 Religious and moral perspectives on war, pacifism, violent and nonviolent protest, and religion-based terrorism and militia. Instruction Mode: Lecture Grading Option: Letter

REL 465 Archaeology and Society
Units: 4 Terms Offered: FaSpSm (Enroll in CLAS 465)

REL 468 Sociology of Religion
Units: 4 The role of religion in modern society from the standpoint of sociological theory and research. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SOCI-468

REL 469 Black Religion in America
Units: 4 Historical, sociological, and theological analysis of the nature and role of black religion in the American setting. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ETST-469

REL 471 Jesus
Units: 4 A study of major interpretations of the figure of Jesus, with focus on the interaction between religious traditions and culture. Instruction Mode: Lecture Grading Option: Letter

REL 473 Advanced Hebrew Bible Studies
Units: 4 Consideration of specific topics in Old Testament studies; particular topics determined each semester. Instruction Mode: Lecture Grading Option: Letter

REL 474 Advanced New Testament Studies
Units: 4 Consideration of specific topics in New Testament studies. Particular topics determined each semester. Instruction Mode: Lecture Grading Option: Letter

REL 475 Religion, Material Culture and the Senses
Units: 4 A comparative study of the role of material culture and the senses in religions based on a number of case studies and problem sets. Instruction Mode: Lecture Grading Option: Letter

REL 479 Seminar in Christian Thought
Units: 4 Studies a theme, period, or problem from the history of Christian thought within its intellectual and social context. Instruction Mode: Lecture Grading Option: Letter

REL 481 History of Religion in America
Units: 4 Intellectual, institutional, and social history of religion in America from colonial times to the present. Instruction Mode: Lecture Grading Option: Letter

REL 482 Jesus in American History and Culture
Units: 4 (Enroll in HIST 482)

REL 483 Religion and Popular Culture in the United States
Units: 4 Terms Offered: Sp Critical analysis of the relationship between religion, mass

media, and popular cultural forms in the U.S. *Recommended Preparation:* REL 301. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-483

REL 484 American Religion, Foreign Policy and the News Media
Units: 4 Terms Offered: Sp (Enroll in JOUR 484)

REL 485 Transnational Religion
Units: 4 Explores the role of transnational religion in relation to both the formation of new diasporic communities and problems of conflict and peace building. Instruction Mode: Lecture Grading Option: Letter

REL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

REL 491x Undergraduate Honors Research
Units: 4 Individual research for honors in the major leading to a substantial project. Instruction Mode: Lecture Grading Option: Letter

REL 493 Art and Archaeology of Religion
Units: 4 Terms Offered: FaSp The history of religion through its material expression: art, architecture and artifact. Exploration of different themes and time periods. Instruction Mode: Lecture Grading Option: Letter

REL 494 Lab Methods and Theories in Archaeology
Units: 4 Archaeological research design, data recovery, artifact analysis, interpretation and analogy, publication and ethics. *Recommended Preparation:* ANTH 202g Instruction Mode: Lecture Grading Option: Letter Crosslisted as ARCG 494

REL 495 Field Methods and Theories in Archaeology
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Archaeological field study emphasizing current paradigms of data collection and evaluation; social scientific study of material culture and its relationship to religious expression. Instruction Mode: Lecture Grading Option: Letter

REL 499 Special Topics in Religion
Units: 2, 3, 4 Max Units: 8.0 Selected topics in religious studies. Instruction Mode: Lecture Grading Option: Letter

REL 500 Methods and Theories in the Study of Religion
Units: 4 Introduction to the major topics, trends, and theoretical approaches in the study of religion. Instruction Mode: Lecture Grading Option: Letter

REL 502 Themes in the Study of Religion
Units: 4 Max Units: 8.0 Thematic approaches to the study of religion and religions transcending particular traditions, time periods and geographic regions. Course topic varies by semester according to faculty. Instruction Mode: Lecture Grading Option: Letter

REL 525 Colloquium in Global Islam
Units: 4 Introduces major issues that have defined Islamic Studies in premodern and modern periods. Generally taken in the first year. Instruction Mode: Lecture Grading Option: Letter

REL 535 Colloquium in Comparative Christianities
Units: 4 Research methods in the comparative study of Christian religions; recent scholarship in Christian studies. Instruction Mode: Lecture Grading Option: Letter

REL 545 Colloquium in Asia Pacific Religions
Units: 4 Research methods, tools and current scholarship in the study of Asian Pacific Religions. Instruction Mode: Lecture Grading Option: Letter

REL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 592 Professionalization Proseminar in Religious Studies
Units: 2 Offers students a structured environment in which to consider issues in professional development and to discuss their dissertation proposals. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 593 Practicum in Teaching the Liberal Arts
Units: 2 Practical principles for the long-term development of effective teaching within liberal arts disciplines. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

REL 625 Advanced Graduate Seminar in Global Islam
Units: 4 Exploration of themes and traditions of Islam as they appear globally in a variety of specific country contexts Instruction Mode: Lecture Grading Option: Letter

REL 626 Seminar in Jewish Ethics
Units: 4 (Enroll in JS 626)

REL 635 Advanced Graduate Seminar in Comparative Christianities
Units: 4 Comparative and transhistorical methods for understanding the most prominent developments in premodern or modern globalized Christianity. Instruction Mode: Lecture Grading Option: Letter

REL 645 Advanced Graduate Seminar in Asia Pacific Religions
Units: 4 Application of comparative and transhistorical methods for understanding the most prominent themes in Asian Pacific Religions. Instruction Mode: Lecture Grading Option: Letter

REL 650 Readings in Islamic Texts
Units: 4 Max Units: 12 Study of Islamic religious texts in multiple genres, primarily in Arabic, though other languages may be offered. *Recommended Preparation:* Advanced Arabic language ability. Instruction Mode: Lecture Grading Option: Letter

REL 651 Readings in Christian Texts
Units: 4 Max Units: 12 Survey of the different genres of texts in the history of Christian spirituality from ancient Christianity to the present. Instruction Mode: Lecture Grading Option: Letter

REL 652 Readings in Buddhist Texts
Units: 4 Max Units: 12 Study of varied Asian Buddhist texts in translation and in original languages. Exploration of the major secondary literature on Buddhist texts. Instruction Mode: Lecture Grading Option: Letter

REL 653 Readings in Indic Religious Texts
Units: 4 Max Units: 12 Study of varied Hindu, Buddhist, and Jain texts, primarily in Sanskrit. The class covers multiple genres from Puranas to Tantra. *Recommended Preparation:* Two years of previous study of Sanskrit. Instruction Mode: Lecture Grading Option: Letter

REL 654 Readings in Chinese Religious Texts
Units: 4 Max Units: 12 Study of Chinese religious texts primarily in literary Chinese. Covers multiple genres of texts from Buddhist sutras to Daoist texts. *Recommended Preparation:* Advanced Chinese language and at least one year of training in classical Chinese. Instruction Mode: Lecture Grading Option: Letter

REL 655 Readings in Japanese Religious Texts
Units: 4 Max Units: 12 Study of Japanese Buddhist texts in classical or modern Japanese and/or kambun. Covers multiple genres from sutras to vernacular text. *Recommended Preparation:* Advanced Japanese language ability; REL 652 Instruction Mode: Lecture Grading Option: Letter

REL 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

REL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

REL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Restorative Dentistry

REST 314 Physiology of Occlusion for Hygienists

Units: 1 Biology and function of the gnathostomatic system. Role of the hygienist in diagnosis and treatment of occlusal dysfunctions. Instruction Mode: Lecture Grading Option: Letter

REST 501 Preclinical Operative and Fixed Prosthodontics (Conjoint)
Units: 2 Fundamental concepts of restoring an individual tooth with a cast restoration; principles of cavity preparation; casting fabrication and cementation. Instruction Mode: Lecture Grading Option: Letter

REST 503a Clinical Restorative Dentistry
Units: 1 Application of pre-clinical procedures in operative dentistry, fixed prosthodontics, removable prosthodontics, and dental materials. Instruction Mode: Lecture Grading Option: Letter

REST 503b Clinical Restorative Dentistry
Units: 1 Application of pre-clinical procedures in operative dentistry, fixed prosthodontics, removable prosthodontics, and dental materials. Instruction Mode: Lecture Grading Option: Letter

REST 504 Diagnosis and Treatment Planning
Units: 1 Utilizing a restorative approach, enhance students' knowledge and ability to choose treatment best suited for existing dental conditions, patients' requests and their financial ability. Instruction Mode: Lecture Grading Option: Letter

REST 521 Preclinical Operative/Fixed Prosthodontics Laboratory
Units: 3 Experience in cavity preparation; casting fabrication and cementation on extracted teeth and plastic dentiforms. Instruction Mode: Lecture Grading Option: Letter

REST 522 Aesthetics in Dentistry
Units: 1 Definition and relationship of elements of aesthetics; application in patient motivation and care. Instruction Mode: Lecture Grading Option: Letter

REST 602a Participation in Advanced Dental Care
Units: 0, 1, 2, 3 Participation in advanced dental treatment in Faculty Private Practice Clinic, techniques of difficult case presentation and efficiency in practice. Clinic and seminar. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

REST 602b Participation in Advanced Dental Care
Units: 0, 1, 2, 3 Participation in advanced dental treatment in Faculty Private Practice Clinic, techniques of difficult case presentation and efficiency in practice. Clinic and seminar. Instruction Mode: Lecture Grading Option: Letter

REST 701 Orientation to Advanced Prosthodontics
Units: 5 Preclinical overview of materials, techniques, instrumentation, and treatment procedures necessary for providing advanced prosthodontic care in the clinical environment. Instruction Mode: Lecture Grading Option: Letter

REST 702a Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702b Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702c Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702d Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702e Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702f Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702h Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 702i Seminar: Treatment Planning
Units: 2 each Seminars led by students with case presentations of complex multidisciplinary treatment plans, completed therapy and staff conferences. Instruction Mode: Lecture Grading Option: Letter

REST 703a Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703b Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703c Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703d Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703e Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703f Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 703h Seminar: Review of the Prosthodontic Literature — Fixed
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in fixed prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704a Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704b Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704c Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704d Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704e Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704f Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 704h Seminar: Review of the Prosthodontic Literature — Removable
Units: 1 each Weekly two hour seminars

devoted to review of the historic, classic, and current literature in removable prosthodontics. Instruction Mode: Lecture Grading Option: Letter

REST 705 Advanced Fixed Prosthodontics Techniques
Units: 1 Tooth preparation and advanced laboratory techniques necessary to implement full mouth rehabilitation. Instruction Mode: Lecture Grading Option: Letter

REST 706 Advanced Complete Denture Techniques
Units: 1 Advanced laboratory and clinical skills for a specialty prosthodontic practice. Instruction Mode: Lecture Grading Option: Letter

REST 708a Dental Ceramics, Color, and Aesthetics
Units: 2 Theory of color and dental aesthetics; history and development of dental ceramics; design and techniques in fabrication of ceramo-metal restorations. Instruction Mode: Lecture Grading Option: Letter

REST 708b Dental Ceramics, Color, and Aesthetics
Units: 2 Theory of color and dental aesthetics; history and development of dental ceramics; design and techniques in fabrication of ceramo-metal restorations. Instruction Mode: Lecture Grading Option: Letter

REST 709a Seminar: Removable Partial Dentures
Units: 1, 2 Diagnosis, treatment planning, and design of removable partial dentures using extracoronal and intracoronal retainers. Instruction Mode: Lecture Grading Option: Letter

REST 709b Seminar: Removable Partial Dentures
Units: 1, 2 Diagnosis, treatment planning, and design of removable partial dentures using extracoronal and intracoronal retainers. Instruction Mode: Lecture Grading Option: Letter

REST 710a Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710b Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710c Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 710d Implant Dentistry
Units: 1 Implant modalities and types; basis for selection; techniques of placement and of supervision of prosthodontic restoration. Includes a review of classic implant literature. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 712 Maxillofacial Prosthodontics
Units: 2 Theory and techniques for fabrication of prostheses to correct maxillofacial deformities including cleft palate. Instruction Mode: Lecture Grading Option: Letter

REST 721a Principles of Occlusion
Units: 2 Application of current occlusal concepts in removable prosthodontics. Techniques of occlusal adjustment and additive waxing for development of occlusal morphology. Instruction Mode: Lecture Grading Option: Letter

REST 721b Principles of Occlusion
Units: 2 Application of current occlusal concepts in removable prosthodontics. Techniques of occlusal adjustment and additive waxing for development of occlusal morphology. Instruction Mode: Lecture Grading Option: Letter

REST 761a Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761b Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761c Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761d Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761e Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761f Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761h Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761i Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 761j Clinic: Advanced Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Students treat patients with complex interdisciplinary problems. A minimum of five full mouth reconstructions and 10 sets of complete dentures will be completed. Instruction Mode: Lecture Grading Option: Letter

REST 781 Clinic: Maxillofacial Prosthetics
Units: 1, 2, 3, 4, 5, 6, 7, 8 Clinical experience in fabrication of prostheses to correct maxillofacial deformities. Instruction Mode: Lecture Grading Option: Letter

REST 782a Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782b Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782c Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782d Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 782e Clinic: Implant Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical procedures in implants for prosthodontic rehabilitation. Instruction Mode: Lecture Grading Option: Credit/No Credit

REST 790 Directed Research: Prosthodontics
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Opportunities for research in clinical and experimental prosthodontics. Instruction Mode: Lecture Grading Option: Credit/No Credit

Removable Prosthodontics

RPRO 501 Preclinical Removable Complete Prosthodontics
Units: 1 Fundamental theory for the fabrication of removable complete dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 502 Removable Complete Prosthodontics
Units: 1 Complete denture treatment: phases, clinical procedures, philosophy, concept, rationale, and need. Instruction Mode: Lecture Grading Option: Letter

RPRO 503a Preclinical Removable Prosthodontics and Implants
Units: 2 Introduction to disciplines of removable complete and partial dentures and implants, including classification and progress of edentulism, support sources and principles, design, fabrication and evaluation. Instruction Mode: Lecture Grading Option: Letter

RPRO 503b Preclinical Removable Prosthodontics and Implants
Units: 1 Introduction to disciplines of removable complete and partial dentures and implants, including classification and progress of edentulism, support sources and principles, design, fabrication and evaluation. Instruction Mode: Lecture Grading Option: Letter

RPRO 510 Implant Dentistry
Units: 1 Principles and use of implants in dentistry: includes history, biological basis, types, diagnosis and treatment planning, surgical and restorative procedures, and limitations. Instruction Mode: Lecture Grading Option: Letter

RPRO 511 Preclinical Removable Partial Prosthodontics I
Units: 1 Partial denture diagnosis and treatment planning; basic principles of partial denture design, fabrication, and function. Instruction Mode: Lecture Grading Option: Letter

RPRO 512 Preclinical Removable Partial Prosthodontics II
Units: 1 Partial denture design, fabrication, and function; repair; patient education. Instruction Mode: Lecture Grading Option: Letter

RPRO 513 Removable Partial Prosthodontics
Units: 1 Clinical removable partial prosthodontic treatment including diagnosis, treatment planning and clinical techniques. Instruction Mode: Lecture Grading Option: Letter

RPRO 521 Preclinical Removable Complete Prosthodontics Laboratory
Units: 1 Fundamental theory for the fabrication of removable complete dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 523a Preclinical Removable Prosthodontics and Implants Laboratory
Units: 1 Laboratory experience in the fabrication of removable complete and partial dentures and implants. Instruction Mode: Lecture Grading Option: Letter

RPRO 523b Preclinical Removable Prosthodontics and Implants Laboratory
Units: 1 Laboratory experience in the fabrication of removable complete and partial dentures and implants. Instruction Mode: Lecture Grading Option: Letter

RPRO 532 Preclinical Removable Partial Prosthodontics Laboratory II
Units: 1 Laboratory experience in fabrication of removable partial dentures. Instruction Mode: Lecture Grading Option: Letter

RPRO 550 Removable Complete Prosthodontics Clinic I
Units: 1 Clinical demonstration with supervised clinic experience in construction, repair, and evaluation of the removable complete denture. Instruction Mode: Lecture Grading Option: Letter

RPRO 561a Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561b Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561c Clinic: Removable Complete Prosthodontics I
Units: 0 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 561d Clinic: Removable Complete Prosthodontics I
Units: 2 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporo-mandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 562a Clinic: Removable Complete Prosthodontics II
Units: 0, 1, 2, 3 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporomandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 562b Clinic: Removable Complete Prosthodontics II
Units: 0, 1, 2, 3 Diagnosis, treatment planning, and care of edentulous patients. Complex cases involving temporomandibular joint dysfunction, surgical and congenital defects; seminars on clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 571a Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571b Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571c Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571d Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571e Clinic: Removable Partial Prosthodontics
Units: 0 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 571f Clinic: Removable Partial Prosthodontics
Units: 2 Clinical experience in diagnosis, treatment planning, and laboratory procedures necessary for the treatment of the partially edentulous patient. Includes seminars related to clinical treatment. Instruction Mode: Lecture Grading Option: Letter

RPRO 602 Advanced Removable Prosthodontics
Units: 4 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 604a, RPRO 604b, RPRO 604c. Instruction Mode: Lecture Grading Option: Letter

RPRO 603 The Edentulous Patient — Conventional or Implant Prosthesis
Units: 1 Effective management of the edentulous patient who is unable to adapt to

a prosthesis; includes a review of implant dentistry with a hands-on session. Instruction Mode: Lecture Grading Option: Letter

RPRO 604a Advanced Removable Prosthodontics
Units: 0 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 604b Advanced Removable Prosthodontics
Units: 0 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

RPRO 604c Advanced Removable Prosthodontics
Units: 4 Critical review and evaluation of the removable prosthodontic literature; guided experience in the laboratory and clinical phases of removable prosthodontic therapy. Duplicates Credit in RPRO 602. Instruction Mode: Lecture Grading Option: Letter

RPRO 605 Prosthodontic Seminar: Removable Partial Prosthodontics
Units: 1 Provides fourth year dental students with an advanced didactic foundation for treating the partially edentulous patient with a removable partial. Instruction Mode: Lecture Grading Option: Letter

Regulatory Science

RSCI 504 Good Laboratory Practices (GLP)
Units: 2 Introduction to Good Laboratory Practices (GLP), including the design, implementation and monitoring of non-clinical GLP studies, and GLP studies in an academic environment. Instruction Mode: Lecture Grading Option: Letter

RSCI 506 Auditing Principles
Units: 3 Audit requirements mandated by the FDA and other international regulatory agencies including internal, external, regulatory agency, third party, GMP, GLP, ISO 13485/QSR and supplier audits. Instruction Mode: Lecture Grading Option: Letter

RSCI 507 Quality Systems and Statistical Process Control
Units: 2 Fundamentals and applications of Statistical Process Control (SPC) in development and monitoring of manufacturing processes; includes SPC in root cause analysis and CAPA. Instruction Mode: Lecture Grading Option: Letter

RSCI 508 Quality Assurance for Drugs and Biologics
Units: 3 Design and implementation of a quality system to assure quality and safety of pharmaceuticals and biologics, according to relevant FDA and international regulations and guidance documents. Instruction Mode: Lecture Grading Option: Letter

RSCI 509 Quality Assurance, Medical Devices and Combination Products
Units: 3 Design of systems according to FDA and international regulations and guidelines to ensure the quality and safety of medical devices and combination products. Instruction Mode: Lecture Grading Option: Letter

RSCI 520 Introduction to Risk Management for Health Care Products
Units: 2 Historical development, formal language and theoretical approaches to risk management in health care and medical product environment; policies, regulations, standards; liability prevention and loss control. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Duplicates Credit in former MPTX 520. Instruction Mode: Lecture Grading Option: Letter

RSCI 521 Seminars in Regulatory Science
Units: 1 Max Units: 6.0 Terms Offered: FaSpSm Current problems in regulatory affairs, legal management, preclinical and clinical testing, scientific evaluation and quality assurance. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post secondary training and industry experience; enrollment in MS, Regulatory Science program. Duplicates Credit in former MPTX 521. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 523 Advanced Concepts in Risk Management for Medical Products
Units: 3 Managing risk in demanding health-care and medical-product situations: clinical trials, emerging technologies, counterfeit prevention, hard-to-reach populations. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in M.S. (Regulatory Science), Certificate in Patient and Product Safety, or permission of instructor. Instruction Mode: Lecture Grading Option: Letter

RSCI 525 Introduction to Drug and Food Toxicology
Units: 3 Factors affecting toxic responses to foods and drugs: dose-response relationships, absorption, distribution, biotransformation, elimination of toxicants; target organ toxicity, teratogenesis, mutagenesis, carcinogenesis, food allergies, risk assessment. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 527 Medical Product Safety
Units: 3 Management of medical product safety by manufacturers/suppliers including: safe manufacturing, labeling, packaging; pharmacovigilance, field observations, complaint handling; record-keeping, safety issues documentation; crisis management/recalls. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 529 Application of Risk Management Tools and Techniques
Units: 2 Use of risk management tools in the medical products arena: functional analysis, fault-tree analysis, failure modes and effects analysis, HACCP and six sigma methods. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 530 Translational Medicine: An Overview
Units: 2 Terms Offered: FaSpSm An overview of principles and concepts underlying drug discovery and development, including terminology of translational science. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science, Certificate in Preclinical Drug Development and MS, Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

RSCI 531 Industrial Approaches to Drug Discovery
Units: 4 Terms Offered: FaSpSm Examines the process of drug discovery from selection of disease and therapeutic target to characterization and validation of lead drug candidates. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science, Certificate in Preclinical Drug Development and MS, Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

RSCI 532 Early Stage Drug Development
Units: 3 Terms Offered: FaSpSm Explores the activities involved in transforming an early drug or biological candidate to a drug approved for marketing by regulatory authorities. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science, Certificate in Preclinical Drug Development and MS, Management of Drug Development. Instruction Mode: Lecture Grading Option: Letter

RSCI 533 Safety Evaluation during Drug Development
Units: 3 Safety pharmacology/toxicology requirements mandated by FDA and other regulatory agencies to move a new chemical entity from discovery stage to market approval. Instruction Mode: Lecture Grading Option: Letter

RSCI 534 Drug Development in CNS Disorders
Units: 4 Successes and challenges related

to central nervous system therapeutics. Major brain disorders, current and future therapeutic targets and clinical trial designs. Instruction Mode: Lecture Grading Option: Letter

RSCI 535 Methods Development and Validation
Units: 3 Foundation in the process of developing and validating analytical methodology for purposes of pharmaceutical, biological and medical device development. Instruction Mode: Lecture Grading Option: Letter

RSCI 540 Analysis of Food and Dietary Supplement Regulations
Units: 3 Changes and interpretation of regulations affecting food supply and dietary supplements impacting global markets. Product development, health-claim positioning, advertising, media messaging, consumer choices, personal health outcomes. Instruction Mode: Lecture Grading Option: Letter

RSCI 541 Drug Development, Reimbursement, and Marketing
Units: 3 Survey of drug development strategies; health economics and outcomes researches and reimbursements; emphasis on coverage determination process and FDA and CMS parallel review process. Instruction Mode: Lecture Grading Option: Letter

RSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 596 Internship for Curricular Practical Training in Regulatory Science
Units: 1 Max Units: 4.0 Terms Offered: FaSpSm Part-time or full-time practical work experience in Regulatory Science. The internship must be located at an offcampus facility. Students are individually supervised by faculty. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medicine or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS (Regulatory Science). Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 601 Biomedical Commerce
Units: 4 Introduction to business principles appropriate to medical products, including: supply and demand, product entry-exit strategies, financing, reimbursement, marketing and pricing in global marketplace. *Recommended Preparation:* undergraduate degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience; enrollment in MS, Regulatory Science. Instruction Mode: Lecture Grading Option: Letter

RSCI 603 Managing Complex Projects
Units: 3 Theory and methods to manage complex projects in medical products sectors; timelines, intellectual property, security, contracts, budgets, review activities, reports, electronic tools, cross-cultural communication. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 604 Regulatory Strategy in Asia
Units: 4 Terms Offered: FaSpSm Regulatory policy, standards and practices in different Asian markets: product licensing, import/export management, materials sourcing, quality systems compliance, reimbursement, prescribing practices. Travel may be required. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of postsecondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 605 Managing Organizations and Human Resources
Units: 3 Theory and practice of personnel management, organizational structure and industrial relations in small, growing enterprises and large global companies typical of pharmaceutical and medical device sectors. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of postsecondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 606 Regulation of Emerging Technologies and Biological Products
Units: 3 Policies, testing and regulatory requirements affecting commercialization of biologics and novel medical technologies. Focus on biologics, blood and tissue products, radiopharmaceuticals and nanotechnology. Instruction Mode: Lecture Grading Option: Letter

RSCI 607 Theory, Methods and Practice of Medical Products Research
Units: 4 Terms Offered: FaSpSm Statistical and research design methods, data analysis, survey and interview techniques laying the foundation for the dissertation. Instruction Mode: Lecture Grading Option: Letter

RSCI 608 Regulatory Strategy in Europe and the Americas
Units: 4 Regulatory strategy in EU, Canada, Mexico and South America; culture, health-care practices, reimbursement, product registration, quality systems, trade restrictions, import/export requirements. Travel may be required. *Recommended Preparation:* undergraduate or professional degree in pharmacy, medical or independent health sciences, engineering or equivalent mix of post-secondary training and industry experience. Instruction Mode: Lecture Grading Option: Letter

RSCI 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12.0 Terms Offered: FaSpSm Research leading to the doctorate. Maximum units which may be applied towards the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

RSCI 794a Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794b Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794c Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794d Doctoral Dissertation
Units: 2 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

RSCI 794z Doctoral Dissertation
Units: 0 Dissertation research required for completion of doctoral degree in regulatory science. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

RSCI 800 Studies for the Qualifying Exam
Units: 0 Terms Offered: FaSpSm Preparation for the qualifying exam. Instruction Mode: Lecture Grading Option: Credit/No Credit

Pharmaceutical and Regulatory Science

RXRS 201p The History and Geography of Drugs
Units: 4 Global perspectives; discovery and use of drugs (legal/illegal); poisons. How they helped shape, modify or change history as described in classical literature through present day. Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture Grading Option: Letter

RXRS 209 Mysterious Deaths: Poisons in Literature and History
Units: 2 Poisons as described in classical literature that shaped, modified or changed the course of history presented in the context of pharmacological/toxicological principles of drug action. Instruction Mode: Lecture Grading Option: Letter

RXRS 302 Pharmacology and Drug Development
Units: 4 Introduction to drug development. Drug/Receptor interactions, pharmacodynamics, pharmacokinetics, toxicology, therapeutic interventions, biotransformation, pharmacogenomics, FDA, regulatory requirements and challenges, intellectual property, global challenges of drug development. Instruction Mode: Lecture Grading Option: Letter

RXRS 304 Mysterious Deaths: Toxicology, Poisons, Literature, History
Units: 4 Poisons in classical literature helped shape, modify or change history. Presented in the context of pharmacological/toxicological principles of drug action. Instruction Mode:

Lecture Grading Option: Letter

RXRS 402 Human Pharmacology: Challenge of Therapeutics in Society
Units: 4 Principles of human pharmacology/ toxicology related to prescription, over the counter medications; nutraceuticals; drug-drug interactions; polypharmacy; hot topics related to recently approved drugs. *Recommended Preparation:* Students should have at completed at least one year of undergraduate biology and/or chemistry Instruction Mode: Lecture Grading Option: Letter

RXRS 403 Neuropharmacology in Health and Disease
Units: 4 Neuropharmacological treatments of brain disorders including neurodegenerative disorders, injury, and disease; influence of environment and experiences on neuroplasticity and brain development; drug discovery. *Prerequisite:* BISC 220Lg Instruction Mode: Lecture Grading Option: Letter

RXRS 404 Neuroimmunity in Health and Disease
Units: 2 Social, psychological, economical, biological reasons associated with drug use/ abuse; prevention strategies; Pharmacology and Pharmacotherapy successes/ challenges; current trends; case studies; roles of health care professionals. *Recommended Preparation:* background in or completion of a year of biological science course work Instruction Mode: Lecture Grading Option: Letter

RXRS 405 Pharmacology and Sociology of Drug Abuse
Units: 4 Social, psychological, economical, biological reasons associated with drug use/ abuse; prevention strategies; pharmacology and pharmacotherapy successes/ challenges; current trends; case studies; roles of health care professionals. Instruction Mode: Lecture Grading Option: Letter

RXRS 406 Clinical Pharmacology and Medication Management
Units: 4 Comprehensive Medication Management Applications in Pharmacotherapy; evidence-based, pharmacist driven medication selection; improved and/or optimized medication therapy; patient compliance; better and safer health outcomes. *Recommended Preparation:* clinical pharmacology course Instruction Mode: Lecture Grading Option: Letter

RXRS 407 The Discovery, Development and Marketing of Medicines
Units: 4 Principles, concepts, challenges and short comings of modern day drug discovery and development of medicines. Inter-relationships with regulatory, ethical and societal sectors presented. Instruction Mode: Lecture Grading Option: Letter

RXRS 408 Immunology and Immunotherapeutics
Units: 4 Principles of human immunological responses to maintain wellness and perturbation in disease. Focus on discovery, development and use of pharmacological therapeutic strategies targeting immune mechanisms. *Prerequisite:* (BISC 120Lg and BISC 220Lg) or (CHEM 105aLg and CHEM 105bL) *Recommended Preparation:* Introductory Immunology Instruction Mode: Lecture Grading Option: Letter

RXRS 409 Neuroimmunology: Focus on Disease and Therapy
Units: 4 Newly evolving science focusing on the role of neuroimmune communication in the pathophysiology of the central nervous system (CNS) disorders. Neuroinflammation as a target for novel therapeutic approaches. *Prerequisite:* RXRS 408 or BISC 450L Instruction Mode: Lecture Grading Option: Letter

RXRS 410 Cancer Biology and Pharmacotherapy
Units: 4 Cancer and the complex molecular basis leading to tumor oncogenesis, invasion and metastasis; current therapeutic strategies and strategies on the horizon. *Prerequisite:* BISC 120Lg and BISC 220Lg) or (CHEM 105aLg and CHEM 105bL) Instruction Mode: Lecture Grading Option: Letter

RXRS 411 Innovations in Medical Product Development
Units: 4 Developing new medical technologies; political, regulatory, financing and reimbursement issues that may be associated; case studies looking at the newest medical technologies. Instruction Mode: Lecture Grading Option: Letter

RXRS 412w Twenty-First Century Medical Issues and the Law
Units: 4 Difficult issues in the law are examined regarding medical and healthcare controversies such as euthanasia, abortion, embryonic stem cells, human experimentation, and the death penalty. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

RXRS 413 Globalization of the Biomedical Industry
Units: 4 Globalization; pharmaceuticals, biologics, medical devices, and combination products in advanced, emerging, and developing markets; regional and national regulations, global and regional harmonization efforts, ethical considerations. Instruction Mode: Lecture Grading Option: Letter

RXRS 416 Medical Products: From Idea to Market
Units: 4 Progress of medical product development through intellectual property, animal and clinical trials and commercialization. Emphasis on safety, quality systems and efficacy. Instruction Mode: Lecture Grading Option: Letter

RXRS 417 Food Safety: The Good, The Bad and The Deadly
Units: 4 Critical thinking, science translation, effective communications, personal health, and public policy development are at the interface of food safety, nutrition intervention and health controversies. Instruction Mode: Lecture Grading Option: Letter

RXRS 418 Plant Medicines in Modern Medicine
Units: 4 Plant medicines; how discovered; activity; pharmacology, toxicity and human benefit; emphasis on the US, Europe and China. Instruction Mode: Lecture Grading Option: Letter

RXRS 420 Organ Physiology, Drug Delivery, and Drug Action
Units: 4 Principles of cellular and organ physiology. Interplay between the physiology of these organ systems, drug delivery, and drug action. Instruction Mode: Lecture Grading Option: Letter

RXRS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12 Individual research, reading, writing and project development. Instruction Mode: Lecture Grading Option: Letter

Systems Architecting and Engineering

SAE 496 Systems Engineering Through Motorsports
Units: 3 Terms Offered: Irregular Applied systems architecting, engineering and management to motorsports from design to validation and verification; venues include drag racing, grand prix Formula SAE racing, DARPA Challenges. Instruction Mode: Lecture Grading Option: Letter

SAE 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content to be selected each semester from recent developments in Systems Architecting and Engineering and related fields. Instruction Mode: Lecture Grading Option: Letter

SAE 515 Sustainable Infrastructure Systems
Units: 3 Terms Offered: Fa Explores broad issues and mitigation measures involved in the analysis and design of complex, uncertain, interacting infrastructure systems needing to be resilient and sustainable. Instruction Mode: Lecture Grading Option: Letter

SAE 541 Systems Engineering Theory and Practice
Units: 3 Terms Offered: FaSpSm Integration of engineering problem solving methodologies based on systems concepts. Application to complex, large scale technical systems and problems faced by engineering managers. Case studies. Duplicates Credit in former ISE 541. Instruction Mode: Lecture Grading Option: Letter

SAE 542 Advanced Topics in Systems Engineering
Units: 3 Terms Offered: FaSpSm Advanced topics in integration software management and systems engineering, probabilistic foundations of decision-based theory, quantitative risk management, decision-based design, and safety aspects of systems engineering. Duplicates Credit in former ISE 542. Instruction Mode: Lecture Grading Option: Letter

SAE 543 Case Studies in Systems Engineering and Management
Units: 3 Terms Offered: FaSp Real-world case studies in DoD, NASA, and commercial arenas, employing new methodologies to cover the fundamental positive and negative development learning principles of systems

engineering. Instruction Mode: Lecture Grading Option: Letter

SAE 546 Engineered Resilient Systems and System-of-Systems
Units: 3 Terms Offered: Sp Formal methods for the design and analysis of resilient systems and system-of-systems (SoS); Disruption risks as a function of system scale and complexity, management, and architectures. *Recommended Preparation:* SAE 549 Instruction Mode: Lecture Grading Option: Letter

SAE 547 Model-Based Systems Architecting and Engineering
Units: 3 Approaches for modeling systems using software such as SySML; modeling system, requirements, structure, behavior, and parametrics; mapping to hardware description language and behavioral code generation. *Recommended Preparation:* Modeling and simulation courses. Instruction Mode: Lecture Grading Option: Letter

SAE 548 Systems/System-of-Systems Integration and Communication
Units: 3 Terms Offered: FaSp Essentials of systems and system-of-systems integration from the perspectives of business, programs, and technology. Process, legacy, and systems-of-systems integration. Verification and validation methods. Case studies. *Recommended Preparation:* bachelor's degree in engineering or physical sciences. Instruction Mode: Lecture Grading Option: Letter

SAE 549 Systems Architecting
Units: 3 Terms Offered: FaSp Introduction to systems architecture in aerospace, electrical, computer, and manufacturing systems emphasizing the conceptual and acceptance phases and using heuristics. *Prerequisite:* BS degree in a related field of engineering. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AME-549

SAE 550 Systems Architecting and the Political Process
Units: 3 Analysis of risks inherent in managing hightech/ high-cost government-funded engineering programs; tools and techniques for coping with the impacts of politically-driven budgets on the engineering design process. *Recommended Preparation:* two years of work experience. Duplicates Credit in former ISE 550. Instruction Mode: Lecture Grading Option: Letter

SAE 551 Lean Operations
Units: 3 Terms Offered: FaSp (Enroll in ISE 506)

SAE 560 Economic Considerations for Systems Engineering
Units: 3 Terms Offered: Sp Impact of economic factors for systems architects and engineers, tools for understanding these factors, fundamental quantitative analysis of cash flow, life-cost estimating for systems and software engineering. Instruction Mode: Lecture Grading Option: Letter

SAE 574 Net-Centric Systems Architecting and Engineering
Units: 3 Terms Offered: FaSp In-depth examination of the technical design approaches, tools, and processes to enable the benefits of net-centric operations in a networked systems-of-systems. Instruction Mode: Lecture Grading Option: Letter

SAE 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SAE 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SAE 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSpSm Course content will be selected each semester to reflect current trends and developments in the field of systems architecting and engineering. Instruction Mode: Lecture Grading Option: Letter

Screen Scoring

SCOR 403 Introduction to Scoring Movies and Television
Units: 2 Practical composition course covering the unique art, craft, and technology involved in writing and integrating music for animated and live-action visual media. *Prerequisite:* MUCO 133b *Recommended Preparation:* Composition background, MTEC 443 or MTEC 445 Instruction Mode: Lecture Grading Option: Letter

SCOR 405 Introduction to Scoring Video Games
Units: 2 Practical composition course covering the unique art, craft, and technology involved in composing and integrating video-game music. *Prerequisite:* MUCO 133b *Recommended Preparation:* Composition background, MTEC 443 or MTEC 445 Duplicates Credit in former MUCO 445 Instruction Mode: Lecture Grading Option: Letter

SCOR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: max 12 Individual research and readings. Not available for graduate credit. Registration Restriction: Open only to juniors and seniors Instruction Mode: Lecture Grading Option: Letter

SCOR 499 Special Topics
Units: 2, 3, 4 Max Units: 8 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

SCOR 502 Individual Instruction in Advanced Screen Scoring
Units: 1, 2 Max Units: 4 Individual instruction and review of students' work. Selected composers, orchestrators, filmmakers, and other important industry collaborators offer their insights on scoring and career building. Duplicates Credit in former MUCO 520 and MUCO 545 Instruction Mode: Lecture, Lab Grading Option: Letter

SCOR 503a Advanced Scoring for Motion Pictures and Television
Units: 2 Scoring principles involved in designing, timing, and composing scores for video projects, including documentaries, animated, and live-action projects. Will also include composing for live recording sessions. Duplicates Credit in former MUCO 440a Instruction Mode: Lecture Grading Option: Letter

SCOR 503b Advanced Scoring for Motion Pictures and Television
Units: 2 Scoring principles involved in designing, timing, and composing scores for video projects, including documentaries, animated, and live-action projects. Will also include composing for live recording sessions. *Prerequisite:* SCOR 503a Duplicates Credit in former MUCO 440b Instruction Mode: Lecture Grading Option: Letter

SCOR 504a Orchestral Scoring
Units: 2 Explores the sounds of and notations for the major orchestral instruments; provides instruction on implementation of those instruments in scoring and orchestrating for the screen. Duplicates Credit in former MUCO 443a Instruction Mode: Lecture Grading Option: Letter

SCOR 504b Orchestral Scoring
Units: 2 Explores the sounds of and notations for the major orchestral instruments; provides instruction on implementation of those instruments in scoring and orchestrating for the screen. *Prerequisite:* SCOR 504a Duplicates Credit in former MUCO 443b Instruction Mode: Lecture Grading Option: Letter

SCOR 505a Advanced Game Scoring and Integration
Units: 2 Explores more sophisticated principles and techniques involved in the unique aspects of composing and integrating music for video games. Duplicates Credit in former MUCO 540a Instruction Mode: Lecture Grading Option: Letter

SCOR 505b Advanced Game Scoring and Integration
Units: 2 Explores more sophisticated principles and techniques involved in the unique aspects of composing and integrating music for video games. *Prerequisite:* SCOR 505a Duplicates Credit in former MUCO 540b Instruction Mode: Lecture Grading Option: Letter

SCOR 506 Applied Techniques in Contemporary Scoring
Units: 2 Explores the most recent artistic and technological innovations in film/television scoring, and includes creating cues from adapted themes. Duplicates Credit in former MUCO 522b Instruction Mode: Lecture Grading Option: Letter

SCOR 511a History of Film Scoring

Units: 2 Examines the evolution of movie music from 1920s to present. Includes recorded interviews with the most significant film composers and film clips of their work. Duplicates Credit in former MUCO 442a Instruction Mode: Lecture Grading Option: Letter

SCOR 511b History of Film Scoring
Units: 2 Examines the evolution of movie music from 1920s to present. Includes recorded interviews with the most significant film composers and film clips of their work. *Prerequisite:* SCOR 511a Duplicates Credit in former MUCO 442b Instruction Mode: Lecture Grading Option: Letter

SCOR 512 Entrepreneurialism for the Screen Composer
Units: 2 Addresses challenges facing emerging screen composers, including negotiating deals; establishing a studio, production budgets, and a publishing business; tracking royalties; licensing music; and engaging representation. Instruction Mode: Lecture Grading Option: Letter

SCOR 521a Recording, Mixing and Editing for the Screen Composer
Units: 2 Addresses the need for modern-day screen composers to produce and digitally record, sweeten, mix, and edit much of their own music. Duplicates Credit in former MUCO 560a Instruction Mode: Lecture Grading Option: Letter

SCOR 521b Recording, Mixing and Editing for the Screen Composer
Units: 2 Addresses the need for modern-day screen composers to produce and digitally record, sweeten, mix, and edit much of their own music. *Prerequisite:* SCOR 521a Duplicates Credit in former MUCO 560b Instruction Mode: Lecture Grading Option: Letter

SCOR 523a Advanced Screen Scoring Technology
Units: 2 Explores sophisticated principles and applications of technologies for screen scoring, including the use of synthesizers, samplers, and sequencers. Duplicates Credit in former MUCO 523a Instruction Mode: Lecture Grading Option: Letter

SCOR 523b Advanced Screen Scoring Technology
Units: 2 Explores sophisticated principles and applications of technologies for screen scoring, including the use of synthesizers, samplers, and sequencers. *Prerequisite:* SCOR 523a Duplicates Credit in former MUCO 523b Instruction Mode: Lecture Grading Option: Letter

SCOR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the Master's Degree. Maximum units which may be applied to the degree to be determined by the department. Graded CR/NC. Instruction Mode: Lecture Grading Option: Credit/No Credit

SCOR 599 Special Topics
Units: 2, 3, 4 Max Units: max 8 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

SCOR 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

Stem Cell Biology and Regenerative Medicine

SCRM 511 Developmental Biology and Human Embryology
Units: 4 Terms Offered: Fa Survey of anatomical, cellular and molecular processes that underlie human development and congenital malformations, with discussion of other species for comparison. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 513 Stem Cells and Regenerative Medicine
Units: 4 Terms Offered: Fa A comprehensive investigation of embryonic, fetal and adult stem cells and the application of stem cell biology to treat disease. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 515 Bringing Stem Cells to the Clinic
Units: 4 Terms Offered: Sp Lectures addressing the business, legal, ethical, manufacturing and regulatory aspects involved in moving stem cells or related product into clinical practice. *Recommended Preparation:* SCRM 513 Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 517 Historical and Contemporary Stem Cell Research
Units: 2 Terms Offered: Sp Historical and contemporary stem cell research using hematopoietic stem cells as a model system. *Prerequisite:* SCRM 513 Registration Restriction: Open only to master students in Stem Cell Biology and Regenerative Medicine Instruction Mode: Lecture Grading Option: Letter

SCRM 522L Biological Imaging in Stem Cell Research
Units: 2 Terms Offered: Sp Theory and practice of using microscopy and flow cytometry in stem cell biology, including sample preparation, digital processing and data analysis. *Concurrent Enrollment:* SCRM 524L Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

SCRM 524L Culture and Differentiation of Human Pluripotent Stem Cells
Units: 2 Terms Offered: Sp Classroom and laboratory experience in the techniques for deriving, culturing and differentiating human pluripotent stem cells (hPSCs) and related cell types. *Concurrent Enrollment:* Concurrent enrollment: SCRM 522 Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SCRM 555 Writing About Stem Cell Biology and Regenerative Medicine
Units: 1 Terms Offered: Sp Instruction in writing for various audiences on topics related to stem cell biology and regenerative medicine. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture Grading Option: Letter

SCRM 574 Stem Cell and Developmental Biology Seminar Series
Units: 1 Terms Offered: FaSp (Enroll in DSR 574)

SCRM 580 SCRM External Speaker Seminar Series
Units: 2 Max Units: 8.0 Terms Offered: FaSp Reading and discussion of recent papers by the SCRM speaker of the week, and attendance at the speaker's seminar. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Discussion Grading Option: Letter

SCRM 590 Independent Research
Units: 1, 2, 3, 4 Max Units: 16.0 Independent research conducted under the guidance of faculty in the Department of Stem Cell Biology and Regenerative Medicine. *Prerequisite:* SCRM 511, SCRM 513, SCRM 515, SCRM 522, SCRM 524, SCRM 555, SCRM 580. Registration Restriction: Open only to Stem Cell Biology and Regenerative Medicine majors. Instruction Mode: Lecture, Lab Grading Option: Credit/No Credit

SCRM 610 Current Topics in Regenerative Medicine
Units: 1 Terms Offered: Sp (Enroll in DSR 610)

SCRM 620 Current Topics in Stem Cell Biology and Organogenesis
Units: 1 Terms Offered: Fa (Enroll in DSR 620)

Slavic Languages and Literatures

SLL 020 Course in Reading Russian
Units: 2 For graduate students wishing to use Russian as a scholarly tool. Emphasis on basic grammar and reading skills. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 025 Course in Reading Russian
Units: 2 Continuation of SLL 020. Reading of authentic materials from Russian press and students' areas of interest. *Prerequisite:* SLL 020. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 120 Beginning Russian I
Units: 4 Introduction to the Russian language with emphasis on basic conversational skills, major points of grammar, and reading. Instruction Mode: Lecture Grading Option: Letter

SLL 122 Elementary Polish I
Units: 4 Structure of the language, pronunciation, basic communication, and reading in modern Polish. Instruction Mode: Lecture Grading Option: Letter

SLL 130a Elementary Czech
Units: 4 Structure of the language, basic grammar, pronunciation, and oral communication. Readings in Czech; discussion of Czech history and culture. Instruction Mode: Lecture Grading Option: Letter

SLL 130b Elementary Czech
Units: 4 Continuation of SLL 130a. *Prerequisite:* SLL 130a. Instruction Mode: Lecture Grading Option: Letter

SLL 150 Beginning Russian II
Units: 4 Continuation of SLL 120. *Prerequisite:* SLL 120. Instruction Mode: Lecture Grading Option: Letter

SLL 152 Elementary Polish II
Units: 4 Continuation of SLL 122. *Prerequisite:* SLL 122. Instruction Mode: Lecture Grading Option: Letter

SLL 199 Chess and Critical Thinking
Units: 2 Analysis of significant chess games, reflecting societal attitudes toward science, competition, art, gender, psychology, politics, and technology. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 210 Masterpieces of the Russian Short Story
Units: 4 Critical reading of selected masterpieces of the Russian short story; works by Gogol, Turgenev, Dostoevsky, Tolstoy, Babel, Pasternak, Solzhenitsyn, and others. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 220 Intermediate Russian I
Units: 4 Development of thematic conversational skills with emphasis on extended dialogue. Review of basic morphology with special attention to verbs of motion. Reading of authentic material is emphasized. *Prerequisite:* SLL 120, SLL 150. Instruction Mode: Lecture Grading Option: Letter

SLL 222 Readings in Polish Literature I
Units: 4 Continuation of elementary Polish and introduction to outstanding works in Polish literature. *Prerequisite:* SLL 122 and SLL 152. Instruction Mode: Lecture Grading Option: Letter

SLL 250 Intermediate Russian II
Units: 4 Continuation of SLL 220. Development of proficiency in conversation skills, reading, and writing. *Prerequisite:* SLL 220. Instruction Mode: Lecture Grading Option: Letter

SLL 252 Readings in Polish Literature II
Units: 4 Continuation of SLL 222. *Prerequisite:* SLL 222. Instruction Mode: Lecture Grading Option: Letter

SLL 255 Business Russian
Units: 4 Language and culture course for intermediate Russian level students interested in business. Prepares students to communicate in Russian-speaking business settings in a linguistically sensitive manner. *Prerequisite:* SLL 220. Instruction Mode: Lecture Grading Option: Letter

SLL 260x The Trans-Siberian Experience
Units: 2 Terms Offered: Sp Introduction to Russian language and culture by means of a study-tour on the Trans-Siberian Railway. Instruction Mode: Lecture Grading Option: Letter

SLL 270a Russian for Native Speakers
Units: 4 For native Russian speakers who cannot read or write Russian. Emphasis on essentials of grammar, vocabulary, and orthography, and the reading and writing of simple texts in Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 270b Russian for Native Speakers
Units: 4 Continuation of SLL 270a. Instruction Mode: Lecture Grading Option: Letter

SLL 299 Chess — Advanced Thinking Techniques
Units: 2 Development of advanced understanding of the game of chess. Critical analysis of games and of the problem-solving techniques applicable in various game situations. *Prerequisite:* SLL 199. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 300 The Russian Novel
Units: 4 The rise of the novel as the dominant form in Russian literature of the 19th century. Major works by Gogol, Turgenev, Dostoevsky, Tolstoy, and others. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 301 Russian Literary Avant-Garde
Units: 4 Russian modernism and the avant-garde: development of modern sensibility in literature and the arts from 1880 to 1930. Readings in Chekhov, Sologub, Bely, Mayakovsky, and others. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

SLL 302g Modern Russian Literature
Units: 4 Survey of the major developments in Russian literature during the 20th century, from modernism to the post-Soviet era. Readings in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SLL 303 Contemporary Russian Literature
Units: 4 Developments in Russian Literature from the 1960s to the present. Literature of moral resistance directed against official cultural models. In English. Instruction Mode: Lecture Grading Option: Letter

SLL 310 Advanced Russian in Popular Culture
Units: 4 Advanced conversation topics, readings and analysis of Russian press, films and other popular materials. Advanced grammar. Conducted in Russian. *Prerequisite:* SLL 250; *Recommended Preparation:* SLL 120, SLL 150, SLL 220. Instruction Mode: Lecture Grading Option: Letter

SLL 321 Russian Culture
Units: 4 Survey of Russian civilization from the beginnings to the Soviet period focusing on major cultural and artistic trends. *Prerequisite:* four semesters of Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 330gp Russian Thought and Civilization
Units: 4 Russian cultural identity from its beginnings until today. The Eastern Orthodox tradition, its traumatic confrontation with Western culture, and their continuous interaction. *Concurrent Enrollment:* Concurrent enrollment: MDA 140. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category II: Global Cultures and Traditions Instruction Mode: Lecture Grading Option: Letter

SLL 340 Intercultural Communication in Russian
Units: 4 Advanced language training focusing on specific issues of communication with Russians. Analysis and translation of literary texts. Advanced syntax. Conducted in Russian. *Prerequisite:* SLL 250; *Recommended Preparation:* SLL 120, SLL 150, SLL 220. Instruction Mode: Lecture Grading Option: Letter

SLL 344g Tolstoy: Writer and Moralist
Units: 4 Tolstoy's major works in the context of his ethical views. Readings and lectures in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

SLL 345g Literature and Philosophy: Dostoevsky
Units: 4 Dostoevsky's novels as psychological and philosophical analyses of modern alienated man. Readings in Dostoevsky and selections from Gide, Kafka, Camus, and Sartre. Conducted in English. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture Grading Option: Letter

SLL 346 Russian Drama and the Western Tradition
Units: 4 Representative plays from the 18th century to the present. Development of the Russian theater in the European context. Conducted in English. Instruction Mode: Lecture Grading Option: Letter

SLL 348g The Novels of Vladimir Nabokov
Units: 4 Survey of Vladimir Nabokov's novels written in Europe and America from the 1920s–1960s. Primary focus on the structure of the novels and their themes of art and emigration. Readings in English. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SLL 370 Advanced Russian for Native Speakers
Units: 4 For students with basic oral proficiency in Russian who need to develop native fluency in an array of genres and situations. Emphasis on advanced grammar, reading (literary and scholarly texts), written expression (scholarly, administrative, and business genres), spelling, and punctuation. Instruction Mode: Lecture Grading Option: Letter

SLL 378 Modern Russian Art
Units: 4 Changing concepts of aesthetic value as expressed in the development of 19th and 20th century Russian art (painting and architecture). Instruction Mode: Lecture Grading Option: Letter Crosslisted as AHIS-378

SLL 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SLL 397 Literature and Film in Eastern European Historical Experience
Units: 4 Exploration of key moments in the recent historical experience of Eastern Europe through close readings of literature and film. Taught in English. Instruction Mode: Lecture Grading Option: Letter

SLL 465 Seminar in Russian Studies
Units: 4 Max Units: 12.0 Readings and discussion in Russian of current topics in Russian culture, politics and society. Content varies each time offered. *Prerequisite:* SLL 250. Instruction Mode: Lecture Grading Option: Letter

SLL 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SLL 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SLL 500 Topics in Advanced Russian
Units: 2 Max Units: 8.0 Study of Russian required for graduate work and professional activities. *Prerequisite:* four years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 501 Proseminar in Russian Literature
Units: 3 Introduction to graduate study of Russian literature: research methods, bibliography, transliteration, development of critical writing skills. Instruction Mode: Lecture Grading Option: Letter

SLL 510 Old Church Slavonic
Units: 3 Study of the earliest recorded Slavic language; linguistic interpretation of original texts; knowledge of a Slavic language or general linguistics will be helpful. Instruction Mode: Lecture Grading Option: Letter

SLL 512 History of the Russian Language
Units: 3 Phonetic, morphological, syntactical changes from common Slavic to the present. Russian literary language; influence of 19th century Russian authors and old church Slavic on contemporary Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 514 Structure of Modern Russian: Phonology
Units: 3 Articulatory phonetics, phonemics, morphophonemics, and intonational patterns of modern Russia. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 516 Structure of Modern Russian: Morphology
Units: 3 Essential issues in current linguistic description of the syntax and morphology of modern Russian. Considers word order, negation, verbal aspect. Instruction Mode: Lecture Grading Option: Letter

SLL 530 Early Russian Literature and Culture (11th–17th Centuries)
Units: 3 Major monuments of medieval Russian literature examined in their cultural, literary, and theological context, with special emphasis on issues of genre. Focus on problems of Russian cultural identity and Russia's complex relationship to Byzantine and Western traditions. *Prerequisite:* SLL 510 and SLL 514. Instruction Mode: Lecture Grading Option: Letter

SLL 532 18th Century Russian Literature
Units: 3 Major works and genres of the 18th century. The development of a "modern" literary tradition, focusing on problems of Russia's indigenization of Western literary movements (classicism and sentimentalism). Instruction Mode: Lecture Grading Option: Letter

SLL 542 Symbolism
Units: 3 Russian symbolist literature; cultural and philosophical background of this late 19th and early 20th century movement. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 544 Russian Short Story
Units: 3 Pushkin, Gogol, Dostoevsky, Turgenev, Tolstoy, Chekhov. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 545 19th Century Russian Poetry
Units: 3 Analysis of major works of 19th century Russian poetry in the context of developing aesthetic principles and cultural history. *Prerequisite:* SLL 501. Instruction Mode: Lecture Grading Option: Letter

SLL 546 The Russian Novel
Units: 3 Genre of the novel as exemplified in the works of one or more Russian authors. Readings from Gogol, Turgenev, Tolstoy, Dostoevsky, and others. *Prerequisite:* three years of college Russian. Instruction Mode: Lecture Grading Option: Letter

SLL 548 History of Russian Literary Criticism
Units: 3 History and principles of literary criticism in Russia with attention to major periods and movements from the early 19th century through the Formalists. Instruction Mode: Lecture Grading Option: Letter

SLL 550 Russian Modernism
Units: 3 "Russian Modernism" subsumes theoretical ideas, practical achievements, and stylistic movements which contributed to Russia's cultural renaissance between ca. 1890 and ca. 1925. *Prerequisite:* SLL 340. Instruction Mode: Lecture Grading Option: Letter

SLL 555 Soviet Literature I (1917–1953)
Units: 3 The course surveys the major writers and literary schools of Soviet literature in the crucial period from the Revolution to the death of Stalin. Instruction Mode: Lecture Grading Option: Letter

SLL 557 Soviet Literature II (1953–present)
Units: 3 De-Stalinization of Soviet culture, the reappropriation of Russia's literary past, and new directions in contemporary literature. Instruction Mode: Lecture Grading Option: Letter

SLL 575 Socialist Realism
Units: 3 The course examines the origins, doctrine, and ideology of socialist realism, the predominant, and officially prescribed, aesthetic of Soviet literature. Instruction Mode: Lecture Grading Option: Letter

SLL 584 Russian Fiction and the West
Units: 3 A survey of major Russian fiction in the context of Western European literary movements from the late 18th through late 19th centuries. The course presumes the students' basic acquaintance with the major monuments. Instruction Mode: Lecture Grading Option: Letter

SLL 585 20th Century Russian Literary Criticism
Units: 3 Relationship between practical and theoretical literary criticism: Formalism and Structuralism, Sociological school, and Bakhtin; theoretical approaches applied to specific literary texts. Instruction Mode: Lecture Grading Option: Letter

SLL 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: FaSp (Enroll in MDA 593)

SLL 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SLL 650 Seminar in Russian Literature
Units: 3 Max Units: 9.0 Detailed study of single literary period, movement or genre; two or more selected authors; specific school of literary criticism. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 660 Seminar on a Single Author or Work
Units: 3 Max Units: 9.0 Theme varies from year to year. An author or major work will be selected for intensive study; research paper required. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 665 Seminar in Russian Culture and the Arts
Units: 3 Max Units: 9.0 Subject varies from year to year. A trend or major figure will be studied in its cultural and artistic contexts. May be repeated, with departmental permission, if content of the seminar is different. *Prerequisite:* three years of college

Russian; *Recommended Preparation:* one year of graduate study. Instruction Mode: Lecture Grading Option: Letter

SLL 670 Seminar in Eastern European Cinema
Units: 3 Max Units: 09 Terms Offered: FaSp Topics in Eastern European cinema selected for intensive study. May be repeated with varying content. *Recommended Preparation:* two years of graduate study Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SLL 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SLL 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SLL 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Sociology

SOCI 100gm Los Angeles and the American Dream
Units: 4 Los Angeles as a metaphor for the American Dream, exploring the city's history and potential futures, including economic opportunity, social justice, spatial organization, and environmental sustainability. Satisfies Old General Education in Category VI: Social Issues Duplicates Credit in the former AMST 100gm and GEOG 100gm. Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 142gm Diversity and Racial Conflict
Units: 4 Terms Offered: FaSp Introduction to the causes and effects of contemporary race relations in a diverse U.S. society. Exploration of racial conflict at the personal and institutional levels. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 150gm Social Problems
Units: 4 Terms Offered: Fa Analysis of factors in current American social problems: crime, delinquency, prostitution, family disorganization, race relations, mental illness. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 155gm Immigrant America
Units: 4 Terms Offered: FaSp Examination of the immigrant experience in the United States. Comparative analysis of social context of migration, formation of immigrant communities, and social integration of immigrants. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 169gm Changing Family Forms
Units: 4 Terms Offered: FaSp The peculiarity of the "modern" Western family system in historical and cross cultural perspective; focus on the "postmodern" family crisis in the United States. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 200gm Introduction to Sociology
Units: 4 Basic concepts of sociology with special reference to group life, social institutions, and social processes. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 210g Science, Technology, and Social Conflict
Units: 4 Science and technology change society and how we understand ourselves. In turn, social struggles influence science. We will explore the interplay between these forces. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 215g Sociology of Wall Street
Units: 4 Terms Offered: FaSp Examines Wall Street as a: market for allocating investment; arbiter of prices; place to work; and a powerful force directing the activities of corporations everywhere. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 220gm Questions of Intimacy
Units: 4 Terms Offered: FaSp Analysis of conditions of intimacy and intimate personal relationships as lenses for understanding social inequalities of race, social class, gender, sexuality, and nation. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 225gw Sociology of Health and the Body
Units: 4 Terms Offered: FaSp Investigation of health as a social category and the varied ways that social and cultural factors shape bodies and health. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 242g Sociology, Demography, and Health
Units: 4 Terms Offered: FaSpSm Sociological and demographic concepts focusing on the causes of disease, health and wellness. Empirical analysis of population composition and its connection to health. *Recommended Preparation:* Prepares pre-health students for sociology portion of the MCAT. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 250gmw Grassroots Participation in Global Perspective
Units: 4 Theory and history behind the ideal of "the local, grassroots volunteer": a direct link between theory and research using Los Angeles as a case study. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 255g Sociology of Globalization
Units: 4 Terms Offered: FaSp This course examines globalization through social and economic processes and its consequences for social conflict, economic development, human rights, social movements, and national identity. Satisfies New General Education in Category C: Social Analysis Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SOCI 275 Sociology of Everyday Life
Units: 4 The social philosophy of understanding everyday life; describing and analyzing forms of interaction, emotions, knowledge, and the social self.

SOCI 305m Sociology of Childhood
Units: 4 Terms Offered: FaSp Social construction of childhoods; children's social relations and cultures; issues of childcare, poverty, violence, and children's rights; effects of children on adults. *Prerequisite:* SOCI 200gm *Recommended Preparation:* SOCI 270 or SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 313L Sociological Research Methods
Units: 4 Terms Offered: FaSp Logic of theory construction, research design, elementary data collection and analysis. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 314Lg Analyzing Social Statistics
Units: 4 Terms Offered: FaSpSm Sociological measurement, univariate description, elementary correlation, introduction to statistical inference. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 325 Applied Social Research Methods
Units: 4 Terms Offered: FaSp Use

quantitative analysis skills to study major social issues using large existing survey data sets. Become conversant in describing data to a variety of audiences. *Prerequisite:* SOCI 200gm and SOCI 270 and SOCI 313 and SOCI 314 Instruction Mode: Lecture Grading Option: Letter

SOCI 331 Cities
Units: 4 Organization of urban society, including such topics as segregation, urban decay, local politics, residential change, and community conflict. Instruction Mode: Lecture Grading Option: Letter

SOCI 335 Society and Population
Units: 4 World population trends and their consequences: determinants of fertility, mortality, and migration; development of elementary models of population change. Instruction Mode: Lecture Grading Option: Letter

SOCI 340 Organizations: Bureaucracy and Alternatives to Bureaucracy
Units: 4 Importance of organizations in social life; techniques for using and changing organizations; examination of strategies for building and sustaining nonbureaucratic organizations. Instruction Mode: Lecture Grading Option: Letter

SOCI 342m Race Relations
Units: 4 Terms Offered: FaSp Past and present relations between the White majority and the "conquered minorities" (Blacks, Chicanos, American Indians), as well as Asian immigrants; conflict vs. assimilation perspectives. *Prerequisite:* SOCI 200gm Instruction Mode: Lecture Grading Option: Letter

SOCI 345 Social Institutions
Units: 4 Cultural and interactional aspects of social institutions as complex social systems; religious, political, industrial, and familial institutions.

SOCI 350 Social Exclusion, Social Power, and Deviance
Units: 4 Terms Offered: FaSp Current theories of origin, distribution, and control of deviant behavior; examination of processes involved in the career deviance of drug addicts, alcoholics, sexual deviants, gamblers, and mentally disordered. *Prerequisite:* SOCI 200gm Instruction Mode: Lecture Grading Option: Letter

SOCI 351 Public Policy and Juvenile Justice
Units: 4 Terms Offered: FaSp Past and current theories of youth crime; gangs and other forms of youth deviance; the changing response of the police, courts, and public to these behaviors. *Prerequisite:* SOCI 200gm *Recommended Preparation:* SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 353 Public Policy and Criminal Justice
Units: 4 Terms Offered: FaSp Nature and trends in crime, policing, courts, and correctional agencies in relation to past, current, and prospective changes in society. *Prerequisite:* SOCI 200gm *Recommended Preparation:* SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 355m Immigrants in the United States
Units: 4 Social construction of historical and contemporary immigration to the United States, including causes of migration, immigration policies, and the socioeconomic integration of immigrants. *Prerequisite:* SOCI 200gm Instruction Mode: Lecture Grading Option: Letter

SOCI 356m Mexican Immigrants in Sociological Perspective
Units: 4 Effects of class, global inequality, legal status, gender, racial/ethnic, and language differences in distinguishing Mexican immigrant populations from the U.S.-born population; differentiation among Mexican immigrants. Instruction Mode: Lecture Grading Option: Letter

SOCI 357m Latino Politics
Units: 4 (Enroll in AMST 357)

SOCI 360m Social Inequality: Class, Status, and Power
Units: 4 Terms Offered: FaSp Inequalities in wealth, prestige, and power in the United States; the American class structure and the extent of upward mobility in that structure. *Prerequisite:* SOCI 200gm *Recommended Preparation:* SOCI 314Lg Instruction Mode: Lecture Grading Option: Letter

SOCI 362 Global and Transnational Sociology
Units: 4 Terms Offered: FaSp Examines key issues in global and transnational sociology. Globalization is the empirical phenomenon where social, economic, and political interconnectedness across countries impacts the world. Instruction Mode: Lecture Grading Option: Letter

SOCI 364m Racial and Ethnic Women in America
Units: 4 Terms Offered: FaSp (Enroll in SWMS 364m)

SOCI 365 Visual Sociology of the City and Its Residents
Units: 4 Students examine images of urban America and use the camera to produce visual representation in their analysis of social relations. Instruction Mode: Lecture Grading Option: Letter

SOCI 369 The Family in a Changing Society
Units: 4 Changing family patterns; personality development; family unity, predicting success in marriage; the family in transition; crises such as economic changes, death, divorce; family reorganization. *Prerequisite:* SOCI 200gm Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 369

SOCI 370 Sociological Theory
Units: 4 Terms Offered: FaSp Historical and contemporary approaches to sociological theory; analysis of conceptual frameworks applied to the study of society and social interaction. Instruction Mode: Lecture Grading Option: Letter

SOCI 376m Contemporary Issues in Asian American Communities
Units: 4 Survey of current social and political issues facing Asian American communities with emphasis on Los Angeles region; design and implementation of community-based research projects. Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST-376

SOCI 379gm Mixing and Matching: Intermarriage in 21st Century
Units: 4 Terms Offered: Sp (Enroll in JS 379)

SOCI 382 Judaism as an American Religion
Units: 4 (Enroll in JS 382)

SOCI 386m Men and Masculinity
Units: 4 (Enroll in SWMS 385)

SOCI 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SOCI 402 Human Trafficking
Units: 4 Terms Offered: FaSp Interrogates the social construction of the legal category "human trafficking," examining the ideological foundations, the social contentions, and political issues surrounding the issue. *Prerequisite:* SOCI 200gm and SOCI 370 and SOCI 313L and SOCI 314Lg and SOCI 325 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 402

SOCI 408 Volunteers, Non-Governmental Organizations, and Everyday Pol
Units: 4 Terms Offered: FaSpSm Theory, practice, and history of civic life. Examines communication, personal obligation, collective imagination, and political representation, in grassroots, state-sponsored, and non-governmental organization-sponsored civic associations around the world. *Prerequisite:* SOCI 200gm and (SOCI 270 or SOCI 370) and SOCI 313L and SOCI 314Lg and SOCI 325 *Corequisite:* SOCI 325 Instruction Mode: Lecture Grading Option: Letter

SOCI 410 The Sociology of Popular Culture
Units: 4 From the entertainment capital of the world, course surveys sociological research on artistic producers and critical theories of the connections between popular culture and society. Instruction Mode: Lecture Grading Option: Letter

SOCI 425 Crowds, Publics, and Social Movements
Units: 4 Terms Offered: FaSp Spontaneous, expressive and creative forms that support or revolutionize society, including topics such as audiences, student unrest, tax revolts, patriotism, uprisings, and women's movements. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 429 Immigration, Work and Labor
Units: 4 Terms Offered: FaSp Examination of the experiences of racial minorities in the labor market, niche concentration, the effects of globalization on labor migration, entrepreneurship, discrimination, and minorities in white-collar occupations. *Prerequisite:* SOCI 200gm and SOCI 370 and SOCI 313L and SOCI 314Lg and

SOCI 325 Instruction Mode: Lecture Grading Option: Letter

SOCI 430m Work and the Workplace
Units: 4 Contrasting views of work in contemporary societies; technological change in the workplace; opportunity, inequality, conflict, and alienation in different occupations. Instruction Mode: Lecture Grading Option: Letter

SOCI 432m Racial and Ethnic Relations in a Global Society
Units: 4 Terms Offered: FaSp Examines race/ethnic relations with U.S. and selected countries from a global perspective, causes/social effects of globalization on people's lives, U.S. attitudes, and political policies. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter Crosslisted as AMST 432

SOCI 435m Women in Society
Units: 4 Terms Offered: FaSp Women today in the labor force, in politics, and in the family. Past and contemporary attempts to expand the position of women in society. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 435

SOCI 445 Political and Social Theory
Units: 4 Max Units: 08 Terms Offered: FaSp Classical and contemporary theories of power, inequality, sociability, symbols and language in market, state, political, and civic organizations. *Prerequisite:* SOCI 250gmw Instruction Mode: Lecture Grading Option: Letter

SOCI 450 Non-Governmental Organizations/Non-profits Field Practicum
Units: 4 Terms Offered: FaSp Internship in a Non-Governmental Organization (NGO). Students will conduct sociological research on issues surrounding NGOs and the work they do. *Prerequisite:* SOCI 250gmw and (SOCI 313L or SOCI 314Lg) Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

SOCI 460 Key Issues in Contemporary International Migration
Units: 4 Terms Offered: FaSp Overview of contemporary patterns of international migration and its implications for receiving and sending countries, with a special emphasis on immigration to the United States. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 464 Sociology of Gender and Work
Units: 4 Terms Offered: FaSp Examination of gender inequality in the U.S. labor market; work-family conflict; employer remedies; comparative social policy. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS 464

SOCI 468 Sociology of Religion
Units: 4 (Enroll in REL 468)

SOCI 470 Social Change in Low-Income Countries
Units: 4 Theories and case studies on social, economic, political, and cultural development and change in the Third World: Latin America, Asia, or Africa. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 472 Health, Disease, Language and Culture: Guatemala
Units: 3 Terms Offered: Sm Studies health, illness, disease, culture, language and social-economic burdens that affect Guatemala. Students will be immersed into day-to-day life, studying from practitioners in the field. Instruction Mode: Lecture Grading Option: Letter

SOCI 475 Medical Sociology
Units: 4 Social and cultural factors in causation of disease, health care utilization and health care delivery. Instruction Mode: Lecture Grading Option: Letter

SOCI 480 The Sociology of Risk and Disaster
Units: 4 Terms Offered: FaSp Is there such a thing as a "natural" disaster? Examination of both natural and technological disasters, and exploration of the centrality of risk in industrialized societies. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SOCI 494 Sociology Honors Seminar I
Units: 4 Terms Offered: Fa Advanced seminar involving extensive reading, research and discussions. Selected subjects; offered in fall only and restricted to honors students. Acceptance into the Honors Program. *Prerequisite:* SOCI 200gm and SOCI 313L and SOCI 314Lg and SOCI 325 and SOCI 370 Instruction Mode: Lecture Grading Option: Letter

SOCI 495 Sociology Honors Seminar II
Units: 4 Terms Offered: Sp Seminar in workshop form to accompany completion of Senior Honors Thesis under faculty guidance. Acceptance into Honors Program. *Prerequisite:* SOCI 313, SOCI 494. Instruction Mode: Lecture Grading Option: Letter

SOCI 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 An interdisciplinary examination of selected emerging issues. Instruction Mode: Lecture Grading Option: Letter

SOCI 500 Sociology Professional Seminar
Units: 2 Terms Offered: FaSp Introduces students to the theoretical questions and methodological approaches that comprise the discipline of sociology. Experts in each subfield share their latest research with students. Registration Restriction: Open only to doctoral Sociology majors Instruction Mode: Lecture Grading Option: Letter

SOCI 510 Sociological Theory I
Units: 4 Terms Offered: Fa Developments in sociological theory from the discipline's 19th century origins to World War II. Instruction Mode: Lecture Grading Option: Letter

SOCI 511 Sociological Theory II
Units: 4 Developments in sociological theory from World War II to the present. Duplicates Credit in former SOCI 610. Instruction Mode: Lecture Grading Option: Letter

SOCI 520 Qualitative Research Methods
Units: 4 Terms Offered: Fa Seminar in epistemologies, ethics, and techniques of qualitative research. Critical reading and practice in social observation, interviewing, fieldwork, and research design. Preparation of IRB proposal. Instruction Mode: Lecture Grading Option: Letter

SOCI 521 Quantitative Methods and Statistics
Units: 4 Terms Offered: Fa Introduction to the logic and methods of quantitative analysis in sociology; covers the basic elements of designing and research, summarizing and exploring patterns in data, and making generalizations about populations based on characteristics of samples. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 525 Sociology Proseminar: Approaches to Sociological Research
Units: 4 Terms Offered: FaSp Graduate students begin their customized literature reviews and develop a paper that will frame the research they pursue in the empirical paper requirement. Instruction Mode: Lecture Grading Option: Letter

SOCI 554 Women in Global Perspective
Units: 4 (Enroll in SWMS 554)

SOCI 560 Feminist Theory
Units: 4 (Enroll in SWMS 560)

SOCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 593 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Practical principles for the long-term development of effective teaching within college disciplines. Intended for teaching assistants in Dornsife College. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Seminar in selected topics in sociology. Instruction Mode: Lecture Grading Option: Letter

SOCI 620 Advanced Methods – Qualitative Research
Units: 4 Terms Offered: FaSp Seminar and practicum in conducting and interpreting original qualitative research. *Prerequisite:* SOCI 520. Duplicates Credit in former SOCI 524. Instruction Mode: Lecture Grading Option: Letter

SOCI 621L Quantitative Methods and Statistics II
Units: 4 Terms Offered: Sp Casual modeling and the inter-relationships among social phenomena: covers the basic elements of casual inference and generalizability, linear regressions analysis, and categorical data analysis. *Prerequisite:* SOCI 521 Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 622L Advanced Methods – Quantitative Research
Units: 4 Terms Offered: FaSp Advanced research methodology in survey technique, evaluation research, instrument construction, and demographic analysis. Duplicates Credit in former SOCI 523 Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOCI 625 Demographic Methods
Units: 4 Terms Offered: FaSp Procedures and techniques for the collection, evaluation, and analysis of demographic data; census and vital registration systems; basic measures of demographic components, and the construction of life tables and population projections. *Prerequisite:* SOCI 521. Duplicates Credit in former SOCI 540. Instruction Mode: Lecture Grading Option: Letter

SOCI 628 Theories of Aging
Units: 4 (Enroll in GERO 628)

SOCI 640 Sociology of Gender and Sexuality
Units: 4 Terms Offered: FaSp Approaches to gender and sexuality within sociology and social theory, highlighting contemporary empirical research on sexualities. Registration Restriction: Open only to master and doctoral students. Duplicates Credit in former SOCI 530. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-640

SOCI 642 Sex and Gender in Society
Units: 4 Terms Offered: FaSpSm The social organization of gender in the contexts of work, families, intimacy, sexuality, reproduction, violence. Variations by race, ethnicity, social class. Processes of social change. Duplicates Credit in former SOCI 552. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-642

SOCI 643 Sociology of Labor
Units: 4 Terms Offered: FaSp Viewing labor and labor movements from a macro/meso/micro perspective. Examination in the formation of labor markets, global economy, organization of work, conditions of work, movements. Instruction Mode: Lecture Grading Option: Letter

SOCI 644 Population Trends: Public and Private Policies
Units: 4 Terms Offered: FaSp World and national population trends; causes and implications for economic, health, and social policies. Duplicates Credit in former SOCI 544. Instruction Mode: Lecture Grading Option: Letter

SOCI 645 Seminar in World Population Problems
Units: 4 Terms Offered: FaSp Demographic characteristics of the major regions of the world; social, economic, and political implications of population trends and methods of demographic analysis. *Prerequisite:* 335g. Duplicates Credit in former SOCI 545. Instruction Mode: Lecture Grading Option: Letter

SOCI 646 Economic Sociology
Units: 4 Terms Offered: FaSp Classical/neoclassical economic models of human action, sociological alternatives, the history of the large corporation, sociological models of production/labor/financial markets... and the role of economic institutions in the larger society. Instruction Mode: Lecture Grading Option: Letter

SOCI 647 Political Sociology: Politics, Symbols and Everyday Life
Units: 4 Terms Offered: FaSp Political power, conflict and apathy; public symbols, debate and discourse; nationalism; relations between politics, provision of social services and economics in comparative and historical perspective. Duplicates Credit in former SOCI 537. Instruction Mode: Lecture Grading Option: Letter

SOCI 648 Fertility Control Policies
Units: 4 Terms Offered: FaSp Fertility control policies, and their consequences, including family planning and other pronatalist and antinatalist programs. Duplicates Credit in former SOCI 548. Instruction Mode: Lecture Grading Option: Letter Crosslisted as SWMS-648

SOCI 649 Migration Policies
Units: 4 Terms Offered: FaSp Analysis of migration and population redistribution; policies affecting such migration and redistribution. Duplicates Credit in former SOCI 549. Instruction Mode: Lecture Grading Option: Letter

SOCI 651 Seminar in Social Stratification
Units: 4 Terms Offered: FaSp Critique of research literature and research methods in the area of social class and social stratification; major theories and theoretical implications of current research. Duplicates Credit in former SOCI 551. Instruction Mode: Lecture Grading Option: Letter

SOCI 653 Seminar in Science and Technology Studies
Units: 4 Max Units: 8.0 Terms Offered: FaSp Introduction to key concepts and theories in the interdisciplinary field of Science and Technology Studies. Duplicates Credit in former SOCI 532. Instruction Mode: Lecture Grading Option: Letter

SOCI 655 Seminar in Race Relations
Units: 4 Terms Offered: FaSp Current racial problems in the United States and other countries; critiques of literature on race relations. Duplicates Credit in former SOCI 555. Instruction Mode: Lecture Grading Option: Letter

SOCI 656 Social Demography
Units: 4 Terms Offered: FaSp Theoretical perspectives of population, historical and contemporary accounts of population trends and statistics, and the latest research on the causes and consequences of demographic processes. *Recommended Preparation:* enrollment in a PhD program. Instruction Mode: Lecture Grading Option: Letter

SOCI 657 Sociology of Culture
Units: 4 Terms Offered: FaSpSm Cultural theories and forms of cultural analysis appropriate for sociological research; critical examination of theory and research on how culture relates to social structure, social inequality, politics, institutions, and everyday interaction. *Recommended Preparation:* SOCI 510 or prior undergraduate or graduate coursework in social science or communication studies. Duplicates Credit in former SOCI 535. Instruction Mode: Lecture Grading Option: Letter

SOCI 667 Seminar in Social Deviance
Units: 4 Terms Offered: FaSp Deviance and social rules in groups and communities; contemporary social policies involving ethnic, cultural, and social factors. Duplicates Credit in former SOCI 566. Instruction Mode: Lecture Grading Option: Letter

SOCI 669 Seminar in Family Sociology
Units: 4 Terms Offered: FaSp Origins and consequences of historical change and variation between groups in family structures and processes, relationships, well-being and connections with other social institutions. Instruction Mode: Lecture Grading Option: Letter

SOCI 670 Seminar in Organizational Analysis
Units: 4 Terms Offered: FaSp Literature evaluation, theory building, and research in the area of large-scale organizations and other types of institutionalized groups. Duplicates Credit in former SOCI 550. Instruction Mode: Lecture Grading Option: Letter

SOCI 671 Urban Sociology
Units: 4 Terms Offered: FaSp Examination of theories and research on cities in the United States, examining issues such as politics, race, development, and inequality. Registration Restriction: Open only to graduate students. Duplicates Credit in former SOCI 571. Instruction Mode: Lecture Grading Option: Letter

SOCI 675 Seminar in Immigration
Units: 4 Terms Offered: FaSpSm Survey of key theoretical approaches and relevant issues in immigration studies. Themes include: transationalism, globalization,

gendered migration, segmented assimilation, immigrant labor markets, social incorporation and citizenship. Duplicates Credit in former SOCI 575. Instruction Mode: Lecture Grading Option: Letter

SOCI 680 Writing for Publication in Sociology
Units: 4 Terms Offered: Sp Prepares graduate students to publish in peer reviewed journals. *Prerequisite:* SOWK 620 or SOWK 622. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 685 Seminar in Aging
Units: 4 Terms Offered: FaSp Research seminar to review identification of problems, issues of theory, and methodology and implications for research designs. Duplicates Credit in former SOCI 580. Instruction Mode: Lecture Grading Option: Letter

SOCI 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSp Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Social Work

SOWK 200xm Institutional Inequality in American Political and Social Policy
Units: 4 Historic and philosophical roots of inequality for minority groups in the United States and implications for public policy. Instruction Mode: Lecture Grading Option: Letter

SOWK 304 Children and Families in Urban America
Units: 4 Gateway to the minor in Children and Families in Urban America. Provides foundation for principles on the conditions of children, families and communities, partnerships between families and human service professionals, and interprofessional practice in urban American communities. Instruction Mode: Lecture Grading Option: Letter

SOWK 305L Children and Families in Urban America Integrative Seminar
Units: 2 Introduction to human service professionals, agencies and institutions in the greater Los Angeles area which serve children and families who reside there. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOWK 350 Adolescent Gang Intervention
Units: 4 The incidence of gangs (particularly in the Los Angeles area), gang interventions, and policies developed to address the growing gang situation. Instruction Mode: Lecture Grading Option: Letter

SOWK 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SOWK 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Selected topics in various specialty areas within social work. Instruction Mode: Lecture Grading Option: Letter

SOWK 506 Human Behavior and the Social Environment
Units: 3 The person-in-environment, bio-psycho-social perspective is the lens through which theories of personality, family, group, organization, community, culture and their interactions are explored. Duplicates Credit in the former SOWK 503 and SOWK 505 . Instruction Mode: Lecture Grading Option: Letter

SOWK 522 Global Violence Against Women
Units: 3 This course provides a broad understanding of violence against women within a global context. Instruction Mode: Lecture Grading Option: Letter

SOWK 535 Social Welfare
Units: 3 Structure and operation of current American social welfare programs (social policy analysis). *Prerequisite:* the former SOWK 534 . Instruction Mode: Lecture Grading Option: Letter

SOWK 536 Policy and Advocacy in Professional Social Work
Units: 3 A study of the complex and interconnecting systems of policy, programs and communities that directly and indirectly impact Social Workers' clients' lives. Duplicates Credit in the former SOWK 534 . Instruction Mode: Lecture Grading Option: Letter

SOWK 543 Social Work Practice with Individuals
Units: 3 Theory and principles underlying generic social work practice with primary emphasis on working with individuals.

SOWK 544 Social Work Practice With Individuals, Families, and Groups
Units: 3 Principles underlying generic social work practice with emphasis on working with individuals, families, and groups. Duplicates Credit in SOWK 543 and SOWK 545. Instruction Mode: Lecture Grading Option: Letter

SOWK 545 Social Work Practice with Families, Groups and Complex Cases
Units: 3 Theories and principles with primary emphasis on families and groups with application to problems requiring multi-level interventions. *Prerequisite:* the former SOWK 503 and SOWK 534 , SOWK 543.

SOWK 546 Science of Social Work
Units: 3 Introduction to the role of scientific inquiry in advancing social work goals. Inspires students to include science in their social work identity and professional decision-making. Duplicates Credit in SOWK 562. Instruction Mode: Lecture Grading Option: Letter

SOWK 562 Social Work Research
Units: 3 Introduction to research methods, including conceptualization of research problems, literature review, research design, sampling, measurement, data collection and data analysis.

SOWK 586a Field Practicum
Units: 3 Terms Offered: FaSpSm Supervised field placement to develop generalist practice skills in working with individuals, families, groups, communities and organizations. *Prerequisite:* SOWK 611. Grading Option: Graded IP/CR/NC.

SOWK 586b Field Practicum
Units: 3 Terms Offered: FaSpSm Supervised field placement to develop generalist practice skills in working with individuals, families, groups, communities and organizations. *Prerequisite:* SOWK 611. Grading Option: Graded IP/CR/NC.

SOWK 587a Integrative Learning for Social Work Practice
Units: 2 Integrative content from Policy, Research, Human Behavior, Social Work Practice and Field Practicum. *Concurrent Enrollment:* Concurrent enrollment: SOWK 586a, SOWK 543. Grading Option: Graded CR/NC.

SOWK 587b Integrative Learning for Social Work Practice
Units: 2 Integrative content from Policy, Research, Human Behavior, Social Work Practice and Field Practicum. *Concurrent Enrollment:* Concurrent enrollment: b: SOWK 586b, SOWK 545. Grading Option: Graded CR/NC.

SOWK 588 Integrative Learning for Social Work Practice
Units: 2 Integrative learning organized as a small group educational environment that incorporates field experiences, case vignettes, and dialogical inquiry through a Problem Based Learning framework. Duplicates Credit in former SOWK-587a and SOWK-587b. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 589a Applied Learning in Field Education
Units: 3 Supervised field education where students learn and apply evidence-based interventions and clinical skills in practice labs and social work settings. *Concurrent Enrollment:* SOWK 544. Duplicates Credit in SOWK 586a . Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 589b Applied Learning in Field

Education
Units: 3 Supervised field education where students learn to apply coursework concepts while practicing in a field setting that aligns with students' academic department. *Prerequisite:* SOWK 589a . *Concurrent Enrollment:* SOWK 588. Duplicates Credit in SOWK 586b. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 599 Special Topics
Units: 1, 2, 3, 4 Max Units: 13.0 Instruction Mode: Lecture Grading Option: Letter

SOWK 600 Assessment in Social Work Practice
Units: 2 Terms Offered: Sm Theory and principles underlying generic social work practice with primary emphasis on psychosocial assessment. Instruction Mode: Lecture Grading Option: Letter

SOWK 601 Advanced Theories and Interventions with Children and Adolescents
Units: 3 Advances students' knowledge and clinical skills working with children and adolescents. Emphasis on problems affecting children, including developmental derailments and disruptions. *Prerequisite:* SOWK 505 , SOWK 545; or SOWK 600, SOWK 604, and SOWK 606. Instruction Mode: Lecture Grading Option: Letter

SOWK 602 Advanced Theories and Clinical Interventions with Families
Units: 3 Advances students' knowledge and clinical skills working with diverse urban families experiencing various stressors. Exploration and application of a range of family therapy models. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 544 or SOWK 545) Registration Restriction: Open only to master's Social Work students Instruction Mode: Lecture Grading Option: Letter

SOWK 603 Merging Policy, Planning and Research for Change in Families and Children's Settings
Units: 3 Development and evaluation of service programs for children and families incorporating social welfare policy, macro practice and research skills. *Prerequisite:* the former SOWK 534 , SOWK 535, SOWK 562; or SOWK 600, SOWK 604, and SOWK 606.

SOWK 604 The Role of Evidence-Based Practice in Social Work
Units: 2 Terms Offered: Sm Study of the important role research plays in the development of evidence-based practice methods. Open only to doctoral and master's students in the School of Social Work. Instruction Mode: Lecture Grading Option: Letter

SOWK 605 Human Development and Mental Health
Units: 3 Understanding problem-producing behaviors and their ramifications on individuals, families, and groups that comprise the clientele in mental health settings. Required for students in Mental Health concentration. *Prerequisite:* the former SOWK 503 , SOWK 505 ; or SOWK 600, SOWK 604, and SOWK 606. Instruction Mode: Lecture Grading Option: Letter

SOWK 606 Neuropsychological Development
Units: 2 Terms Offered: Sm Study of human neuropsychological development within the context of social work. Open only to doctoral and master's students in the School of Social Work. Instruction Mode: Lecture Grading Option: Letter

SOWK 607 Feminist Theory, Social Action, and Social Work: Philippines
Units: 4 Terms Offered: Sm Understanding and awareness of the political, economic, social, and cultural contexts through a feminist perspective, using the Philippines as a case study. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 608 Research and Critical Analysis for Social Work with Children and Families
Units: 3 Critical analysis and application of various data, information, and evidence to understand client problems and service needs, identify appropriate interventions, and evaluate practice decisions. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 603 . Instruction Mode: Lecture Grading Option: Letter

SOWK 609 Introduction to Social Work Practice with Children, Youth and Families
Units: 3 Understanding development of children and families from birth to adolescence and the developmental difficulties from an ecological perspective. Assessment/engagement of families and Interventions are introduced. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 610 Social Work Practice with Children and Families Across Settings
Units: 3 Terms Offered: Other Theory and principles underlying social work in host settings and non-specialty sector settings with a primary emphasis on working with Children, Youth, and Families. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 611 Leadership and Management in Social Work
Units: 3 Methods and principles of leadership and management applied to social work practice, understood as policy, management and clinical practice in the non-profit sector, health and human service organizations, and non-traditional social work settings. Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 612 Assessment and Diagnosis of Mental Disorder
Units: 3 Assessment of mental disorders, and the rationale and organization of the system for diagnosis. Emphasis is on developing differential diagnostic skills. Instruction Mode: Lecture Grading Option: Letter

SOWK 613 Social Work Practice with Children and Families in Early and Middle Childhood
Units: 3 Provides understanding of the development of problems in early childhood, and skills for engagement, assessment, intervention, and evaluation of effectiveness for treatment of these problems. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 614 Social Work Practice in School Settings
Units: 3 Based on ecosystems perspectives, this course examines policies, theories and principles of social work practice in school settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 615 Brief Therapy and Crisis Intervention
Units: 3 Theory and multimodal approaches for brief therapy and crisis intervention with diverse clientele in a range of mental health and health settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 616 Clinical Practice with Older Adults
Units: 3 Developmental tasks of adulthood and later life, as well as assessment and intervention for problems and disorders associated with aging. Instruction Mode: Lecture Grading Option: Letter

SOWK 617 Substance Related and Behavioral Addictive Disorders and Recovery
Units: 3 Causal exploration of substance related and behavioral addictive disorders. Evidence-based and practice informed treatment models for vulnerable individuals, groups and families. Instruction Mode: Lecture Grading Option: Letter

SOWK 618 Systems of Recovery from Mental Illness in Adults
Units: 3 Terms Offered: FaSpSm Focus on the multi-level impact of mental illness on adults and families. Evidence-based interventions promoting increased quality of life and stability are emphasized. Instruction Mode: Lecture Grading Option: Letter

SOWK 619 Social Work in Public Child Welfare Settings
Units: 3 This advanced seminar will provide tools to enhance the practitioner's response to the special challenges (substance abuse, HIV/AIDS, domestic violence) in public child welfare. Instruction Mode: Lecture Grading Option: Letter

SOWK 620 Social Work Practice With Transitional Youth
Units: 3 Terms Offered: FaSpSm Students will be introduced to policies affecting transitional youth and use a biopsychosocial perspective to work with them on macro, meso, and micro levels. Duplicates Credit

in former SOWK 525. Instruction Mode: Lecture Grading Option: Letter

SOWK 621 Social Work Practice with Adolescents, Young Adults and their Families
Units: 3 Intervention with adolescents, young adults and addressing their developmental problems, challenges and solutions. Engagement and evidence based intervention in working with youth will be covered. *Prerequisite:* SOWK 506 and SOWK 544 and SOWK 608 and SOWK 609 and SOWK 610 Registration Restriction: Open only to Masters students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 622 Social Work Practice with African American Families
Units: 3 Terms Offered: FaSpSm Presents various theories for understanding African American families and addresses an Africentric framework for clinical practice and intervention with individuals and families. *Prerequisite:* the former SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 623 Social Work in Early Care and Education Settings
Units: 3 Provides tools to enhance social work practice skills supporting young children and their families, and preparation for leadership in early care and education settings. Instruction Mode: Lecture Grading Option: Letter

SOWK 624 Social Work in Juvenile Justice Settings
Units: 3 Provides orientation to the context and operations of juvenile justice systems, and advanced skills for social work practitioners working with youth, families and communities. Instruction Mode: Lecture Grading Option: Letter

SOWK 625 Evaluation of Research: Mental Health
Units: 3 Range of research conducted in mental health; evaluation of selected research reports and their application to social work practice. Required for students in Mental Health concentration. *Prerequisite:* SOWK 562; or SOWK 600, SOWK 604, and SOWK 606. Instruction Mode: Lecture Grading Option: Letter

SOWK 626 Social Conflict, Empowerment and Creative Practice in Israel
Units: 4 Terms Offered: Sm The summer global immersion program in Israel focuses on understanding social problems and alleviating them through empowerment approaches and the utilization of expressive practices. Instruction Mode: Lecture Grading Option: Letter

SOWK 627 Policy and Macro Practice in Child, Youth and Family Services
Units: 3 Provides context and preparation for social work practitioners holding policy, management and macro practice roles in communities and organizations serving children, youth and families. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 628 Social Work with Latino Populations
Units: 3 Terms Offered: Fa Current issues, trends and developments in social work practice with Latino populations. Instruction Mode: Lecture Grading Option: Letter

SOWK 629 Research and Evaluation for Community, Organization and Business Environments
Units: 3 Research/evaluation skills and critical analysis of data information systems to inform decision making to improve effectiveness of social work practice in community, organizations and business. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Instruction Mode: Lecture Grading Option: Letter

SOWK 631 Advanced Theories and Clinical Interventions in Health Care
Units: 3 Evaluation of theory, best practices, emerging issues, and skill development in health settings; interaction among cultural, socioeconomic, and organizational factors. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 544 or SOWK 545) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 632 Program Planning and Evaluation in Health Care
Units: 3 Program and intervention development and evaluation research in health settings. Issues and skill development in program design and methods for evaluation. *Prerequisite:* SOWK 562; or SOWK 600, SOWK 604, and SOWK 606. Instruction Mode: Lecture Grading Option: Letter

SOWK 633 Theories and Concepts of Military Social Work
Units: 3 Application of military theory within the framework of social work practice and policy. Normative behavior, trends, beliefs and culture individuals experience during military service. *Prerequisite:* SOWK 506 and SOWK 536 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 635 Research and Evaluation for Social Work with Adults and Older Adults
Units: 3 Critical analysis and application of health and mental health research evidence to inform, enhance and strengthen social work practice with adults and aging populations with a focus on evaluating published research, identifying and interpreting available sources of data, appraising practical measures/ assessments and selecting appropriate evidence-based interventions. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to masters students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 636 Policy in the Health Care Sector
Units: 3 Analysis of behavioral, practice and research considerations in addressing a range of health problems and the policy-making process. Required for students in Mental Health in Health Settings concentration. *Prerequisite:* SOWK 535; or SOWK 600, SOWK 604, and SOWK 606. Instruction Mode: Lecture Grading Option: Letter

SOWK 637 Assessing Wellness to Improve Recovery in Integrated Care
Units: 3 Assessing and promoting wellness and recovery, interacting systems of mind, brain, and body. Evidence-based integrated care interventions in a new era of health care reform. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 638 Policy in Integrated Care
Units: 3 Analysis of policies and health care delivery with focus on implications for social workers and their clients in settings with adults, families, and older adults. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 636. Instruction Mode: Lecture Grading Option: Letter

SOWK 639 Policy Advocacy and Social Change
Units: 3 Analysis of efforts to improve local human services organizations and agencies with consideration of political, social, demographic and organization contexts. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 640 Clinical Practice with the Military Family
Units: 3 Theoretical and practical approaches to clinical practice with military families. Overview of common social issues in the military system and demands on the family dynamic. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) and SOWK 633 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 641 Clinical Practice with Service Members and Veterans
Units: 3 Theoretical and practical approaches to trauma for use in treatment of PTSD. Advances students' knowledge of best practices and current evidence-based models on PTSD. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) and SOWK 633 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 643 Social Work Practice in Intergrated Care Settings
Units: 3 Social work processes and skills required for the implementation of short-term interventions in medical, behavioral health and integrated care settings with individuals, families and groups. *Prerequisite:* SOWK

544 and SOWK 637 Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 644 Explanatory Theories of Health and Mental Health
Units: 3 Behavioral health theory course that integrates theories of health and mental health and builds on the content from the Human Behavior and Social Environment course. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 645 Clinical Interventions: Evidence Based Practice in Health and Mental Health Settings
Units: 3 Social work processes from intake to termination; emphasis on clinical skills required for social work practice in a broad spectrum of health and mental health settings. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 646 Clinical Supervision and Consultation in Social Service Organizations Serving Adults
Units: 3 Terms Offered: Sm Skills to prepare social workers to provide administrative, programmatic and clinical supervision and consultation in social/human service organizations serving adults. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 647 Advanced Practice with Complex Social Work Cases
Units: 3 Introduction to advanced practice concepts essential to understanding engagement, assessment and diagnosis with complex social work cases from a meta-framework perspective. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 635 and SOWK 637 and SOWK 638 and SOWK 643 and SOWK 644 Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 648 Management and Organizational Development for Social Workers
Units: 3 Methods and principles of management focusing on health and human service organizations, including strategic management, financial analysis, and innovative project development in social work. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Instruction Mode: Lecture Grading Option: Letter

SOWK 650 Military and Veteran Policy and Program Management
Units: 3 Understanding the development and implementation of military and veteran policy and programs including family advocacy, prevention of sexual assault, suicide, alcohol/substance use and homelessness. *Prerequisite:* (SOWK 534 or SOWK 536) and SOWK 633 Registration Restriction: Open only to Masters students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 651 Clinical Psychopharmacology for Social Workers
Units: 3 Understanding major psychoactive drugs used in treatment of psychological and behavioral disorders in behavioral and primary care medical settings. Theoretical/practical approaches to treatment are examined. *Prerequisite:* SOWK 546 or SOWK 562 Instruction Mode: Lecture Grading Option: Letter

SOWK 652 Social Work Practice in Workplace Settings
Units: 3 Social Work services designed to improve and/or maintain the productivity and healthy functioning of individuals in the workplace. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 Registration Restriction: Open only to Masters Students in Social Work Duplicates Credit in SOWK 671 Instruction Mode: Lecture Grading Option: Letter

SOWK 653 Social Work with Older Adults
Units: 3 Terms Offered: FaSpSm Integrates foundation and advanced knowledge and skill for practice with and in behalf of older adults. Instruction Mode: Lecture Grading Option: Letter

SOWK 654 National Immersion in Washington, DC: Child Development and Social Policy
Units: 3 Terms Offered: Sp A short study in Los Angeles and Washington, DC, addressing the development and change of Federal social policy concerning child development, especially as it pertains to local programs and services for children and their families. Priority enrollment given to currently enrolled MSW students. Instruction Mode: Lecture Grading Option: Letter

SOWK 655 Global Immersion in Military Culture: U.S. Forces Abroad
Units: 4 Terms Offered: Sm This course will enhance students' understanding of the delivery of human services on overseas military installations. Instruction Mode: Lecture Grading Option: Letter

SOWK 656 National Military Immersion in Washington, DC: Military and Veterans Policy and Practice
Units: 3 Terms Offered: Sp A short study at the campus, online, and in Washington, DC addressing policies and programs for military members, veterans, and their families. Priority enrollment given to currently enrolled MSW students. *Prerequisite:* SOWK 536 and SOWK 544 Instruction Mode: Lecture Grading Option: Letter

SOWK 658 Organizational Practice and Development in Business Environments
Units: 3 Prepares students for organizational practice and program development in business environments, emphasizing organizational change initiatives, employee program development and corporate social responsibility initiatives. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Duplicates Credit in SOWK 673. Instruction Mode: Lecture Grading Option: Letter

SOWK 660 Health Care Delivery Systems: Planning for Health and Social Services
Units: 3 Evaluating health care delivery systems in the U.S. and internationally including community social capital, health disparities, access to care, and policy implications for diverse populations. Instruction Mode: Lecture Grading Option: Letter

SOWK 663 Clinical Practice with Couples
Units: 3 Examination of major models and diverse intervention strategies to ameliorate common presenting problems of couples. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 664 Consultation, Coaching and Social Entrepreneurship
Units: 3 Expanding roles that social workers play within both non-profit and for profit corporations. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 and SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 665 Grant Writing and Program Development for Social Workers
Units: 3 Grant writing and program development that are generalized to any settings and relevant to direct and macro social work practice expertise. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 666 Domestic Violence
Units: 3 Recognition of domestic violence and examination of effective intervention measures and preventive methods. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 668 Social Work and Law
Units: 3 Examination of roles, opportunities, and concerns for the practice of social work in the structures and procedures of the law. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 669 Managing Change and Organization Development
Units: 3 Conceptual framework and practical skills needed to design, implement and evaluate effective change and organization

development programs. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 670 Global Dimensions in Social Policy and Social Work Practice
Units: 3 Exploration and critique of how political, economic, cultural, religious and environmental factors impact social welfare policies, social work practice, and social development globally. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to Masters Students in the Suzanne Dworak-Peck School of Social Work. Instruction Mode: Lecture Grading Option: Letter

SOWK 671 Micro Practice and Evaluation in Work-Related Environments
Units: 3 Terms Offered: FaSpSm Drawing upon clinical evidence-based models, this course prepares students for micro level practice and evaluation to improve individual/family well-being within diverse work-related practice environments. *Prerequisite:* SOWK 505 , SOWK 545 or SOWK 600, SOWK 604 and SOWK 666.

SOWK 672 Social Work and Business Settings
Units: 3 Terms Offered: FaSpSm Examining the roles social workers play in business, how their skills integrate and support business practice, and how the profession can impact internal/external business environments. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546. Instruction Mode: Lecture Grading Option: Letter

SOWK 673 Macro Practice and Evaluation in Work-Related Environments
Units: 3 Terms Offered: FaSpSm Prepares students for macro level practice and evaluation in work-related environments to improve individual, family, organizational and community well-being. *Prerequisite:* SOWK 600 and SOWK 604 and SOWK 666 or SOWK 562.

SOWK 674 Human Sexuality in Clinical Social Work Practice
Units: 3 Explores physiological, psychological, and sociocultural variables associated with sexual identity, sexual orientation, and sexual behavior to increase student understanding and appreciation for human sexual behavior. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 675 Play Therapy in Social Work with Children and Adolescents
Units: 3 Advances student theoretical knowledge and clinical practice skills in working with children, adolescents, and their families and explores the process of child psychotherapy. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 676 Psychopharmacology for Therapists and Counselors
Units: 1 Terms Offered: FaSpSm Overview of various classes of basic psychotherapeutic medications. Useful to social workers, counselors, therapists, and other individuals who counsel and treat mentally ill patients. Instruction Mode: Lecture Grading Option: Letter

SOWK 677 Mental Health Practice with Children and Adolescents
Units: 3 The assessment and treatment of children with serious emotional disturbance, including the service delivery models and policies that influence service delivery. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 678 Child Abuse and Neglect: Intervention and Treatment
Units: 3 Advanced practice course focusing on interventions with and treatment of complex family systems where the effects of child maltreatment are the presenting problems. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 679 Organizational Group Behaviors and Interventions
Units: 3 Emphasizing group and organizational dynamics, this course provides an understanding of human behavior in work-related environments, and prepares students for mezzo practice in these settings. *Prerequisite:* SOWK 506 and SOWK 536 and SOWK 544 and SOWK 546 . Instruction Mode: Lecture Grading Option: Letter

SOWK 680 Social Work Spanish for Culturally Competent Services
Units: 3 Integration of cross-cultural practice skills with Spanish language development through the class instruction and practice development. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 681 Managing Diversity in a Global Context
Units: 3 Interdisciplinary approach to innovative practices that make the workplace more inclusive and productive. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 682 Spirituality, Religion, and Faith in Clinical Practice
Units: 3 Examination of diverse spiritual and religious traditions. Spiritually-sensitive treatment approaches applied to psychological and spiritual clinical problems of individuals, couples, and families. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 683 Hypnosis Social Work Practice
Units: 3 Examination of major theoretical and practice applications of hypnosis in social work practice and development of a beginning level of competency. *Prerequisite:* SOWK 503 , SOWK 505 , SOWK 534 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 684 Community Practice for Social Innovation
Units: 3 Working effectively within marginalized, underserved populations and diverse community settings on their wicked, consistent, and complex issues by providing innovative and sustainable solutions. *Prerequisite:* (SOWK 503 or SOWK 506) and (SOWK 505 or SOWK 506) and (SOWK 534 or SOWK 536) and (SOWK 535 or SOWK 536) Registration Restriction: Open to master's students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 685 Working with Adolescents: Practice, Systems and Advocacy
Units: 3 Enhance knowledge and skill in working with adolescents involved in the child welfare, juvenile justice and other systems. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open to Masters Students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 686a Field Practicum II
Units: 4 Supervised field placement to develop depth of skill and practice in area of concentration. *Prerequisite:* SOWK 586a, SOWK 586b. Grading Option: Graded CR/NC/IP.

SOWK 686b Field Practicum II
Units: 4 Supervised field placement to develop depth of skill and practice in area of concentration. *Prerequisite:* SOWK 586a, SOWK 586b. Grading Option: Graded CR/NC/IP.

SOWK 686c Field Practicum II
Units: 4 Supervised field placement to develop depth of skill and practice in area of concentration. *Prerequisite:* SOWK 586a, SOWK 586b. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SOWK 686z Field Practicum II
Units: 0 Supervised field placement to develop depth of skill and practice in area of concentration. *Prerequisite:* SOWK 586a, SOWK 586b. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 687 Media in Social Work
Units: 3 Creation of short documentaries for social change. Techniques in media production, strategies for media outreach, and development of media literacy skills to deconstruct media messages. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to MSW students Instruction Mode: Lecture Grading Option: Letter

SOWK 688 School Violence
Units: 3 Examines theoretical, empirical and

practice-based literature on school violence including how students' physical well-being, academic functioning, social relations, and emotional and cognitive development are affected. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 689 Models of Family Therapy: Theory and Practice
Units: 3 Expand students' theoretical and practical competence in systemic and narrative family therapy models for work with 21st century families. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 690a Research
Units: 1, 2, 3, 4 Intensive individual study of specific problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 690b Research
Units: 1, 2, 3, 4 Intensive individual study of specific problems. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 692 Loss, Grief and Bereavement
Units: 3 Focus on the experiences of loss, death and bereavement as it is viewed by individuals, families and loved ones. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 693 Diagnosing Psychopathology: Introduction to DSM IV-TR
Units: 1 Advanced exposure to several issues in the area of adult psychopathology and diagnostics through didactic and experiential modalities. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 694 Group Psychotherapy in Mental Health Settings
Units: 3 Focus on group therapy for clinical social workers as practiced in various mental health settings. The entire process of group development is examined. *Prerequisite:* (SOWK 505 or SOWK 506) and (SOWK 535 or SOWK 536) Registration Restriction: Open only to Master students in the Suzanne Dworak-PecK School of Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 695 Research Project I
Units: 2 Credit on acceptance of professional research project proposal. *Prerequisite:* SOWK 562. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 696 LGBT Psycho/Social/Political Issues
Units: 3 Overview of clinical, social and political issues with which social workers should be familiar when working with lesbian, gay, bisexual and transgender clients. *Prerequisite:* SOWK 505 , SOWK 535. Instruction Mode: Lecture Grading Option: Letter

SOWK 697 Research Project II
Units: 1 Credit on acceptance of professional research project. *Prerequisite:* SOWK 695. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 698a Integrative Learning for Advanced Social Work Practice
Units: 1 Advanced integrative learning that incorporates field experiences, evidenced-based interventions, case vignettes and dialogical inquiry through a Problem Based Learning framework. *Prerequisite:* SOWK 588 and SOWK 589b *Concurrent Enrollment:* SOWK 699a Registration Restriction: Open only to Master students in Suzanne Dworak-Peck School of Social Work Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 698b Integrative Learning for Advanced Social Work Practice
Units: 1 Advanced integrative learning builds on 698A by incorporating field experiences, case/best practices consultations, and dialogical inquiry on micro, mezzo, and macro practice levels. *Concurrent Enrollment:* SOWK 699b Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 699a Advanced Applied Learning in Field Education
Units: 4 Advanced supervised field education where students practice social work skills and apply evidence-based interventions, including some that are specific to their academic department. *Prerequisite:* SOWK 588 and SOWK 589a and SOWK 589b. *Concurrent Enrollment:* SOWK-698a. Duplicates Credit in SOWK 686a. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 699b Advanced Applied Learning in Field Education
Units: 4 Advanced supervised field education where students practice social work skills and apply evidence-based interventions, including some that are specific to their academic department. *Prerequisite:* SOWK 699a. *Concurrent Enrollment:* SOWK 698b. Duplicates Credit in SOWK 686b. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SOWK 702 Theories of Human Behavior in the Contexts of Social Environments
Units: 3 A focus on human behavior in interaction with the social environment; major paradigms including general systems theory, ego psychology, and role theories are examined. Instruction Mode: Lecture Grading Option: Letter

SOWK 703 Explanatory Theories for Larger Social Systems
Units: 3 Theories of organizational and community behavior are examined in relation to their influence on the development of social services. Instruction Mode: Lecture Grading Option: Letter

SOWK 704 Managing Innovation and Change
Units: 3 Introduction to discipline specific and interdisciplinary ideas and approaches for innovation and change as they address the Grand Challenges for social work. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 705 Leading Public Discourse
Units: 3 Leading public discourse for the purposes of increasing civic engagement and public participation, building broad based public support and enabling competencies. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 706 Leading and Managing Large Complex Systems
Units: 3 Examining large scale national, state and local social intervention programs as well as implications for fiscal and outcome accountability. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 707 Financial Management for Social Change
Units: 3 Effectively managing financial health in human service organizations and designing fiscal approaches that maximize sources of govenrmental and non-governmental revenue and improve fiscal decision making. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 710 Preparatory Scholarship for Capstone
Units: 3 How to effectively pursue funding sources via grant proposals and oral presentations to support Grand Challenges project. Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 711 Innovation Laboratory I
Units: 3 Testing theoretical frameworks and models by simulating a series of real business/organizational scenarios. *Prerequisite:* SOWK 704 and SOWK 705 and SOWK 706 and SOWK 707 *Corequisite:* SOWK 710 and SOWK 712 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 712 Residency I
Units: 3 Terms Offered: Sm Five day campus based residency in the third semester of the DSW program designed to bring students together for a series of presentations and workshops by 'thought leaders' of the Grand Challenges of Social Work. *Prerequisite:* SOWK 704 and SOWK 705 and SOWK 706 and SOWK 707 *Corequisite:* SOWK 710 and SOWK 711 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 713 An Introduction to the Science of Innovative Social Work
Units: 3 Introduction to doctoral level research and evaluation, introducing concepts of effectively using literature, formulating a problem for research, and effectively identifying a research or evaluative approach. *Corequisite:* SOWK 714 Registration

Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 714 Evaluating Innovation and Change
Units: 3 Content focuses on understanding and using mixed method research for evaluating programs and assessing the impact of rapid, innovative, and/or unexpected change. *Corequisite:* SOWK 713 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 720 Informatics and Social Innovation and Influence
Units: 3 Explores how information technology, such as mobile apps, social media, data analytics and big data, be used to promote social good. *Prerequisite:* SOWK 704 and SOWK 705 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 721 Data Driven Decision Making
Units: 3 Practical introduction to using quantitative administrative data to identify trends, track performance, evaluate programs, and drive decision making. *Prerequisite:* SOWK 713 and SOWK 714 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 722 Grand Challenges Capstone
Units: 3 Culminates in the completion of a fundable grant proposal toward the full development of students' Grand Challenges Project. *Prerequisite:* SOWK 710 *Corequisite:* SOWK 723 and SOWK 724 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 723 Innovation Laboratory II
Units: 3 The Innovation Laboratory provides a space for DSW students to test theoretical frameworks and models introduced in previous courses by simulating a series of real business/organizational scenarios. *Prerequisite:* SOWK 704, SOWK 705, SOWK 706, SOWK 707, SOWK 710, SOWK 711, SOWK 712, SOWK 713, SOWK 714, SOWK 720, SOWK 721 *Corequisite:* SOWK 722 and SOWK 724 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 724 Residency II
Units: 3 Terms Offered: Sm Five-day campus-based residency that will be offered in a pro seminar format. DSW students will present their *Grand Challenge for Change* proposal. *Prerequisite:* SOWK 704, SOWK 705, SOWK 706, SOWK 707, SOWK 710, SOWK 711, SOWK 712, SOWK 713, SOWK 714, SOWK 720, SOWK 721 *Corequisite:* SOWK 722 and SOWK 723 Registration Restriction: Open only to doctoral students in Social Work Instruction Mode: Lecture Grading Option: Letter

SOWK 733 Policy Analysis and Advocacy in a Comparative Social Policy Context
Units: 3 Examination of the evolution of American and other welfare states in selected nations. Analysis of global welfare institutions. Engaging in policy analysis in a comparative context. Instruction Mode: Lecture Grading Option: Letter

SOWK 743 Theories for Practice with Small Systems
Units: 3 Early practice theories and their historical roots are examined. Implications for evolving current practice theories with individuals, families, and groups are discussed. Instruction Mode: Lecture Grading Option: Letter

SOWK 744 Theories for Practice with Large Systems
Units: 3 Examination of the development and utility of theories, models and approaches to social work community and administrative practice. Instruction Mode: Lecture Grading Option: Letter

SOWK 760L Introduction to Social Work Statistics
Units: 3 Foundation course covering univariate and bivariate descriptive and inferential statistics. Required lab covering basic computer skills and utilization of statistical software. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOWK 761L Multiple Regression for Social Work Research
Units: 3 Multivariate statistical methods including descriptive and inferential statistics, parametric and non-parametric tests of hypotheses; correlation, analysis of variance, multiple regression, and factor analysis; utilization of computer programs for statistical analysis. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SOWK 762 Social Work Research Methods I
Units: 3 Models of research, the nature of inquiry, and the research process including problem formulation, measurement, designs, sampling and data sources. *Prerequisite:* doctoral standing. Instruction Mode: Lecture Grading Option: Letter

SOWK 763 Social Work Research Methods II: Issues in Research for Social Work Practice
Units: 3 Research methods to provide students with advanced methodological knowledge in two areas related to social work practice: psychotherapy outcome research and program research. *Prerequisite:* SOWK 762. Instruction Mode: Lecture Grading Option: Letter

SOWK 764 Advanced Multivariate Statistics
Units: 3 Introduction to single equation statistical modeling using limited dependent variables (categorical and ordered categorical). Methods are drawn from statistics and econometrics. Instruction Mode: Lecture Grading Option: Letter

SOWK 765 Writing Successful Dissertation Research Grants
Units: 3 Terms Offered: FaSp Prepares doctoral students to write and submit applications to obtain extramural funding to support their dissertation research. Students will learn about opportunities and eligibility requirements for federal and foundation supported dissertation research grants, how grants are reviewed and scored once submitted, and how to write successful proposals. Recommended preparation: Completion of a qualitative or mixed methods course is preferred. *Prerequisite:* SOWK 702 and SOWK 703 and SOWK 761 and SOWK 762 and SOWK 763 and SOWK 764 *Recommended Preparation:* Completion of a qualitative or mixed methods course is preferred Instruction Mode: Lecture Grading Option: Letter

SOWK 770 Introduction to Qualitative and Mixed Research Methods
Units: 3 Overview of the use of qualitative and mixed methods in social, clinical and health services research. Instruction Mode: Lecture Grading Option: Letter

SOWK 781 Guided Teaching Experience
Units: 2 Mentorship with a member of the teaching faculty; discussions of curriculum design; observation; preparation and delivery of selected course sessions. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 785 Guided Research Internship
Units: 2 Research practicum designed to provide students with handson practical experience with an ongoing faculty research project. *Prerequisite:* SOWK 763. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 790 Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SOWK 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SOWK 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Spanish

SPAN 020x Spanish for Reading Knowledge
Units: 0 Preparation for the ETS standardized examination, with readings related to the student's major area. Offered upon sufficient demand. Instruction Mode: Lecture Grading

Option: Credit/No Credit

SPAN 120 Spanish I
Units: 4 For students with limited proficiency in Spanish. Practice in listening comprehension, oral communication, elementary reading and writing. *Prerequisite:* Spanish placement exam. Instruction Mode: Lecture Grading Option: Letter

SPAN 150 Spanish II
Units: 4 Continuation of SPAN 120; increased emphasis on listening comprehension, oral communication, reading, and writing. *Prerequisite:* SPAN 120. Instruction Mode: Lecture Grading Option: Letter

SPAN 220 Spanish III
Units: 4 Continuation of SPAN 150; intensive work in listening comprehension, oral communication, reading and writing, with emphasis on free expression; readings related to Hispanic culture and civilization. *Prerequisite:* SPAN 150. Instruction Mode: Lecture Grading Option: Letter

SPAN 231x Business Spanish: Job Search
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students create culturally appropriate professional dossiers, execute job searches in Spain/Latin America; engage in face-to-face and phone interviews in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 232x Business Spanish: Business Culture
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students engage in research about the culture of business practices in Spain/Latin America; write/present company profiles, including NGOs, in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 233x Business Spanish: Case Studies
Units: 2 Terms Offered: FaSp Four-skills language and culture course. Students read/analyze Spanish-language case studies and present their own case studies orally and in writing in Spanish. *Prerequisite:* SPAN 220 Registration Restriction: Not open to Spanish majors Duplicates Credit in SPAN 250x Instruction Mode: Lecture Grading Option: Letter

SPAN 240 Spanish IV
Units: 4 Terms Offered: FaSp Intensive review of Spanish grammar with emphasis on four skills. Audiovisual materials and readings related to Hispanic culture and civilization. *Prerequisite:* SPAN 220. Instruction Mode: Lecture Grading Option: Letter

SPAN 245 Spanish Through Social Issues in Costa Rica
Units: 4 Terms Offered: Sm (Costa Rica Summer Program only). Intensive review of Spanish grammar with emphasis on four skills. Audiovisual materials, guest speakers, and readings related to the history and culture of Costa Rica. *Concurrent Enrollment:* Concurrent enrollment: SPAN 220. Instruction Mode: Lecture Grading Option: Letter

SPAN 250x Spanish for Business Communication
Units: 4 Four-skills language and culture course for intermediate-high Spanish students interested in Business/Communications. Prepares students to communicate in the Spanish-speaking commercial market in a linguistically sensitive manner. *Prerequisite:* SPAN 240. Instruction Mode: Lecture Grading Option: Letter

SPAN 260 Advanced Spanish: Arts and Sciences
Units: 4 Terms Offered: FaSpSm Development of students' oral and writing skills using literary and scientific materials; grammar review. *Prerequisite:* SPAN 220. Duplicates Credit in the former SPAN 266. Instruction Mode: Lecture Grading Option: Letter

SPAN 261 Advanced Spanish: Society and the Media
Units: 4 Terms Offered: FaSpSm Analysis of cultural issues in the Spanish-speaking world. Discussions, presentations, writing assignments, and grammar instruction designed to improve students' proficiency in Spanish. *Prerequisite:* SPAN 220. Duplicates Credit in the former SPAN 265. Instruction Mode: Lecture Grading Option: Letter

SPAN 270 Spanish for Native Speakers
Units: 4 Terms Offered: FaSp For speakers with an advanced level of oral proficiency, but no previous formal study of Spanish. Focus on grammar, spelling and punctuation, reading, and writing. Instruction Mode: Lecture Grading Option: Letter

SPAN 280x Conversational Spanish
Units: 2 Max Units: 4.0 Terms Offered: FaSp Discussions of short films, cultural and literary texts and other activities designed to improve conversational skills. *Prerequisite:* SPAN 220. Instruction Mode: Lecture Grading Option: Letter

SPAN 290gp Introduction to Latin American and Iberian Studies
Units: 4 Introduction to the cultural history of Spain, Portugal and Latin America with a focus on literature and visual works from the early-modern period to the twenty-first century. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

SPAN 301 Introduction to Literature and Film
Units: 4 Terms Offered: FaSpSm Introduction to critical reading and interpretation of poetry, narrative fiction, drama, and film from Spain and Latin America. *Prerequisite:* SPAN 260 and SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 302 Screen Cultures: From Film to the Internet
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American cinema from the silent film era to the present, acquainting students with various critical and theoretical approaches to cinema studies. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 *Recommended Preparation:* SPAN 301 Instruction Mode: Lecture Grading Option: Letter

SPAN 304 The Art of Fiction
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American fiction from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to narrative. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 306 Performance from Street to Stage
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American plays from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to drama. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 305 Instruction Mode: Lecture Grading Option: Letter

SPAN 308 The Art of Poetry
Units: 4 Terms Offered: FaSp A survey of Spanish and Latin American poetry from the Middle Ages to the present, acquainting students with various critical and theoretical approaches to verse. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 310 Structure of Spanish
Units: 4 Terms Offered: FaSp A systematic study of the structure of Spanish. Topics include fundamental aspects of the sound system; word classes; sentences and their meaning; linguistic change and variation; standard and colloquial usage. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 311 Advanced Spanish Through Contemporary Issues: Oral Emphasis
Units: 4 Terms Offered: Sm (Summer sessions abroad.) Advanced Spanish with emphasis on grammar and oral communication. *Recommended Preparation:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 315 Advanced Grammar and Translation
Units: 4 Terms Offered: FaSp Contrastive study of Spanish and English structures designed to explore the similarities and differences between the two languages and to familiarize students with translation techniques. Emphasis on a variety of text types with the aim of increasing linguistic and cultural appreciation of the Spanish language. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 316x Spanish for the Professions

Units: 4 Terms Offered: FaSp The language and culture of a particular area of study or profession, such as medicine and healthcare, political and social sciences, business and the law. Limited to 4 units for major or minor credit. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 318x Creative Writing in Spanish
Units: 4 Terms Offered: FaSp An introduction to the art and craft of creative writing in Spanish with a focus on narrative fiction; writing workshop, literary readings. *Prerequisite:* SPAN 260 or SPAN 261 Instruction Mode: Lecture Grading Option: Letter

SPAN 320 Politics, Thought, Society
Units: 4 Terms Offered: FaSp Introduction to the study of Iberian and Latin American cultural patterns through readings on such topics as history, gender, ethnicity, and politics. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 360 and former SPAN 370 Instruction Mode: Lecture Grading Option: Letter

SPAN 321 Sounds, Images, Objects
Units: 4 Terms Offered: FaSp Introduction to the study of Iberian and Latin American cultural forms through readings on the visual arts, cinema, architecture, and music. Conducted in Spanish. *Prerequisite:* SPAN 260 or SPAN 261 Duplicates Credit in former SPAN 360 and former SPAN 370 Instruction Mode: Lecture Grading Option: Letter

SPAN 341 Advanced Conversation and Culture
Units: 4 Conversation based on study of Spanish art and architecture. Field trips. Instruction Mode: Lecture Grading Option: Letter

SPAN 350 Cultural Cross-Currents of the Iberian Middle Ages
Units: 4 Terms Offered: FaSp Selected readings from 1040 to 1499 examining the rich cultural diversity of the Iberian Middle Ages in the symbiosis of Christian, Moslem and Jewish traditions. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Duplicates Credit in former SPAN 377 and former SPAN 450. Instruction Mode: Lecture Grading Option: Letter

SPAN 352 The Transatlantic Golden Age: New Worlds Real and Imagined
Units: 4 Terms Offered: FaSp Selected readings from 1500 to 1700 exploring Renaissance and baroque visions of the classical and new worlds. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 372 Modern and Contemporary Latin American Fiction
Units: 4 Terms Offered: FaSp Study of major trends in Latin American fiction from the 1930s to the present with a focus on narrative experimentation. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 373 Modern and Postmodern Spanish Fiction
Units: 4 Terms Offered: FaSp An exploration of the literary and filmic narratives of contemporary Spain focusing on the major historical and cultural movements of the 20th century. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Duplicates Credit in former SPAN 378. Instruction Mode: Lecture Grading Option: Letter

SPAN 375 Latin American Cultural and Literary Theory
Units: 4 (Enroll in COLT 375) Satisfies New General Education in B Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SPAN 380g Literature of Mexico
Units: 4 Principal writers and their works from Colonial times to the present. Non-majors may write assignments in English. *Recommended Preparation:* advanced comprehension of oral and written Spanish. Satisfies New General Education in Category B: Humanistic Inquiry Instruction Mode: Lecture Grading Option: Letter

SPAN 381 Narco-World
Units: 4 Sp *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 382 The Aesthetics of Violence in Latin America
Units: 4 Terms Offered: Fa An exploration of representations of violence and violent representations in Latin American narrative, poetry, music, and film. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 385 The Culture of Food in Hispanic Los Angeles
Units: 4 Terms Offered: FaSp Experiential learning and project-based course designed to familiarize students with the food culture of Hispanic Los Angeles. Students create Spanish language blogs about their experiences. *Prerequisite:* SPAN 260 and SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SPAN 391 Introduction to Contemporary Spanish Literature (USC Madrid Center)
Units: 4 Readings in contemporary Spanish literature. Includes lectures by recognized Spanish writers and scholars. Instruction Mode: Lecture Grading Option: Letter

SPAN 405 History of the Spanish and Portuguese Languages
Units: 4 Development of sounds, forms, words, meanings and structures from their origins to modern Spanish and Portuguese. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 412 Spanish Rhetoric and Style
Units: 4 Terms Offered: FaSp Close grammatical and rhetorical analysis of a variety of text types (general, literary, technical, journalistic) as the basis for practice in advanced written and oral expression as well as translation. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 413m Social and Geographic Varieties of Spanish
Units: 4 Terms Offered: Fa Historical, social, and cultural elements represented in the dialectal diversity of the Spanish language; fieldwork in bilingual communities in the United States. Majors prepare assignments in Spanish, non-majors in English. Conducted in Spanish and English. *Prerequisite:* reading knowledge of Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 420 Spanish Language Acquisition
Units: 4 Terms Offered: FaSp A study of the bilingual acquisition of Spanish and English by children, and of Spanish as a second language by adults; focus on linguistic, psychological and social factors. *Prerequisite:* SPAN 310 or SPAN 315. Instruction Mode: Lecture Grading Option: Letter

SPAN 455 Picaresque Itineraries: Empire and Its Discontents
Units: 4 Terms Offered: FaSp A study of the rise of the picaresque novel in Spain and Latin America as a medium for social, political, and cultural criticism. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 460 Don Quijote: Text and Film
Units: 4 Terms Offered: FaSpSm A close reading of Cervantes' masterpiece and analysis of film adaptations of the novel. *Prerequisite:* SPAN 301. Instruction Mode: Lecture Grading Option: Letter

SPAN 462 Literary Cartographies of Latin America and Spain, 1810–1898
Units: 4 Terms Offered: FaSp Comparative analysis of Spanish and Latin American literatures with a focus on trans-Atlantic relations and the rise of such movements as romanticism, realism, and modernismo. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 464 Introduction to Contemporary Spanish Theatre
Units: 4 (Madrid Center only) Historical evolution of the contemporary Spanish theatre; readings of dramatic texts supported by attendance at live stage performances. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 465 Cultural Perspectives of the Iberian Peninsula
Units: 4 Terms Offered: Sm (Madrid Summer Program) Study of cultural plurality in the Iberian Peninsula. *Recommended Preparation:* SPAN 260 or SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 466 Argentina, Society and the Arts
Units: 4 Terms Offered: Sm Study of the

arts in the cultural landscape of Argentina and in the context of developments in Europe, Latin America and the United States. *Recommended Preparation:* SPAN 260 or SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 469 Immigration in Spain
Units: 4 Terms Offered: Sm Sociopolitical issues of immigration in Spain, including economic impact, legal evolution, history, geographic location, and culture. *Prerequisite:* SPAN 220; *Recommended Preparation:* SPAN 260 or SPAN 261. Instruction Mode: Lecture Grading Option: Letter

SPAN 470 Literature and Media in Latin America
Units: 4 (Enroll in COLT 470)

SPAN 471 Postdictatorship Spanish and Latin American Cinema
Units: 4 Terms Offered: Fa A study of the historical, cultural and political context of post-dictatorship Spanish and Latin American cinema by focusing on debates on memory and trauma. Taught in Spanish. *Prerequisite:* SPAN 302 Instruction Mode: Lecture Grading Option: Letter

SPAN 472 The Sixties in Latin America
Units: 4 Terms Offered: Fa Study of the explosive Latin American cultural formations of the sixties (literary boom, third cinema, protest song, theories of armed struggle). *Prerequisite:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 481 Literature and Popular Culture
Units: 4 Terms Offered: FaSp An examination of popular culture and literary genres with an emphasis on the evolving canons and identities of Latin America and Spain. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 482 Literature and the City
Units: 4 Terms Offered: FaSp An examination of the literary representations of urban spaces and cultures within the context of Iberian, Latin American, and U.S. Latino societies. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308. Instruction Mode: Lecture Grading Option: Letter

SPAN 483 Gender and Sexuality
Units: 4 Terms Offered: FaSp An examination of gender, sexuality, and power in Iberian and Latin American literatures and cultures. Conducted in Spanish. *Recommended Preparation:* SPAN 304 or SPAN 306 or SPAN 308 Instruction Mode: Lecture Grading Option: Letter

SPAN 484 Studies in Visual and Material Culture
Units: 4 Terms Offered: FaSp An examination of the role of visual and material culture in cultural and social context in the Hispanic world, focusing on a selected time period and geographical region. *Recommended Preparation:* SPAN 260 and SPAN 261 if taken for Spanish major credit. Instruction Mode: Lecture Grading Option: Letter

SPAN 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Individual research and readings. Instruction Mode: Lecture Grading Option: Letter

SPAN 495 Seminar for Majors and Minors
Units: 4 Two options: (1) Study of a major work or writer, a principal literary theme or movement; or (2) a selected topic in Spanish language and linguistics. *Recommended Preparation:* two courses in the upper division in the same area as the seminar topic (i.e., language or literature). Instruction Mode: Lecture Grading Option: Letter

SPAN 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Instruction Mode: Lecture Grading Option: Letter

SPAN 501 Cultural Narratives of Spain and Latin America
Units: 4 Theoretical and methodological approaches to cultural narratives in Spanish and Latin American literary and cultural studies. Instruction Mode: Lecture Grading Option: Letter

SPAN 511 Techniques and Procedures of Teaching Spanish as a Second Language
Units: 3 Practical classroom application of language teaching methods; evaluation of available textbooks; critique of master classes. Instruction Mode: Lecture Grading Option: Letter

SPAN 513 Spanish Morphology and Phonology
Units: 3 Terms Offered: FaSp A survey of research on the interaction between Spanish morphology and phonology in light of critical readings and discussion of selected studies as contributions to the general theory of grammar. Duplicates Credit in former SPAN 512. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-513

SPAN 514 Spanish Syntax
Units: 3 Terms Offered: FaSp A survey of Spanish syntax in the light of critical readings and discussion of selected studies and their comparative contribution to grammatical theory. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-514

SPAN 515 Spanish Grammar in Discourse
Units: 3 Terms Offered: FaSp Semantic and pragmatic approaches to the analysis of the structure of Spanish sentences and discourse. Instruction Mode: Lecture Grading Option: Letter Crosslisted as LING-515

SPAN 516 Historical Aspects of Spanish and Portuguese
Units: 3 Terms Offered: FaSp Processes of language change in the development of the Spanish and Portuguese languages from their origin in spoken Latin to their modern stage. Instruction Mode: Lecture Grading Option: Letter

SPAN 517 Spanish Applied Linguistics
Units: 3 Terms Offered: FaSp Modern theories of first and second language acquisition and their application to Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 518 Spanish Sociolinguistics
Units: 3 Terms Offered: FaSp Principles of sociolinguistics and dialectology: sociolinguistic patterns in the Hispanic languages. Instruction Mode: Lecture Grading Option: Letter

SPAN 525 Medieval and Early Modern Spanish World
Units: 4 Max Units: 8.0 Study of literature and other cultural artifacts pertaining to the Middle Ages in Spain and the early modern world in both Spain and the Americas. Instruction Mode: Lecture Grading Option: Letter

SPAN 529 The Transatlantic 19th Century
Units: 4 Max Units: 8.0 Study of authors, texts and literary and cultural currents in Spain and Latin America in the 19th century. Instruction Mode: Lecture Grading Option: Letter

SPAN 539 20th and 21st Century Spanish Literature and Culture
Units: 4 Max Units: 8.0 Study of cultural currents, authors, literary texts, films and other media in Spain in the 20th and 21st centuries. Instruction Mode: Lecture Grading Option: Letter

SPAN 545 20th and 21st Century Latin American Literature and Culture
Units: 4 Max Units: 8.0 Study of cultural currents, authors, literary texts, films and other media in Latin America in the 20th and 21st centuries. Instruction Mode: Lecture Grading Option: Letter

SPAN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 592 Practicum in Teaching Spanish
Units: 2 Approaches and techniques in the teaching of Spanish and/or Portuguese as a second language. Registration Restriction: Open only to Master and Doctoral students in Comparative Literature, Comparative Culture in Literature and Studies (Spanish and Latin American Studies), Linguistics (Hispanic Linguistics) and Spanish. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 594a Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 594b Master's Thesis
Units: 2 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 594z Master's Thesis
Units: 0 Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 596 Research Methods in Spanish Linguistics
Units: 3 Examination of various research methods as applied to the study of the Spanish language; mechanics of organizing, conducting and presenting research in Spanish linguistics. Instruction Mode: Lecture Grading Option: Letter

SPAN 602 Seminar in Spanish and Latin

American Critical Theory
Units: 4 Max Units: 8.0 Major developments in literary criticism in Spain and Latin America from the early modern period to the present. Instruction Mode: Lecture Grading Option: Letter

SPAN 603 Seminar in the Cultural History of Spain and Latin America
Units: 4 Max Units: 8.0 Literary and cultural currents in Spain and Latin America, with varying focus on genres, periods, movements and problems. Instruction Mode: Lecture Grading Option: Letter

SPAN 604 Seminar in Gender and Sexuality in Spain and Latin America
Units: 4 Max Units: 8.0 Construction and representation of gender and sexuality in Spanish and Latin American literature and culture. Instruction Mode: Lecture Grading Option: Letter

SPAN 606 Seminar in Visual Culture in Spain and Latin America
Units: 4 Max Units: 8.0 Major currents in film and other media in Spain and Latin America. Instruction Mode: Lecture Grading Option: Letter

SPAN 650 Topics in Spanish and Latin American Literature and Culture
Units: 4 Max Units: 8.0 Study of topics in Spanish and Latin American literature and culture across periods, genres and nations. Instruction Mode: Lecture Grading Option: Letter

SPAN 652 Seminar on a Major Topic in Hispanic Linguistics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Analysis of selected topics of current interest as reflected primarily in the most recent literature. Instruction Mode: Lecture Grading Option: Letter

SPAN 672 Seminar in Spanish Morphophonology
Units: 3 Max Units: 9.0 Terms Offered: FaSp Selected topics in Spanish morphology and phonology. Instruction Mode: Lecture Grading Option: Letter

SPAN 674 Seminar on Spanish Syntax and Semantics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Detailed analysis of topics in modern Spanish syntax and semantics. Instruction Mode: Lecture Grading Option: Letter

SPAN 676 Seminar in Diachronic Aspects of the Hispanic Languages
Units: 3 Max Units: 9.0 Terms Offered: FaSp In-depth analysis of a particular topic in the historical development of the Hispanic languages. Instruction Mode: Lecture Grading Option: Letter

SPAN 677 Seminar in Spanish Applied Linguistics
Units: 3 Terms Offered: FaSp Critical study and analysis of major issues related to the teaching and learning of Spanish as a first or a second language. Instruction Mode: Lecture Grading Option: Letter

SPAN 678 Seminar in Hispanic Sociolinguistics
Units: 3 Max Units: 9.0 Terms Offered: FaSp Selected topics in Hispanic sociolinguistics: social and geographic language varieties, language contact, discourse analysis, synchronic variation and processes of change in Spanish. Instruction Mode: Lecture Grading Option: Letter

SPAN 700 Colloquium in Hispanic Literature and Linguistics
Units: 1 Max Units: 3.0 Discussion and presentation of papers on a variety of topics in the areas of Hispanic language and literature. *Prerequisite:* any 600 level Spanish seminar. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 790 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Research leading to the doctorate. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SPAN 794a Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794b Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794c Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794d Doctoral Dissertation
Units: 2 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SPAN 794z Doctoral Dissertation
Units: 0 Credit on acceptance of dissertation. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

Spatial Sciences Institute

SSCI 101 Workshop in Spatial Analysis
Units: 2 Terms Offered: FaSp Introduction to geospatial technologies and data as creative tools for supplementing traditional forms of academic work across the sciences, social sciences, and the humanities. Instruction Mode: Lecture Grading Option: Letter

SSCI 135Lg Maps in the Digital World
Units: 4 Terms Offered: FaSpSm The role of formal reasoning, abstract representation and empirical analysis in building maps for sharing knowledge across the physical, life and social sciences and humanities. Satisfies New General Education in Category F: Quantitative Reasoning Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 165Lgw Sustainability Science in the City
Units: 4 Terms Offered: FaSp The influence of sustainability science on public policy and vice versa in the context of social/ethical theories, analytical methods and solutions. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 201 Principles of GeoDesign
Units: 4 Terms Offered: FaSp Foundations of geodesign combining place-making, design, collective action, and the science of location-based information to improve human interaction with the functioning of the Earth. Instruction Mode: Lecture Grading Option: Letter

SSCI 214g Human Populations and Natural Hazards
Units: 4 Terms Offered: FaSp Introduction to the complex relationship between human development and natural hazards, which are increasingly causing damage and displacement to human populations throughout the world. Satisfies New General Education in Category C: Social Analysis Instruction Mode: Lecture, Discussion Grading Option: Letter

SSCI 265Lg The Water Planet
Units: 4 Terms Offered: FaSpSm An exploration of earth's water, ranging from water properties, chemistry, and pollution, to groundwater dynamics, watershed processes, and oceanic-atmospheric circulation. Implications for past and future societies. Satisfies New General Education in Category E: Physical Sciences Satisfies Old General Education in Category IV: Science and Its Significance Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 301L Maps and Spatial Reasoning
Units: 4 Terms Offered: Fa Role of maps and spatial reasoning in the production and use of geographic information for representing and analyzing human and environmental activities and events. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 340 Community Health Scan
Units: 4 Terms Offered: FaSpSm The social context of health and its determinants; the uses of data analysis; community capacity building, and the impact of policy on community health improvement. Duplicates Credit in former MDA 350 Instruction Mode: Lecture Grading Option: Letter

SSCI 350 International GeoDesign
Units: 4 Max Units: 12.0 Terms Offered: FaSpSm Intensive living-learning research and field experience in Los Angeles and abroad; application of GeoDesign strategies to local societal challenges. Instruction Mode: Lecture Grading Option: Letter

SSCI 382L Principles of Geographic Information Science
Units: 4 Terms Offered: Sp The various ways in which geography can be used to acquire, represent, organize, analyze, model and visualize information. Laboratories are organized around ArcGIS software suite. *Prerequisite:* SSCI 301L Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 383L Geospatial Modeling and Customization
Units: 4 Terms Offered: Sp Fundamentals of spatial modeling and remote sensing and how to use GIS customization and programming to streamline complex spatial analysis and

modeling workflows. *Prerequisite:* SSCI 301 and SSCI 382 Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 397 Spatial Sciences Internship
Units: 2, 3, 4 Terms Offered: FaSpSm Intensive experience in local public agency, private firm, or nonprofit agency engaged in applied geospatial analysis, modeling and mapping work. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 401L Geospatial Intelligence
Units: 4 Terms Offered: Fa Introduction to basic geospatial intelligence knowledge and related practical applications that assist in informing decision-making in a variety of human security settings. *Recommended Preparation:* IR 381 and SSCI 301L Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 412L GeoDesign Practicum
Units: 4 Terms Offered: FaSp Application of design concepts, planning protocols and spatial analysis skills to a complex planning or design problem sponsored by a local public, private or not-for-profit client in a studio setting. *Prerequisite:* ARCH 403, PPD 425, SOCI 314, SSCI 483. Instruction Mode: Lecture, Lab Required Grading Option: Letter Crosslisted as ARCH-412, PPD-412

SSCI 483L Spatial Science Practicum
Units: 4 Terms Offered: Sp Application of GIS concepts and skills to a local opportunity or problem in a studio setting. May involve site visits, community contact, and presentations. *Prerequisite:* SSCI 382. Instruction Mode: Lecture, Lab Required Grading Option: Letter

SSCI 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Registration Restriction: Open only to juniors and seniors. Instruction Mode: Lecture Grading Option: Letter

SSCI 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Intensive study of selected topics or regions. Instruction Mode: Lecture Grading Option: Letter

SSCI 578 The Practice of Geospatial Leadership
Units: 4 Terms Offered: Sm The geospatial value proposition and the qualities and skills leaders will need to help their geospatial information management groups and organizations achieve success. *Recommended Preparation:* SSCI 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 579 Geospatial Intelligence Tradecraft
Units: 4 Terms Offered: FaSpSm Typical geospatial intelligence tasks and their use in military operations, national and homeland security, international relief work and disaster management. *Recommended Preparation:* SSCI 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 580 Spatial Computing
Units: 4 Terms Offered: FaSp Theoretical foundations, methods, techniques, and software systems for spatial computing, including geospatial semantic web and linked data, spatial data mining, geocoding, and document linking. *Recommended Preparation:* SSCI 581 or INF 510. Instruction Mode: Lecture Grading Option: Letter

SSCI 581 Concepts for Spatial Thinking
Units: 4 Terms Offered: FaSpSm The unique characteristics and importance of spatial information as they relate to the evolving science, technology, and applications of Geographic Information Systems. Duplicates Credit in the former GEOG 581. Instruction Mode: Lecture Grading Option: Letter

SSCI 582 Spatial Databases
Units: 4 Terms Offered: FaSpSm Design, implementation, and interrogation of relational, object-oriented and other types of geospatial databases. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 582. Instruction Mode: Lecture Grading Option: Letter

SSCI 583 Spatial Analysis
Units: 4 Terms Offered: FaSpSm Provides the knowledge and skills necessary to investigate the spatial patterns which result from social and physical processes operating at or near the Earth's surface. *Recommended Preparation:* SSCI 581. Duplicates Credit in former GEOG 583. Instruction Mode: Lecture Grading Option: Letter

SSCI 584 Spatial Modeling
Units: 4 Terms Offered: FaSp The use of spatial models to describe social and environmental processes, patterns and systems at multiple spatial and temporal scales. *Recommended Preparation:* SSCI 583. Instruction Mode: Lecture Grading Option: Letter

SSCI 585 Geospatial Technology Project Management
Units: 4 Terms Offered: FaSm Concepts, principles, and use of project management tools and the people issues encountered running GIS projects. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 585. Instruction Mode: Lecture Grading Option: Letter

SSCI 586 GIS Programming and Customization
Units: 4 Terms Offered: FaSp Design, coding, and implementation of GIS-based software and models using the Python programming language. *Recommended Preparation:* SSCI 582. Duplicates Credit in former GEOG 586. Instruction Mode: Lecture Grading Option: Letter

SSCI 587 Spatial Data Acquisition
Units: 4 Terms Offered: FaSpSm Role of global positioning systems, maps, geocoding, and other kinds of sensors as geospatial data sources. Includes field data acquisition excursion on Catalina Island. *Recommended Preparation:* SSCI 581. Duplicates Credit in former GEOG 587. Instruction Mode: Lecture Grading Option: Letter

SSCI 588 Remote Sensing for GIS
Units: 4 Terms Offered: SpSm Principles of remote sensing, satellite systems, and role of remote sensing data in GIS applications. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 588. Instruction Mode: Lecture Grading Option: Letter

SSCI 589 Cartography and Visualization
Units: 4 Terms Offered: SpSm Principles of visual perception, spatial cognition and cartographic design and their contributions to the maps, animations, virtual reality and multimedia displays produced with modern GIS. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 589. Instruction Mode: Lecture Grading Option: Letter

SSCI 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 591 Web GIS
Units: 4 Terms Offered: FaSm Design and implementation of locally served and cloud-based geospatial web applications. Construction of web maps, mashups, and Volunteered Geographic Information interfaces. *Recommended Preparation:* SSCI 581. Duplicates Credit in the former GEOG 591. Instruction Mode: Lecture Grading Option: Letter

SSCI 592 Mobile GIS
Units: 4 Terms Offered: SpSm Design, coding, and implementation of mobile GIS applications using the Java and Javascript object-oriented programming languages. *Recommended Preparation:* SSCI 591. Instruction Mode: Lecture Grading Option: Letter

SSCI 593 Geospatial Data Integration
Units: 4 Terms Offered: FaSm Role of crowdsourcing, volunteered geographic information, spatial data infrastructures, and web portals in helping with the collection, storage, curation, and distribution of geospatial data assets. *Recommended Preparation:* SSCI 587. Instruction Mode: Lecture Grading Option: Letter

SSCI 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SSCI 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

SSCI 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress & Credit/No Credit

SSCI 596 Internship in Spatial Sciences
Units: 1 Max Units: 4.0 Terms Offered: FaSpSm Part-time or full-time practical work experience in the student's field of study at an off-campus facility under faculty direction. Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar

in selected topics in the spatial sciences. Instruction Mode: Lecture Grading Option: Letter

SSCI 600 The Geography of Life and Death
Units: 4 Terms Offered: Fa Meaning and significance of place and role of social, natural, and built environments in disease occurrence in different places and populations. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Letter

SSCI 601a Population, Health and Place Research Practicum
Units: 2 Max Units: 4 Terms Offered: Sm The use of population science, public health, and spatial science theory and practice to advance our understanding of one or more aspects of human well-being. *Prerequisite:* SSCI 600 Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SSCI 601b Population, Health and Place Research Practicum
Units: 2 Max Units: 4 Terms Offered: Sm The use of population science, public health, and spatial science theory and practice to advance our understanding of one or more aspects of human well-being. *Prerequisite:* SSCI 601a Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Letter

SSCI 680 Advanced Spatial Computing
Units: 4 Terms Offered: FaSpSm The role of spatial computing in understanding the world, in knowing and communicating our relationships to specific places, and for navigating through those places. Instruction Mode: Lecture Grading Option: Letter

SSCI 683 Principles of Spatial Data Analysis
Units: 4 Terms Offered: Sp The theoretical foundations and techniques of spatial analysis and the ways in which they have been used to identify spatial processes and patterns. *Recommended Preparation:* Enrollment in a USC PhD Program. Instruction Mode: Lecture Grading Option: Letter

SSCI 684 Spatial Modeling with GIS
Units: 4 Terms Offered: Sp An introduction to spatial models identifying the key issues influencing the success of these models in simulating key social and environmental processes and health exposures. Instruction Mode: Lecture Grading Option: Letter

SSCI 693 Practicum in Teaching the Liberal Arts
Units: 2 Terms Offered: Fa Principles of pedagogy for teaching the liberal arts, focusing on issues and technologies for spatial thinking. Required for first-semester teaching assistants in spatial sciences. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 790 Research
Units: 1 Max Units: 12 Terms Offered: FaSpSm Research leading to the doctorate. Registration Restriction: Open only to doctoral students Instruction Mode: Lecture Grading Option: Credit/No Credit

SSCI 794a Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794b Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794c Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794d Doctoral Dissertation
Units: 2 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

SSCI 794z Doctoral Dissertation
Units: 0 Terms Offered: FaSpSm Credit on acceptance of Dissertation. Registration Restriction: Open only to doctoral students in Population, Health, and Place major. Instruction Mode: Lecture Grading Option: In Progress/Credit/No Credit

Sophomore Seminars

SSEM 200 Sophomore Seminar
Units: 1, 2 Terms Offered: FaSp and Special Sessions Special seminar courses for sophomores; limited to 18 students; topics will vary; Instruction Mode: Lecture Grading Option: Credit/No Credit

Oral Surgery

SURG 501 Oral Surgery
Units: 2 Introduction to surgical dentistry, armamentarium and procedures; exodontics; infection; post operative care; repair of bone and soft tissue; acute injury; cysts, sinuses, nerve injury, biopsy. Instruction Mode: Lecture Grading Option: Letter

SURG 562a Clinic: Oral Surgery I
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 562b Clinic: Oral Surgery I
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 562c Clinic: Oral Surgery I
Units: 1 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

SURG 563a Clinic: Oral Surgery II
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 563b Clinic: Oral Surgery II
Units: 0 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 563c Clinic: Oral Surgery II
Units: 1 Supervised clinical experience in health history, surgical evaluation, extraction of teeth, and minor oral surgery procedures. Includes special case seminars. Instruction Mode: Lecture Grading Option: Letter

SURG 564a Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564b Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564c Clinic: Hospital Oral Surgery
Units: 0 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 564d Clinic: Hospital Oral Surgery
Units: 1 Observation of inpatient and outpatient oral and maxillofacial surgery, participation in clinic care of patients with dento-alveolar pathology, introduction to management of medically compromised patient. Instruction Mode: Lecture Grading Option: Letter

SURG 611a Oral and Maxillofacial Surgery
Units: 0 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 611b Oral and Maxillofacial Surgery
Units: 0 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: In-progress to Letter Grade

SURG 611c Oral and Maxillofacial Surgery
Units: 4 More advanced instruction in oral and maxillofacial surgery and related diseases as appropriate to the practice of general dentistry; extensive clinical experience. Instruction Mode: Lecture Grading Option: Letter

SURG 701a Seminar: Advanced Oral Surgery
Units: 2 Problems in advanced oral surgery and hospital oral surgery including student presentations and critique of clinical cases. Instruction Mode: Lecture Grading Option: Letter

SURG 701b Seminar: Advanced Oral Surgery
Units: 2 Problems in advanced oral surgery and hospital oral surgery including student presentations and critique of clinical cases. Instruction Mode: Lecture Grading Option: Letter

SURG 702a Seminar: Review of the Oral Surgery Literature
Units: 2 Critical analysis of recent oral surgery and other related literature. Instruction Mode: Lecture Grading Option: Letter

SURG 702b Seminar: Review of the Oral Surgery Literature
Units: 2 Critical analysis of recent oral surgery and other related literature. Instruction Mode: Lecture Grading Option: Letter

SURG 708a Orthognathic Surgery
Units: 2 Terms Offered: Fa Surgical planning and treatment of patients with skeletal deformities. Instruction Mode: Lecture Grading Option: Letter

SURG 708b Orthognathic Surgery
Units: 2 Terms Offered: Sp Surgical planning and treatment of patients with skeletal deformities. Instruction Mode: Lecture Grading Option: Letter

SURG 721 Surgical Anatomy
Units: 2 Intensive review of anatomy relevant to the practice of oral surgery. Includes dissections and animal surgery. Instruction Mode: Lecture Grading Option: Letter

SURG 761a Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761b Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761c Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 761d Clinic: Advanced Oral Surgery
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Clinical evaluation and surgical treatment of dento-alveolar disease in out-patient clinic. Instruction Mode: Lecture Grading Option: Letter

SURG 763a Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763b Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763c Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

SURG 763d Clinic: Advanced Hospital Oral Surgery and Anesthesia
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 each Surgical treatment of patients and service in medical anesthesia at the LAC+USC Medical Center. Instruction Mode: Lecture Grading Option: Letter

Gender Studies

SWMS 210gmw Social Analysis of Gender
Units: 4 Terms Offered: FaSp Multidisciplinary survey of gender assumptions in relation to sexuality, mental health, social and political relations, and artistic expression. Satisfies New General Education in Category C: Social Analysis Satisfies Global Perspective in Category G: Citizenship in a Diverse World Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter Crosslisted as POSC 210, PSYC 210

SWMS 212gp Studies in Gender and Sexuality: An Introduction
Units: 4 Terms Offered: Sp Examination of how gender and sexuality have been constructed, experienced, and legislated. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 215gp Gender Conflict across Cultural Contexts
Units: 4 Terms Offered: Fa Identification and examination of social and cultural conflicts through the lens of gender, and comparison of such conflicts across cultures, regions, and historical periods. Satisfies New General Education in Category B: Humanistic Inquiry Satisfies Global Perspective in Category H: Traditions and Historical Foundations Satisfies Old General Education in Category VI: Social Issues Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 225 Gender, Sex, and Science: A Gender Studies Approach
Units: 4 Terms Offered: FaSp Study of sex, gender in relation to science and social sciences; survey of scientific methods, approaches, current research; investigation of gender influences on scientific research. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-225

SWMS 245gm Gender and Sexualities in American History
Units: 4 (Enroll in HIST 245)

SWMS 265g Racism, Sexism, and the Law
Units: 4 (Enroll in HIST 265)

SWMS 300 Women in Antiquity
Units: 4 (Enroll in CLAS 300) Satisfies New General Education in B Humanistic Inquiry Satisfies Old General Education in Category V: Arts and Letters Instruction Mode: Lecture, Discussion Grading Option: Letter

SWMS 301gm Feminist Theory: An Introduction
Units: 4 Terms Offered: FaSpSm Theories of feminism; historical, social and cultural perspectives of the women's movement in America, Europe, and in developing countries; men's roles in the feminist movement.

SWMS 302 From Sappho to Stonewall: Lesbians in History
Units: 4 Terms Offered: Other (Enroll in HIST 302)

SWMS 303 From Goddesses to Witches: Women in Premodern Europe
Units: 4 (Enroll in HIST 305)

SWMS 304xm Italian Renaissance Art: Old Masters and Old Mistresses
Units: 4 (Enroll in AHIS 304)

SWMS 305 Childhood, Birth and Reproduction
Units: 4 (Enroll in ANTH 305)

SWMS 306 Introduction to LGBTQ Studies
Units: 4 Terms Offered: FaSp Interdisciplinary analysis of LGBTQ issues; examination of the intersections of gender and sexuality with social class, race, religion, and nationality. Instruction Mode: Lecture Grading Option: Letter

SWMS 307 Women in Medieval Europe, c. 1000–1500
Units: 4 Terms Offered: Other (Enroll in HIST 307)

SWMS 310 Gender and Social Justice
Units: 4 Terms Offered: FaSp Exploration of the ways in which developments and policies, including neoliberalism, the carceral state, and economic precarity, are connected and gendered. Instruction Mode: Lecture Grading Option: Letter

SWMS 311 Gender Studies and the Community: Internship
Units: 4 Terms Offered: FaSpSm A combination of internships in the community and an intensive seminar on the relationship of the students in the academic community

with the larger urban community of which it is a part. Instruction Mode: Lecture Grading Option: Letter

SWMS 316 Gender and Global Issues
Units: 4 (Enroll in IR 316)

SWMS 320 Male and Female in Pacific Society
Units: 4 (Enroll in ANTH 320)

SWMS 321 Gender and Judaism
Units: 4 (Enroll in JS 321)

SWMS 324 Women in Medieval and Renaissance Europe
Units: 4 (Enroll in COLT 324)

SWMS 330m Culture, Gender and Politics in South Asia
Units: 4 (Enroll in ANTH 330)

SWMS 335 Gender, Religion, and Sexuality
Units: 4 (Enroll in REL 335)

SWMS 336 Health, Gender and Ethnicity
Units: 4 Terms Offered: Sp Cross-cultural notions of the body, health, and healing; historic and cultural variability of ideas of reproduction, birth, sexuality, mental illness, and disability. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-336

SWMS 341 Women in English Literature before 1800
Units: 4 (Enroll in ENGL 341)

SWMS 342g Women in English and American Literature after 1800
Units: 4 (Enroll in ENGL 342g)

SWMS 343m Images of Women in Contemporary Culture
Units: 4 Max Units: FaSp (Enroll in ENGL 343m)

SWMS 344m Sexual/Textual Diversity
Units: 4 Terms Offered: FaSp (Enroll in ENGL 344m)

SWMS 345 Men and Women in United States History from the 1920s to the Present
Units: 4 Terms Offered: Other (Enroll in HIST 345)

SWMS 347 Race, Gender and Power in Francophone Literature
Units: 4 (Enroll in FREN 347)

SWMS 349 Women and the Law
Units: 4 Terms Offered: Fa Discussion of the relationship between women and the law in light of feminist jurisprudence, U.S. Supreme Court decisions, and cross-cultural perspectives. Instruction Mode: Lecture Grading Option: Letter Crosslisted as POSC-349

SWMS 355 Transgender Studies
Units: 4 Terms Offered: Sp Analysis of transgender behaviors, from androgyny and transvestism to transexuality. Discussion of changing laws, representations, medical standards, and social attitudes towards transgender and intersex people. Instruction Mode: Lecture Grading Option: Letter

SWMS 358 U.S. Gay and Lesbian History
Units: 4 Terms Offered: Sp Exploration of shifting social organization and cultural meanings of same-sex desire and cross-gender behaviors in the U.S., primarily during the 20th century. Instruction Mode: Lecture Grading Option: Letter Crosslisted as HIST-358

SWMS 363m Race, Gender and Sexuality in Contemporary Art
Units: 4 (Enroll in AHIS 363)

SWMS 367 Gender and Creative Labor
Units: 4 Terms Offered: Fa Exploration of contemporary labor issues from feminist and gender studies perspectives. Instruction Mode: Lecture Grading Option: Letter

SWMS 369 The Family in a Changing Society
Units: 4 (Enroll in SOCI 369)

SWMS 370 Sex, Love, and Marriage: An Introduction to Kinship
Units: 4 Terms Offered: Sp (Enroll in ANTH 370)

SWMS 372 Human Sexuality
Units: 4 (Enroll in PSYC 372)

SWMS 374gm Women Writers in Europe and America
Units: 4 (Enroll in COLT 374)

SWMS 375 Women and Gender in China: Past and Present
Units: 4 (Enroll in EALC 375)

SWMS 377 The Image of the Journalist in Popular Culture
Units: 4 (Enroll in JOUR 375)

SWMS 378 Literature, Theory, Gender
Units: 4 (Enroll in COLT 377)

SWMS 380 Sex and Gender in Anthropological Perspective
Units: 4 (Enroll in ANTH 380)

SWMS 381 Sex, Power, and Politics
Units: 4 (Enroll in POSC 381)

SWMS 382 Political Theories and Social Reform
Units: 2 or 4 (Enroll in POSC 380)

SWMS 383 French Women Writers
Units: 4 Terms Offered: FaSp (Enroll in FREN 383)

SWMS 385m Men and Masculinity
Units: 4 Interdisciplinary examination of social, personal meanings of masculinity; variety of male experience by social class, race, sexuality, and age; emerging masculinities of the future. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-385, SOCI-386

SWMS 389 Gender, Sexuality and Food Cultures in the U.S.
Units: 4 Terms Offered: Sp Exploration of food, eating, production, sustainability, access, and culture from a multidisciplinary perspective. Instruction Mode: Lecture Grading Option: Letter

SWMS 390 Special Problems
Units: 1, 2, 3, 4 Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

SWMS 395m Gender, Media and Communication
Units: 4 (Enroll in COMM 395)

SWMS 402 Human Trafficking
Units: 4 Terms Offered: FaSp (Enroll in SOCI 402)

SWMS 410 Senior Seminar in Gender Studies
Units: 4 Terms Offered: Fa Study of a selected problem, period, or theme in the study of women and men in society by integrating perspectives from cross-cultural and interdisciplinary studies. Instruction Mode: Lecture Grading Option: Letter

SWMS 412 Gender, Sexuality and Media
Units: 4 Max Units: max 8 (Enroll in CTCS 412)

SWMS 425 Queer Los Angeles
Units: 4 Terms Offered: Sp Interdisciplinary study of queer Los Angeles through examination of histories, memoirs, essays, fiction, poetry, documentaries, narrative films, and local archives. Instruction Mode: Lecture Grading Option: Letter

SWMS 426 Gender, Family and Society in Europe and the United States, 1500–Present
Units: 4 Terms Offered: Other (Enroll in HIST 426)

SWMS 430 Gender and Sexuality in Korean Literature and Culture
Units: 4 (Enroll in EALC 430)

SWMS 434m Women and Aging: Psychological, Social and Political Implications
Units: 4 Terms Offered: FaSpSm (Enroll in GERO 435)

SWMS 435m Women in Society
Units: 4 (Enroll in SOCI 435)

SWMS 440 Women's Literature in Germany I
Units: 4 (Enroll in GERM 440)

SWMS 442m Women's Spaces in History: "Hussies," "Harems," and "Housewives"
Units: 4 (Enroll in ARCH 442)

SWMS 445 Studies in Gender and Feminism
Units: 4 (Enroll in FREN 445)

SWMS 456 Women in International Development
Units: 4 (Enroll in POSC 456)

SWMS 464 Sociology of Gender and Work
Units: 4 Terms Offered: FaSp (Enroll in SOCI 464)

SWMS 465 Gender in Media Industries and Products
Units: 4 (Enroll in COMM 465)

SWMS 467 Gender and the News Media
Units: 4 (Enroll in JOUR 467)

SWMS 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Independent research and readings. Instruction Mode: Lecture Grading Option: Letter

SWMS 492 Honors Thesis
Units: 4 Terms Offered: Sp Writing of the honors thesis; for students in the Gender Studies Honors Program. *Recommended Preparation:* SWMS 410. Instruction Mode:

Lecture Grading Option: Letter

SWMS 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Study of a selected problem, period, or theme through interdisciplinary approaches. Instruction Mode: Lecture Grading Option: Letter

SWMS 504 Theories of Race, Class, and Gender
Units: 4 (Enroll in ENGL 504)

SWMS 505 Seminar in Feminist Theory and Art History
Units: 4 Max Units: max 8 (Enroll in AHIS 505)

SWMS 507 Gender and International Relations
Units: 4 Terms Offered: Irregular (Enroll in IR 507)

SWMS 508 Ethics of Liberation Theology
Units: 4 (Enroll in REL 508)

SWMS 509 Culture, Gender, and Global Society
Units: 4 (Enroll in IR 509)

SWMS 516 Seminar: Feminist Theory and Communication
Units: 4, 2 years Terms Offered: Sp (Enroll in COMM 516)

SWMS 544 Feminist Theory for Historians
Units: 4 Terms Offered: Fa (Enroll in HIST 544)

SWMS 546 Comparative History of Women and Gender in the West to 1800
Units: 4 Terms Offered: Fa (Enroll in HIST 546)

SWMS 550 Gender and Education in the Third World
Units: 3 (Enroll in EDPA 550)

SWMS 551 Studies in the History of Women, Gender and Sexuality
Units: 4 Max Units: max 8 (Enroll in HIST 550)

SWMS 553 Race, Gender and Sexuality
Units: 4 (Enroll in AMST 553)

SWMS 554 Women in Global Perspective
Units: 4 Women and immigration, employment, and household and family relations in the context of the global economy; women's social and political movements in diverse cultural contexts. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ANTH-554, POSC-554, SOCI-554

SWMS 556 Seminar on Women and the Family in China
Units: 4 (Enroll in EALC 556)

SWMS 560 Feminist Theory
Units: 4 Terms Offered: FaSpSm History of feminist theory and major perspectives of current feminist theory: liberal feminism, socialist/Marxist feminism, radical feminism, psychological feminism, spiritual feminism, and ecological feminism. Instruction Mode: Lecture Grading Option: Letter Crosslisted as EDHP-560, POSC-560, SOCI-560

SWMS 577 Therapy, Gender, and Ethnicity
Units: 3 (Enroll in SOCI 577)

SWMS 588 Seminar in Gay, Lesbian, Bisexual and Transgender Studies
Units: 4 Interdisciplinary crosscultural, historical, psychological, sociological, and contemporary political perspectives on female and male homosexual eroticism, and the emergence of gay, lesbian, bisexual, and transgender identities. Instruction Mode: Lecture Grading Option: Letter

SWMS 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree in cognate fields. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

SWMS 593 Practicum in Teaching Gender Studies
Units: 2 Terms Offered: Fa Basic principles of gender studies pedagogy, emphasizing practical applications and the importance of career-long skill development. Required for first-semester teaching assistants in gender studies. Registration Restriction: Open only to doctoral students. Instruction Mode: Lecture Grading Option: Credit/No Credit

SWMS 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Seminar in selected topics relating to gender and feminism. Instruction Mode: Lecture Grading Option: Letter

SWMS 621 Gender Discrimination
Units: 1, 2, 3, 4 Terms Offered: FaSp (Enroll in LAW 621)

SWMS 623 Family Law
Units: 3 or 4 (Enroll in LAW 623)

SWMS 630 Studies in Gender
Units: 4 Max Units: max 12 (Enroll in ENGL 630)

SWMS 640 Sociology of Gender and Sexuality
Units: 4 Terms Offered: FaSp (Enroll in SOCI 640)

SWMS 642 Sex and Gender in Society
Units: 4 (Enroll in SOCI 642)

SWMS 648 Fertility Control Policies
Units: 4 (Enroll in SOCI 648)

SWMS 650 Seminar on Women's and Family History
Units: 4 Max Units: max 8 Terms Offered: Sp (Enroll in HIST 650)

Dramatic Arts

THTR 101 Introduction to Acting
Units: 4 Terms Offered: FaSp Study of genres, terminology, and disciplines of acting; fundamental techniques necessary for performance; scene study from contemporary plays. Instruction Mode: Lecture Grading Option: Letter

THTR 105 Introduction to Screen Acting
Units: 2 Terms Offered: FaSp Introduction to the theoretical and foundational practices, techniques and strategies specific to screen acting in relation to the basic dynamics of acting for the stage. *Prerequisite:* THTR 101 and THTR 152 and THTR 252a Instruction Mode: Lecture Grading Option: Letter

THTR 110 Dramatic Analysis
Units: 2 Terms Offered: Fa Actors work on the text: analysis in rehearsal of scripts drawn from contemporary realism for dramatic characterization. *Corequisite:* THTR 115 , THTR 120a, THTR 140a. Instruction Mode: Lecture Grading Option: Letter

THTR 115a Movement I
Units: 2 Terms Offered: Fa Basic training for the actor's body for expression and communication. Awareness and control through mind-body techniques. *Corequisite:* THTR 120a and THTR 140a Registration Restriction: Open only to Theatre (Acting) majors Duplicates Credit in former THTR 115 Instruction Mode: Lecture Grading Option: Letter

THTR 115b Movement I
Units: 2 Terms Offered: Sp Basic training for the actor's body for expression and communication. Awareness and control through mind-body techniques. *Prerequisite:* THTR 115a *Concurrent Enrollment:* THTR 120b and THTR 140b Duplicates Credit in former THTR 115 Instruction Mode: Lecture Grading Option: Letter

THTR 120aL Acting I
Units: 2 Terms Offered: Fa Basic principles and techniques of acting through theatre games and improvisation. Introduction to contemporary texts, basic characterization and cold reading techniques. *Corequisite:* THTR 115a and THTR 140a Registration Restriction: Open only to Theatre (Acting) majors Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTR 120b Acting I
Units: 2 Terms Offered: Sp Basic principles and techniques of acting through theatre games and improvisation. Introduction to contemporary texts, basic characterization and cold reading techniques. *Corequisite:* THTR 140b. Instruction Mode: Lecture Grading Option: Letter

THTR 121ax Fundamentals of Acting
Units: 2 Terms Offered: FaSp The elements of the actor's imaginative skills. Instruction Mode: Lecture Grading Option: Letter

THTR 121bx Fundamentals of Acting
Units: 2 Terms Offered: FaSp Continuation of THTR 121a. Instruction Mode: Lecture Grading Option: Letter

THTR 122 Improvisation and Theatre Games
Units: 2 Max Units: 4.0 Terms Offered: FaSp Individual and group exercise to free the actor physically and emotionally and to stimulate creativity, imagination, and self-expression. Instruction Mode: Lecture Grading Option: Letter

THTR 124ax Character Acting
Units: 2 Terms Offered: FaSp Concentration of imaginative processes which develop the individual characteristics of a dramatic role. Instruction Mode: Lecture Grading Option: Letter

THTR 124bx Character Acting
Units: 2 Terms Offered: FaSp Continuation of THTR 124a. Instruction Mode: Lecture Grading Option: Letter

THTR 125 Text Studies for Production
Units: 4 Terms Offered: Fa Focuses on the questions, artistic choices, methodologies, and approaches of an actor/director/designer in the preparation of a production score prior to rehearsal. Instruction Mode: Lecture Grading Option: Letter

THTR 130 Introduction to Theatrical Production
Units: 2 Terms Offered: FaSp Introduction to the nonperformance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 131a Advanced Theatrical Production
Units: 2 Terms Offered: FaSp Advanced understanding of non-performance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 131b Advanced Theatrical Production
Units: 2 Terms Offered: FaSp Advanced understanding of non-performance areas of theatrical production (administrative, design, and technical fields) through hands-on participation in USC productions. *Prerequisite:* THTR 131a Instruction Mode: Lecture, Lab Required Grading Option: Letter

THTR 132a Art of Theatrical Design
Units: 2 Terms Offered: FaSp A guided student exploration of the fundamentals of applied design elements and their use as creative tools in the design process. Instruction Mode: Lecture Grading Option: Letter

THTR 132b Art of Theatrical Design
Units: 2 Terms Offered: FaSp Development of the artistic process and theatrical design vocabulary of the individual within the environment of collaborative storytelling. Instruction Mode: Lecture Grading Option: Letter

THTR 140a Voice I
Units: 2 Terms Offered: Fa Physiological mechanism of voice: breath control, phonation, resonance, articulation of language for the stage; expressive use of stress, intonation and rhythm. *Corequisite:* THTR 115a and THTR 120a Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 140b Voice I
Units: 2 Terms Offered: Fa Physiological mechanism of voice: breath control, phonation, resonance, articulation of language for the stage; expressive use of stress, intonation and rhythm. *Corequisite:* THTR 120b. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 152 Introduction to Scene Study
Units: 2 Terms Offered: FaSp Application and consolidation of the skills, knowledge and techniques acquired in the study of fundamentals of acting encountered in THTR 101. *Prerequisite:* THTR 101. Instruction Mode: Lecture Grading Option: Letter

THTR 195g Theatre on Film
Units: 4 Terms Offered: FaSp Introduction to the theatre and its relationship to society through major plays in film versions. Separate screenings to be arranged. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 196g Shakespeare on Film
Units: 4 Introduction to the formalized plays of William Shakespeare as texts for performance through reading, viewing and analysis of selected plays in textual and film versions. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 197g Comedy and Performance
Units: 4 Comedy and Performance traces the history of comedy in performance from its earliest incarnations to the present day. Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 201 Introduction to the Theatre
Units: 4 Terms Offered: Sp Gateway to the majors and minors in theatre. Introduction to and exploration of the creative elements of theatre art: playwriting, acting, directing, and design of scenery, lighting, and costume. Research on a selected area. Duplicates Credit in former THTR 100. Instruction Mode: Lecture Grading Option: Letter

THTR 210 Theory and Practice of World Theatre I
Units: 4 Terms Offered: Fa A multicultural and transnational examination of the history, theory and practice of theatre from its origins to the age of Shakespeare and Zeami. *Recommended Preparation:* THTR 125 Instruction Mode: Lecture, Discussion Grading Option: Letter

THTR 211g Theory and Practice of World Theatre II
Units: 4 Terms Offered: Sp A multicultural and transnational examination of the history, theory and practice of theatre from the Renaissance to the 19th Century. *Recommended Preparation:* THTR 125. Satisfies New General Education in Category A: The Arts Duplicates Credit in former THTR 311. Instruction Mode: Lecture, Discussion Grading Option: Letter

THTR 212 Theory and Practice of World Theatre III
Units: 4 Terms Offered: Sp A multicultural and transnational examination of the history, theory and practice of theatre from the late 19th century to the present date. *Recommended Preparation:* THTR 125. Instruction Mode: Lecture, Discussion Grading Option: Letter

THTR 213 Corset Construction
Units: 3 Terms Offered: FaSp Design and construct period corsets, along with the materials and terminology needed to sew (machine and hand) corsets. Instruction Mode: Lecture Grading Option: Letter

THTR 215a Movement II
Units: 2 Terms Offered: Fa Training of the actor's body with focus on development of precision and strength. *Prerequisite:* THTR 115 ; *Corequisite:* THTR 220a, THTR 240a. Instruction Mode: Lecture Grading Option: Letter

THTR 215b Movement II
Units: 2 Terms Offered: Sp Training of the actor's body with focus on mask work for the development of precision, strength and expressiveness. *Prerequisite:* THTR 215a; *Corequisite:* THTR 220b, THTR 240b. Instruction Mode: Lecture Grading Option: Letter

THTR 216 Movement for Actors
Units: 2 Terms Offered: FaSp Training and practice in the coordination of the physical apparatus of the actor utilizing various movement techniques through improvisation. Instruction Mode: Lecture Grading Option: Letter

THTR 220a Intermediate Acting I
Units: 2 Terms Offered: FaSp Continuing development of imagination leading to an increased range of dramatic expression through the formalized text of William Shakespeare. *Prerequisite:* THTR 120b. Instruction Mode: Lecture Grading Option: Letter

THTR 220b Intermediate Acting I
Units: 2 Terms Offered: FaSp Continuing development of imagination leading to an increased range of dramatic expression through the formalized text of William Shakespeare. *Prerequisite:* THTR 120b. Instruction Mode: Lecture Grading Option: Letter

THTR 222 Stage Make-up
Units: 2 Terms Offered: FaSp Principles of stage make-up materials and skills allowing the actors to enhance their features and techniques for moderate and extreme aging, injuries, and character roles. Instruction Mode: Lecture Grading Option: Letter

THTR 225g Theatre Across History and Cultures
Units: 4 Terms Offered: FaSp The analysis of a range of plays from different times and cultures with a consideration of the roles of actor, director, dramaturg and designer. *Recommended Preparation:* THTR 125 Satisfies New General Education in Category A: The Arts Instruction Mode: Lecture Grading Option: Letter

THTR 230 Communicating Theatrical Design Concepts
Units: 3 Terms Offered: FaSp The visualization and communication of design ideas through free-hand and mechanical drawing, including orthographics, isometrics, perspective, shades and shadows, plans, sections and elevations. Instruction Mode: Lecture Grading Option: Letter

THTR 231a Costume Construction
Units: 3 Terms Offered: FaSp Historical survey, theory and practice in construction of costume, emphasis on period and style. *Recommended Preparation:* THTR 125, THTR 201. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 231b Costume Construction
Units: 3 Terms Offered: FaSp Historical survey, theory and practice in construction of costume, emphasis on period and style. *Recommended Preparation:* THTR 125,

THTR 201. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 232 Stage Lighting
Units: 3 Terms Offered: FaSp Theory and practice of theatrical lighting design including electricity, radiant energy, refraction, reflection, absorption, chromatic variation, and electronic controls. *Prerequisite:* THTR 131. Instruction Mode: Lecture Grading Option: Letter

THTR 236 Stage Sound
Units: 2 Terms Offered: FaSp Basic audio engineering science, how sound is measured, basic transducers and signal flow. Operation of recording and playback equipment used in theatrical sound design/mixing. Instruction Mode: Lecture Grading Option: Letter

THTR 240a Voice II
Units: 2 Terms Offered: FaSp Development of the voice using material which explores the techniques of Shakespeare and his contemporaries. *Prerequisite:* THTR 140b; *Corequisite:* THTR 215a, THTR 220a. Instruction Mode: Lecture Grading Option: Letter

THTR 240b Voice II
Units: 2 Terms Offered: FaSp Development of the voice using material which explores the techniques of Shakespeare and his contemporaries. *Prerequisite:* THTR 140b; *Corequisite:* THTR 215b, THTR 220b. Instruction Mode: Lecture Grading Option: Letter

THTR 241 Methods and Materials
Units: 2 Terms Offered: FaSp Cutting-edge and traditional methods and materials that enhance both the planning stages and realization of the theatrical design. Instruction Mode: Lecture Grading Option: Letter

THTR 250 Camera and Improvisation
Units: 2 Terms Offered: FaSp Understanding on-camera acting and improvisation by creating original material both in front and behind the camera. *Prerequisite:* THTR 220a or THTR 252a Instruction Mode: Lecture Grading Option: Letter

THTR 252a Intermediate Acting I
Units: 2 Terms Offered: FaSp Polishing the actor's skills through analysis and class performance of scenes from plays. Instruction Mode: Lecture Grading Option: Letter

THTR 252b Intermediate Acting I
Units: 2 Terms Offered: FaSp Continuation of THTR 252a. Instruction Mode: Lecture Grading Option: Letter

THTR 290 Introduction to Medical Clowning
Units: 2 Terms Offered: FaSp Explores the art of clowning in hospitals for the purpose of improving the well-being of those in need. Instruction Mode: Lecture Grading Option: Letter

THTR 295 Theatre in Los Angeles
Units: 2 Terms Offered: FaSp Current state of American theatre, through a study of acting, playwriting, criticism, stage design, lighting, and dramatic styles. Instruction Mode: Lecture Grading Option: Letter

THTR 300 Introduction to Modern Drama
Units: 4 Terms Offered: Fa An investigation of the ideas, forms, genres, and thematic concerns of modern drama. Equal emphasis is placed on the plays and their historical contexts. Duplicates Credit in former THTR 200. Instruction Mode: Lecture Grading Option: Letter

THTR 301 Greek and Roman Theatre
Units: 4 Terms Offered: Fa Examines the function of theatre, production and acting conventions, and the drama of classical Greece and Rome. *Recommended Preparation:* THTR 125, THTR 201. Duplicates Credit in former THTR 213. Instruction Mode: Lecture Grading Option: Letter

THTR 302 Shakespeare in His World
Units: 4 Terms Offered: Sp The plays and theatre of Shakespeare, the influences on his work and his contemporary world. *Recommended Preparation:* THTR 201, THTR 210, THTR 211. Duplicates Credit in former THTR 214. Instruction Mode: Lecture Grading Option: Letter

THTR 303 Projection Design I
Units: 3 Terms Offered: FaSp Investigation of the projection design process, equipment, multi-media, digital technology concepts, and related documentation. *Prerequisite:* THTR 131b and THTR 132a and THTR 132b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 305a Directing
Units: 4 Terms Offered: FaSp Examination of basic directorial principles. Pre-production analysis and rehearsal procedures; relationship of the director to actor; integration of technical aspects of production. Instruction Mode: Lecture Grading Option: Letter

THTR 305b Directing
Units: 4 Terms Offered: FaSp Examination of basic directorial principles. Pre-production analysis and rehearsal procedures; relationship of the director to actor; integration of technical aspects of production. *Prerequisite:* THTR 305a before b. Instruction Mode: Lecture Grading Option: Letter

THTR 310 Comedy and Diversity
Units: 4 Terms Offered: FaSp Issues of diversity are central to the societal function of comedy. Students will explore the techniques, structures and performance of sitcoms, sketch comedy and stand-up. *Recommended Preparation:* THTR 125 and THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 312 LGBTQ Theatre
Units: 4 Terms Offered: FaSp Explores the range and genealogy of LGBTQ theatre and performance across political, historical, and theatrical contexts. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 313 Comedy of Manners
Units: 4 Terms Offered: Fa Study of the development of Comedy of Manners, with primary focus on Restoration Comedy of Manners. *Recommended Preparation:* THTR 201, THTR 210, THTR 211. Instruction Mode: Lecture Grading Option: Letter

THTR 314 Advanced Topics in Modern Drama
Units: 4 Terms Offered: Sp 20th century realism and the avant-garde. *Recommended Preparation:* THTR 201, THTR 210, THTR 211. Instruction Mode: Lecture Grading Option: Letter

THTR 315a Physical Theatre I
Units: 2 Terms Offered: FaSp Actor training anchored by rigorous physical movements. Activities include comedy, clowning, juggling, and mask work. Instruction Mode: Lecture Grading Option: Letter

THTR 315b Physical Theatre I
Units: 2 Terms Offered: FaSp Actor training anchored by rigorous physical movements. Activities include comedy, clowning, juggling, and mask work. Instruction Mode: Lecture Grading Option: Letter

THTR 316 Advanced Movement for Actors
Units: 2 Terms Offered: FaSp Advanced physical training for the B.A. actor utilizing various movement techniques through improvisation. *Prerequisite:* THTR 216. Instruction Mode: Lecture Grading Option: Letter

THTR 317 Theatre Clown
Units: 2 Terms Offered: FaSp Introduction to techniques of clown performance and key techniques including complicité, play, looks and drops. *Prerequisite:* THTR 216 Instruction Mode: Lecture Grading Option: Letter

THTR 320a Intermediate Acting II
Units: 2 Terms Offered: FaSp Further development of range and breadth of performance skills with emphasis on texts of heightened language and style. *Corequisite:* THTR 315a, THTR 340a. Instruction Mode: Lecture Grading Option: Letter

THTR 320b Intermediate Acting II
Units: 2 Terms Offered: FaSp Further development of range and breadth of performance skills with emphasis on texts of heightened language and style. *Corequisite:* THTR 315b, THTR 340b. Instruction Mode: Lecture Grading Option: Letter

THTR 322 Improv 2: Advanced Improv
Units: 2 Terms Offered: FaSp An in depth study of improvised comedy scene work. An exploration of the primary tools and structure for creating improvised scenes and developing characters for stage and screen. *Prerequisite:* THTR 101 or THTR 122 Instruction Mode: Lecture Grading Option: Letter

THTR 330 Scene Design I
Units: 4 Terms Offered: Fa Historical styles, methods, and dramatic analysis for scene design as applied in contemporary practice. *Recommended Preparation:* THTR 130. Instruction Mode: Lecture Grading Option: Letter

THTR 331 Costume Design I
Units: 4 Terms Offered: Sp Historical styles, methods, and dramatic analysis in costume design as applied in contemporary practice.

Execution of costume designs for assigned works. *Recommended Preparation:* THTR 231a, THTR 231b. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 332 Lighting Design I
Units: 4 Terms Offered: FaSp Historical styles, methods, and dramatic analysis in lighting design as applied in contemporary practice. Instruction Mode: Lecture Grading Option: Letter

THTR 333 Stage Management I
Units: 3 Terms Offered: Fa Basic skills, including assembly of prompt book, blocking notation, and organizational and communication procedures applied in theatre production. Instruction Mode: Lecture Grading Option: Letter

THTR 335 Scenic Construction
Units: 3 Terms Offered: FaSp Technology, organization, and operation of the theatrical scene shop centered around the proper and safe use of tools, the choosing of materials, and methods of construction. Duplicates Credit in former THTR 131. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 336 Introduction to Sound Design
Units: 3 Terms Offered: FaSp The art and techniques of theatrical sound design. The use of music and ambient sound in theatrical presentations. Design elements as metaphor. Instruction Mode: Lecture Grading Option: Letter

THTR 340a Intermediate Voice
Units: 2 Terms Offered: FaSp Extended development of vocal freedom and range, acquisition of articulate speech. Enhancement of vocal power and resonance, techniques for performing with a dialect. *Concurrent Enrollment: Concurrent enrollment:* THTR 315a, THTR 315b, THTR 320a, THTR 320b. Instruction Mode: Lecture Grading Option: Letter

THTR 340b Intermediate Voice
Units: 2 Terms Offered: FaSp Extended development of vocal freedom and range, acquisition of articulate speech. Enhancement of vocal power and resonance, techniques for performing with a dialect. *Concurrent Enrollment: Concurrent enrollment:* THTR 315a, THTR 315b , THTR 320a, THTR 320b. Instruction Mode: Lecture Grading Option: Letter

THTR 341x Voice for the Non-Theatre Major
Units: 2 Terms Offered: Fa Designed for the non-theatre major focusing on the range, color, texture, and projection of the human voice in a variety of situations. Instruction Mode: Lecture Grading Option: Letter

THTR 342a Basic Voice
Units: 2 Terms Offered: FaSp Examination of the individual voice centering on resonance, tone, flexibility, and support through dramatic selections for transmitting meaning and emotion of character. Instruction Mode: Lecture Grading Option: Letter

THTR 342b Basic Voice
Units: 2 Terms Offered: FaSp Continuation of THTR 342a. Instruction Mode: Lecture Grading Option: Letter

THTR 343 Musical Theatre Audition
Units: 3 Terms Offered: FaSpSm Designed to give students confidence and integrity for auditions in musical theatre. Choosing appropriate material and preparation for the audition and performance. Audition required. Instruction Mode: Lecture Grading Option: Letter

THTR 352a Intermediate Acting II
Units: 2 Terms Offered: FaSp Building and sustaining character in drama. *Prerequisite:* THTR 252b. Instruction Mode: Lecture Grading Option: Letter

THTR 352b Intermediate Acting II
Units: 2 Terms Offered: FaSp Continuation of world drama. Class performance and critique. *Prerequisite:* THTR 252b. Instruction Mode: Lecture Grading Option: Letter

THTR 354 Acting Shakespeare
Units: 2 Terms Offered: FaSp Basic approach to the acting and analysis of the highly formalized texts of William Shakespeare. *Prerequisite:* THTR 101; *Recommended Preparation:* THTR 252b. Instruction Mode: Lecture Grading Option: Letter

THTR 355 Acting for Sitcoms
Units: 2 Terms Offered: FaSpSm Provide an understanding as to how to work in half-hour television and streaming media. *Prerequisite:* THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 365 Playwriting I
Units: 4 Terms Offered: FaSp Essential elements of playwriting through weekly assignments, students' initiative, occasional productions of scenes, and extensive classroom analysis. Instruction Mode: Lecture Grading Option: Letter

THTR 366 Playwriting II
Units: 4 Terms Offered: FaSp Continuation of the work begun in THTR 365. *Prerequisite:* THTR 365. Instruction Mode: Lecture Grading Option: Letter

THTR 380 Immersive Theatre
Units: 2 Terms Offered: FaSp History, principles and practice of Immersive Theatre, one of the most important contemporary movements in the field. *Prerequisite:* THTR 101 and THTR 125 and THTR 152 and THTR 225 and THTR 252a and THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 390 Special Problems
Units: 1, 2, 3, 4 Terms Offered: FaSp Supervised, individual studies. No more than one registration permitted. Enrollment by petition only. Instruction Mode: Lecture Grading Option: Letter

THTR 395m Drama as Human Relations
Units: 4 A focus on American ethnic and multicultural diversity from the perspectives of gender, race, and myth as revealed in plays, film, and other performance media. Instruction Mode: Lecture Grading Option: Letter

THTR 396 God, Drama and Entertainment
Units: 4 Terms Offered: FaSp An exploration of money, power, sex and love in relation to secular and spiritual values represented by contemporary theatre media. Instruction Mode: Lecture Grading Option: Letter

THTR 397 Theatre Practicum
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Substantive participation in productions sponsored by the school and supervised by the faculty. Instruction Mode: Lecture Grading Option: Letter

THTR 400 Eco-Theatre: Art and Science in Contemporary Plays
Units: 4 Terms Offered: FaSp Explores theatre artists' responses to the growing environmental crisis and provides a model for the intersection of theatre and other disciplines. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 401 Contemporary Theatre in a Changing World
Units: 4 Terms Offered: FaSp Explores the bold approaches that characterize the best of contemporary theatre, as well as the artists who are groundbreakers in a changing world. Instruction Mode: Lecture Grading Option: Letter

THTR 402 Projection Design II
Units: 3 Terms Offered: FaSp Projection design process, software, equipment, multi-media and digital technology concepts, and related documentation. *Prerequisite:* THTR 131b and THTR 132a and THTR 132b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 403 The Performing Arts
Units: 4 Terms Offered: FaSp An interdisciplinary inquiry into the aesthetics of the performing arts. Examines a dramatic classic and its adaptation into musical theatre, opera, ballet, and film. Duplicates Credit in the former THTR 303. Instruction Mode: Lecture Grading Option: Letter

THTR 404 Acting Theory
Units: 4 Terms Offered: FaSp Examination of the theoretical foundations of acting as an art form through the reading of primary historical texts. Instruction Mode: Lecture Grading Option: Letter

THTR 405m Performing Identities
Units: 4 Terms Offered: FaSp This course explores the live performance medium as a creative means of social redress and personal expression. Duplicates Credit in the former THTR 393m. Instruction Mode: Lecture Grading Option: Letter

THTR 406 Theatre on the Edge
Units: 4 Terms Offered: FaSp An exploration of the art of theatre at the edge of possibilities. Instruction Mode: Lecture Grading Option: Letter

THTR 407a Drawing and Rendering for the Theatre
Units: 2 Terms Offered: FaSp Drawing and rendering techniques appropriate for theatre designers. Drawing and drawing theory. Duplicates Credit in former FA 407ab. Instruction Mode: Lecture Grading Option: Letter

THTR 407b Drawing and Rendering for the Theatre

Units: 2 Terms Offered: FaSp Drawing and rendering techniques appropriate for theatre designers. Drawing and rendering. Duplicates Credit in former FA 407ab. Instruction Mode: Lecture Grading Option: Letter

THTR 408a Dialects
Units: 2 Terms Offered: FaSpSm The study of standard American stage dialect using the international phonetic alphabet. Instruction Mode: Lecture Grading Option: Letter

THTR 408b Dialects
Units: 2 Terms Offered: FaSpSm The study of accents and regional dialects. *Prerequisite:* THTR 408a. Instruction Mode: Lecture Grading Option: Letter

THTR 409 Advanced Drafting: Vectorworks
Units: 3 Terms Offered: FaSp An exploration of computer aided drafting (CAD) software, including drafting standards as achieved with Vectorworks and related software. *Prerequisite:* THTR 130 and THTR 132a and THTR 132b *Recommended Preparation:* LRI Designs Vectorworks Tutorials Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 410 The Digital Actor
Units: 2 Terms Offered: FaSp Empowers the student to forge a career in acting by managing and utilizing the many facets of social and digital media. *Prerequisite:* THTR 101 and THTR 152 and THTR 252a and THTR 252b Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 411 The Business of Acting
Units: 2 Terms Offered: FaSp Develops the student's ability to connect and combine managerial, economic and business-related skills with the craft and career of acting. *Prerequisite:* THTR 101 and THTR 152 and THTR 252a and THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 415 Physical Theatre II
Units: 2 Terms Offered: FaSp Advanced Physical Acting focusing on principles of verbal/non-verbal improvisation and communication. Elements of textual analysis, including development of character mask and of the ensemble. *Prerequisite:* THTR 315b Duplicates Credit in former THTR 415ab Instruction Mode: Lecture Grading Option: Letter

THTR 417 Stage Combat
Units: 2 Terms Offered: FaSp Introduction to safe and effective portrayals of violence for the stage. Training and practice of unarmed stage combat skills. *Recommended Preparation:* THTR 216. Instruction Mode: Lecture Grading Option: Letter

THTR 419 Alexander Technique for Performers
Units: 2 Terms Offered: FaSp Training and practice in the work of F.M. Alexander. A clear and systematic look into the underlying principles that govern human movement. Instruction Mode: Lecture Grading Option: Letter

THTR 420a Senior Project
Units: 2 Terms Offered: Fa Contemporary material from plays and screenplays with an emphasis on individual challenges and problems. *Prerequisite:* THTR 320b Registration Restriction: Open only to BFA acting majors Instruction Mode: Lecture Grading Option: Letter

THTR 420b Senior Project
Units: 2 Terms Offered: FaSp Contemporary material from plays and screenplays with an emphasis on individual challenges and problems. *Prerequisite:* THTR 320b Registration Restriction: Open only to BFA acting majors Instruction Mode: Lecture Grading Option: Letter

THTR 421 Public Speaking as Performance: A Course for Non-Actors
Units: 2 Terms Offered: FaSpSm Public speaking approached as performance, using acting techniques to communicate with confidence, clarity and charisma. Instruction Mode: Lecture Grading Option: Letter

THTR 422 Improv 3: Long Form Improvisation
Units: 2 Terms Offered: FaSp Emphasis on Full Length Improvised Performances including the styles of various playwrights, genres of films, "the Harold," improvised plays and musicals. Building on the groundwork of THTR 122 Improvisation and Theeatre Games and THTR 322 Improv 2, students apply the techniques to long form unscripted performances. *Prerequisite:* THTR 122 and THTR 322 *Recommended Preparation:* THTR 101 and THTR 483 and THTR 470 Instruction Mode: Lecture Grading Option: Letter

THTR 423 Magic
Units: 2 Terms Offered: FaSp The dramatic art of making an audience believe something is impossible. The history and performance of magic including illusion, mentalism, vanishing, coin and card tricks. Instruction Mode: Lecture Grading Option: Letter

THTR 424 The Stage Artist as Entrepreneur
Units: 2 Terms Offered: FaSp Explores all the tools required to forge a career as a stage artist, with an emphasis on producing new work. *Prerequisite:* THTR 101 and THTR 130 and THTR 152 and THTR 305a Instruction Mode: Lecture Grading Option: Letter

THTR 425 Dynamics of Technical Theatre
Units: 3 Terms Offered: FaSp Advanced technical direction topics involving the technical analysis and design of moving scenery and theatrical systems. *Recommended Preparation:* THTR 438 Instruction Mode: Lecture Grading Option: Letter

THTR 426 Being on Screen: A Class for Presenters, Hosts, and Others
Units: 2 Terms Offered: FaSp Exploration of on-camera skills required for presenters, hosts, athletes, public speakers, and others whose careers will include on-screen appearances. Registration Restriction: Not open to Theatre majors Instruction Mode: Lecture Grading Option: Letter

THTR 427 Audition Technique for Film, Television and New Media
Units: 2 Terms Offered: FaSp Develop on-camera auditioning skills for actors at a professional level in a variety of film, television, and new media venues. *Prerequisite:* THTR 101 and THTR 252b Instruction Mode: Lecture Grading Option: Letter

THTR 430 Stage Management II
Units: 3 Terms Offered: Sp Application of stage management procedures required in the professional theatre. *Prerequisite:* THTR 333. Instruction Mode: Lecture Grading Option: Letter

THTR 431 Seminar in Theatre Design
Units: 2 Terms Offered: FaSp Research into the application of contemporary topics relevant to theatrical design within the diverse cultural environment of the greater Los Angeles area. Instruction Mode: Lecture Grading Option: Letter

THTR 432a Scene Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 330. Evolution of scene design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 330. Instruction Mode: Lecture Grading Option: Letter

THTR 432b Scene Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 330. Evolution of scene design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 330. Instruction Mode: Lecture Grading Option: Letter

THTR 433a Costume Design II
Units: 3 Terms Offered: FaSp Evolution of costume design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 331. Instruction Mode: Lecture Grading Option: Letter

THTR 433b Costume Design II
Units: 3 Terms Offered: FaSp Evolution of costume design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 331. Instruction Mode: Lecture Grading Option: Letter

THTR 434a Lighting Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 332. Evolution of lighting design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 332. Instruction Mode: Lecture Grading Option: Letter

THTR 434b Lighting Design II
Units: 3 Terms Offered: FaSp Continuation of THTR 332. Evolution of lighting design through analysis of script, environmental factors, and styles. *Prerequisite:* THTR 332. Instruction Mode: Lecture Grading Option: Letter

THTR 435 Advanced Theatrical Drafting
Units: 3 Drafting style and complex graphic communication. Emphasis on creating professional plates, developing an individual style and graphic problem solving. Instruction Mode: Lecture Grading Option: Letter

THTR 436 Sound for Theatre
Units: 3 Terms Offered: Fa Introduction to electronic sound and sound reinforcement.,including basic equipment,

recording, editing, and show operation *Prerequisite:* THTR 236 or THTR 336 Instruction Mode: Lecture Grading Option: Letter

THTR 437 Scene Painting
Units: 3 Terms Offered: Sp Techniques, materials, and equipment of the scenic artist, including both historic and modern methods. *Recommended Preparation:* paint and drawing experience. Instruction Mode: Lecture Grading Option: Letter

THTR 438 Technical Theatre
Units: 3 Terms Offered: Sp Theory and practice of technical theatre. Emphasis is on technical problem solving and graphic solutions to technical theatre. *Prerequisite:* THTR 230. Instruction Mode: Lecture Grading Option: Letter

THTR 439 Stage Properties
Units: 3 Terms Offered: Sp Organization, management, and construction of properties for the theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 440 Advanced Voice
Units: 2 Terms Offered: Fa Continuation of exercises related to the individual student for the stage. *Prerequisite:* THTR 340b Duplicates Credit in former THTR 440a Instruction Mode: Lecture Grading Option: Letter

THTR 441 Advanced Sound Design
Units: 3 Terms Offered: Sp Advanced exploration of theatrical sound design theory and related technology; creative uses of music, sound effects, and audio equipment in modern theatres. *Prerequisite:* THTR 436. Instruction Mode: Lecture Grading Option: Letter

THTR 442 Voice-over Acting
Units: 2 Terms Offered: FaSp Acting techniques, recording studio technology and editing for the field of voice acting and voice-overs. *Prerequisite:* THTR 342a or THTR 408a. Instruction Mode: Lecture Grading Option: Letter

THTR 443 Production Management
Units: 4 The context and scope of work done by a Theatrical Production Manager. Students will learn about different types of theatrical organizations and how they are structured. *Prerequisite:* THTR 333; *Recommended Preparation:* two units of THTR 397. Instruction Mode: Lecture Grading Option: Letter

THTR 444 Applied Voice: Speech and Text
Units: 3 Terms Offered: Fa Intensive study of speech and voice regarding text, context, environment, dynamics, range, and accent. *Recommended Preparation:* THTR 342a, THTR 342b. Instruction Mode: Lecture Grading Option: Letter

THTR 445 Developing Your Speaking Voice
Units: 2 Terms Offered: FaSpSm Designed to expand the uniqueness of one's own voice in the areas of pitch, power, clarity, and warmth. Instruction Mode: Lecture Grading Option: Letter

THTR 450 Acting on Camera for Network and Cable TV
Units: 4 Terms Offered: Sp Practical application of acting before a camera working on television scenes, both network and cable, directed by School of Cinematic Arts BFA student directors, supervised by both Cinematic Arts and Dramatic Arts Faculty. *Prerequisite:* THTR 320b or THTR 352a Registration Restriction: Open only to seniors Instruction Mode: Lecture Grading Option: Letter

THTR 452a Advanced Acting
Units: 4 Terms Offered: FaSp Intensive investigation and performance of audition techniques. Scene study skills developed, including cold readings, first readings, rehearsal procedure, performance process, camera/taping. *Prerequisite:* THTR 352b. Instruction Mode: Lecture Grading Option: Letter

THTR 452b Advanced Acting
Units: 4 Terms Offered: FaSp Intensive investigation and performance of audition techniques. Scene study skills developed, including cold readings, first readings, rehearsal procedure, performance process, camera/taping. *Prerequisite:* THTR 352b. Instruction Mode: Lecture Grading Option: Letter

THTR 453 Taking it on the Road and Beyond
Units: 4 Terms Offered: Sp Specific instruction to prepare Stage Managers for the rigors and processes of Touring and Opera productions as well as other non-theatrical team-based collaborations in entertainment. *Prerequisite:* THTR 333 and THTR 430; *Recommended Preparation:* 2 units of THTR 397. Instruction Mode: Lecture Grading Option: Letter

THTR 454 Acting Shakespeare II
Units: 2 Terms Offered: FaSp A continuation and deeper investigation of the analysis and performance of the highly formalized texts of William Shakespeare. *Prerequisite:* THTR 354. Instruction Mode: Lecture Grading Option: Letter

THTR 456 Latinx Theatre
Units: 4 Terms Offered: FaSp Explores the range and genealogy of Latinx theatre and performance from its origins in the last fifty years to the present. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 458 Visiting Artist Workshop
Units: 2 Max Units: 4.0 Terms Offered: FaSp A workshop course taught by the visiting artist holding the George Burns chair. Course topics will be determined by the instructor. Instruction Mode: Lecture Grading Option: Letter

THTR 459 Songwriting for the Musical Theatre
Units: 2 Terms Offered: FaSp Structure, character and intention in songwriting for the musical theatre. Writing for the voice and examination of how form follows content. Portfolio submission required. Instruction Mode: Lecture Grading Option: Letter

THTR 460 Asian and Asian American Theatre: Identity and Aesthetics
Units: 4 Terms Offered: FaSp Explores Asian and Asian Amerian theatre, from the historical to the contemporary, with an aim toward understanding issues of aesthetics, acculturation, and identity. *Prerequisite:* THTR 225 Instruction Mode: Lecture Grading Option: Letter

THTR 464 An Actor's Reel
Units: 2 Terms Offered: FaSp Using original and existing scripted material for film, television and new media students will act, film and edit scenes to form a professional performance reel. *Prerequisite:* THTR 252a or THTR 320b Instruction Mode: Lecture Grading Option: Letter

THTR 465 Playwriting III
Units: 4 Analysis of a full-length play or its equivalent with continued production opportunity. *Prerequisite:* THTR 366. Instruction Mode: Lecture Grading Option: Letter

THTR 466 Playwriting IV
Units: 4 Continuation of the work begun in THTR 465. *Prerequisite:* THTR 465. Instruction Mode: Lecture Grading Option: Letter

THTR 467 Going Viral: Performance for New Media
Units: 2 Terms Offered: FaSp A writing and performance course (partially online) for new media. Students will learn to create original short form and web series content for new media including YouTube, Funny or Die, Periscope and other Internet platforms. Instruction Mode: Lecture Grading Option: Letter

THTR 468 Theatre in Education
Units: 4 Terms Offered: Sp Exploration of the theory and practice of theatre arts in the learning environment. Design and implement projects to support elementary and secondary education. *Recommended Preparation:* THTR 201, EDUC 200. Instruction Mode: Lecture Grading Option: Letter

THTR 469 Satire and Parody in Performance
Units: 2 Terms Offered: FaSp A survey of the history and implementation of American satire and parody in performance from Mark Twain to Jon Stewart and beyond. Building on the past, students will learn the structures and techniques for parodying and satirizing the contemporary world through writing and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 470 Sketch Comedy for Theatre
Units: 2 A writing-performance workshop in which the students create, rehearse, and perform original sketch comedy material. Instruction Mode: Lecture Grading Option: Letter

THTR 471 Senior Showcase
Units: 2 Designed to provide the graduating students with an opportunity to select, prepare and perform for agents, directors and producers in film, television and theatre. Audition required. Instruction Mode: Lecture Grading Option: Letter

THTR 472 Professional Preparation for Actors
Units: 2 Terms Offered: FaSp Introduction to the skills, knowledge, and promotional

materials that will enable the student to manage an independent career in the performing arts. *Recommended Preparation:* THTR 101, THTR 252a, THTR 252b. Instruction Mode: Lecture Grading Option: Letter

THTR 473 Sketch Comedy in Performance
Units: 2 Terms Offered: Sp A workshop in the techniques of performing humorous sketches, in collaboration with writers, directors, and technicians in the production of a live sketch comedy show. *Recommended Preparation:* THTR 101, THTR 122, THTR 470. Instruction Mode: Lecture Grading Option: Letter

THTR 474 Introduction to Stand Up Comedy
Units: 2 An introduction to the discipline of conceiving, writing, and creating original Stand Up Comedy routines. Instruction Mode: Lecture Grading Option: Letter

THTR 475 Acting on Camera: The Collaborative Process
Units: 4 Max Units: 8.0 Acting students will learn to develop on-camera acting skills and to collaborate with student directors and cinematographers from the School of Cinematic Arts. *Recommended Preparation:* 300-level acting course. Instruction Mode: Lecture Grading Option: Letter

THTR 476mw African American Theatre, Dance, and Performance
Units: 4 A survey of African American theatre and cultural performance traditions as a reflection of both African American culture and American history. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

THTR 477 Theatre and Therapy
Units: 4 Terms Offered: Fa Explores theatre as a healing art form. Techniques include games, improv, playback theatre, Boal's and Moreno's drama therapy, and Jungian dream theatre to name a few. Work with incarcerated youth, gay/lesbian/bi teens, elderly, disabled and other populations. Instruction Mode: Lecture Grading Option: Letter

THTR 478a Theatre for Youth
Units: 2 Theory and practice of youth theatre, including development and rehearsal of mainstage productions. Emphasis on multicultural and bilingual pieces. Enroll by audition or interview only. Instruction Mode: Lecture Grading Option: Letter

THTR 478b Theatre for Youth
Units: 2 Continuation of a, bringing developed pieces into production for regional K–12. Instruction Mode: Lecture Grading Option: Letter

THTR 479 Solo Performance
Units: 4 Terms Offered: Fa A writing-performance workshop in which students write, develop, and rehearse original, autobiographical and character monologues and perform them at the end of the semester. Instruction Mode: Lecture Grading Option: Letter

THTR 480a Performance for Camera
Units: 2 Terms Offered: FaSpSm Structured to address the dynamics of acting in relation to film/television. Refining the students' understanding of the similarities/differences between acting on stage/film. Duplicates Credit in former THTR 480. Instruction Mode: Lecture Grading Option: Letter

THTR 480b Performance for Camera
Units: 2 Terms Offered: FaSpSm Continued exploration of acting for film/television. Furthering the student's understanding of the similarities/differences between acting on stage/film. Instruction Mode: Lecture Grading Option: Letter

THTR 481 From The Border to Broadway
Units: 4 Terms Offered: Fa An investigation of the role that Latina/o plays and performances have played in creating and documenting a contemporary American experience of the theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 482 Stand Up 2: Honing Your Act
Units: 2 Terms Offered: FaSp Enhancement and extension of the student's comedic set using new forms and structures to develop the student's comedic sensibility and content culminating with 15 minutes of original stand up comedy content. *Prerequisite:* THTR 474 Instruction Mode: Lecture Grading Option: Letter

THTR 483 Characters of Comedy
Units: 2 Terms Offered: FaSp An in depth study of the performance of archetypal characters of comedy focused on the lineage from commedia to sit-com. Students will create original characters from archetypal forms and explore their relatiohships in classis and contemporary comedic performance. Instruction Mode: Lecture Grading Option: Letter

THTR 484 Acting in Television Commercials
Units: 2 Terms Offered: FaSm An on-camera, workshop-style introduction to techniques, perspectives and theories unique to performing in television commercials. *Recommended Preparation:* a 300-level acting or voice class. Instruction Mode: Lecture Grading Option: Letter

THTR 485 Advanced Solo Performance
Units: 4 Terms Offered: Sp An advanced writing and performance workshop. Students will write and rehearse an extended personal monologue to be presented at the end of the semester. *Prerequisite:* THTR 479. Instruction Mode: Lecture Grading Option: Letter

THTR 486 Creating Characters
Units: 4 A writing workshop devoted to the creation of living, breathing characters, exploring a range of techniques designed to develop authenticity. Instruction Mode: Lecture Grading Option: Letter

THTR 487 Promotion for the Performing Arts
Units: 4 Terms Offered: Fa Introduction and overview of all aspects of marketing the arts including both non-profit and commercial organizations. Instruction Mode: Lecture Grading Option: Letter

THTR 488mw Theatre in the Community
Units: 4 Terms Offered: Fa Research and actively develop the theory of theatre as a moving political, social, economic and spiritual force of change within the local community. Satisfies Global Perspective in Category G: Citizenship in a Diverse World Instruction Mode: Lecture Grading Option: Letter

THTR 489 Theatre Internship
Units: 2, 3, 4, 5, 6 Terms Offered: FaSpSm Practical experience in the entertainment industry. Instruction Mode: Lecture Grading Option: Letter

THTR 490x Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8 Max Units: 12.0 Terms Offered: FaSpSm Individual research and readings. Not available for graduate credit. Instruction Mode: Lecture Grading Option: Letter

THTR 491 Theatre Organization and Administration
Units: 4 Terms Offered: Fa Budgets, contracts, box-office procedures, public relations; personnel and executive policies of the school, community, and professional theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 492 Producing Theatre
Units: 4 Terms Offered: Sp Analysis of all procedures involved in producing theatre (commercial or non-profit) including legal and business guidelines and contracts. *Prerequisite:* THTR 491. Instruction Mode: Lecture Grading Option: Letter

THTR 493a Periods and Styles
Units: 2 Terms Offered: FaSp A survey of the influence of historical and cultural events on the evaluation of theatrical styles. Classical to Jacobean. Instruction Mode: Lecture Grading Option: Letter

THTR 493b Periods and Styles
Units: 2 Terms Offered: FaSp A survey of the influence of historical and cultural events on the evaluation of theatrical styles. Restoration to 20th century. Instruction Mode: Lecture Grading Option: Letter

THTR 494 Raising Money for the Arts
Units: 4 Terms Offered: Sp Overview of fundraising techniques for non-profit theatre including grantsmanship, board development, direct mail soliciting, and money raising activities and events. Instruction Mode: Lecture Grading Option: Letter

THTR 495 Experimental Theatre Workshop I
Units: 4 Max Units: 8.0 Terms Offered: FaSp Guidance and direction in the production of new and experimental plays for a public audience. Instruction Mode: Lecture Grading Option: Letter

THTR 496 Experimental Theatre Workshop II
Units: 4 Max Units: 8.0 Terms Offered: FaSp Continuation of THTR 495. Enrollment by audition only. Instruction Mode: Lab Grading Option: Letter

THTR 497 Advanced Theatre Practicum
Units: 2 Max Units: 4.0 Terms Offered: FaSp Intensive participation in a production sponsored by the school and supervised by

the faculty, to increase and develop artistic growth. *Prerequisite:* THTR 397. Instruction Mode: Lecture Grading Option: Letter

THTR 498 Production Analysis and Performance
Units: 4 Investigation and analysis of the work of a major dramatist and his milieu; production of one of his plays. Instruction Mode: Lecture Grading Option: Letter

THTR 499 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Terms Offered: FaSp Studies in selected areas of theatre art. Intensive practice in role and script interpretation and its psychological relationship to the audience. Instruction Mode: Lecture Grading Option: Letter

THTR 500 Dramaturgical Perspectives and Approaches
Units: 2 Max Units: 10.0 Investigates art and craft of dramatic writing initiated/completed in other MFA in Dramatic Writing courses or that was submitted as a sample for program entry. Instruction Mode: Lecture Grading Option: Letter

THTR 501 Poetry and Prose into Drama
Units: 4 Terms Offered: Sp Plays for the stage shall be written using public-domain poetry and prose as inspiration and source material, complemented with exploring poetry, prose, and varied dramas as context for the student writer. Students should be well-versed in literature, and have written in one or more genres. *Recommended Preparation:* reading poetry and novels. Instruction Mode: Lecture Grading Option: Letter Crosslisted as ENGL-563

THTR 504 The Art of Collaboration and Ensemble
Units: 2 Terms Offered: FaSp An investigation of the role that collaboration plays in making ensemble work. MFA Actors will collaborate with MFA Dramatic Writers in creating an ensemble company. Instruction Mode: Lecture Grading Option: Letter

THTR 505 Staging Community-based Theatre
Units: 3 Terms Offered: Sp Explores the theory and practice of staging community-based popular theatre, including Theatre of the Oppressed, street theatre, witness theatre, agit-prop and festival theatre events. Instruction Mode: Lecture Grading Option: Letter

THTR 506 Advanced Creating Characters
Units: 2 An advanced writing workshop that focuses on continuing development of the crafting of character, centering on depth, breadth, dimensionality, and authenticity. Instruction Mode: Lecture Grading Option: Letter

THTR 510 Writing the Short Drama
Units: 2 Terms Offered: FaSp The art and craft of dramatic writing. In particular exploring its dimensions with regard to character and story development in the ten minute play. Instruction Mode: Lecture Grading Option: Letter

THTR 512 Studies in Dramatic Analysis
Units: 2 Terms Offered: FaSp A skill-based workshop that uses a historical survey of theatre texts to develop critical reading skills along two different tracks: Acting and Dramatic Writing. Instruction Mode: Lecture Grading Option: Letter

THTR 513 Seminar in History of the Theatre
Units: 4 Bibliography, historical evolution, patterns, and techniques of the theatre from primitive to modern times. Instruction Mode: Lecture Grading Option: Letter

THTR 515a Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515b Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515c Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515d Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 515e Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. *Corequisite:* THTR 480, THTR 540e, THTR 555, THTR 575. Instruction Mode: Lecture Grading Option: Letter

THTR 515f Advanced Movement
Units: 2 Terms Offered: FaSp Advanced exercises in movement for the use of the body in relation to the stage. *Corequisite:* THTR 520e, THTR 540f, THTR 597. Instruction Mode: Lecture Grading Option: Letter

THTR 520a Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture Grading Option: Letter

THTR 520b Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 520c Advanced Acting
Units: 2 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture Grading Option: Letter

THTR 520d Advanced Acting
Units: 4 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 520e Advanced Acting
Units: 2 Terms Offered: FaSp Advanced training in acting skills; emphasis upon individual needs. *Corequisite:* THTR 515f, THTR 540f, THTR 571, THTR 597. Instruction Mode: Lecture Grading Option: Letter

THTR 521 Engaging Community Narratives
Units: 3 Terms Offered: Fa Provides training for actor/artists who partner with non-actors in community-based theatre projects. Instruction Mode: Lecture Grading Option: Letter

THTR 525 Seminar in Contemporary Theatre
Units: 4 Terms Offered: SpSm Analysis of trends, problems, and the work of major figures in the contemporary theatre. Instruction Mode: Lecture Grading Option: Letter

THTR 526 Seminar in Dramatic Literature
Units: 4 Study and analysis of world drama best representing changes in philosophies, aesthetics, and tastes of audiences. Instruction Mode: Lecture Grading Option: Letter

THTR 527 Writing the Pacific Rim: Global and Western Dramatic Writing
Units: 4 Writing dramatically, utilizing the Pacific Rim and the Western United States as cultural sites of knowledge and as inspirations. Instruction Mode: Lecture Grading Option: Letter

THTR 528 Seminar in Dramatic Analysis
Units: 4 Terms Offered: Fa Drama as a living art; reading, analysis, and discussion of plays which best illustrate principles of effective playwriting. Instruction Mode: Lecture Grading Option: Letter

THTR 529a Textual Studies for Performance
Units: 4 Terms Offered: Fa Close textual reading of dramatic texts as a fundamental tool for rehearsal and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 529b Textual Studies for Performance
Units: 4 Terms Offered: Sp Close textual reading of dramatic texts as a fundamental tool for rehearsal and performance. Instruction Mode: Lecture Grading Option: Letter

THTR 530 Seminar in Dramatic Criticism
Units: 4 Dramatic criticism from the classical Greek period to the modern. Instruction Mode: Lecture Grading Option: Letter

THTR 533 Seminar in the American Theatre
Units: 4, 2 years Terms Offered: SpSm History and literature of the American theatre from its beginning to the present day. Instruction Mode: Lecture Grading Option: Letter

THTR 535 Seminar in Aesthetics of the Theatre
Units: 4 Aesthetic theories which apply to the art of the theatre; emphasis upon acting and play direction. Instruction Mode: Lecture Grading Option: Letter

THTR 540a Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance

circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540b Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540c Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540d Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. Instruction Mode: Lecture Grading Option: Letter

THTR 540e Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. *Corequisite:* THTR 515e, THTR 575, THTR 480, THTR 555. Instruction Mode: Lecture Grading Option: Letter

THTR 540f Advanced Voice Diction
Units: 2 Terms Offered: FaSp Advanced individual vocal development and application to a variety of professional and performance circumstances. *Corequisite:* THTR 515f, THTR 520e, THTR 571, THTR 597. Instruction Mode: Lecture, Lab Grading Option: Letter

THTR 541 Diction and Dialects
Units: 2 Terms Offered: Fa Fundamentals of speech, diction, dialects and accents, including work in the International Phonetic Alphabet. Instruction Mode: Lecture Grading Option: Letter

THTR 542 Singing for Actors
Units: 2 An introduction to the various facets of singing in theatrical performance. Instruction Mode: Lecture Grading Option: Letter

THTR 544 Embodied Poetics
Units: 2 Terms Offered: Fa Explores the relationship between vocal and physical expression and the spontaneity of human impulse within the community-based context. Instruction Mode: Lecture Grading Option: Letter

THTR 545 Visiting Artists Master Seminar
Units: 4 Terms Offered: Sp A workshop taught by a master visiting artist, concentrating on his/her specific expertise in relation to dramatic writing. Course topics determined by the instructor. *Recommended Preparation:* reading or viewing the work of the visiting master artist. Instruction Mode: Lecture Grading Option: Letter

THTR 550a Seminar in Scene Design
Units: 3 Terms Offered: FaSp Theory and practice of scene design; an intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 550b Seminar in Scene Design
Units: 3 Terms Offered: FaSp Theory and practice of scene design; an intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 552a Seminar in Costume Design
Units: 3 Terms Offered: FaSp Theory and practice of costume design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 552b Seminar in Costume Design
Units: 3 Terms Offered: FaSp Theory and practice of costume design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 553a Seminar in Lighting Design
Units: 3 Terms Offered: FaSp Theory and practice of lighting design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 553b Seminar in Lighting Design
Units: 3 Terms Offered: FaSp Theory and practice of lighting design; intensive investigation into the relationship of a script to the visual statement. Instruction Mode: Lecture Grading Option: Letter

THTR 554 Visual and Spatial Relationship
Units: 2 Terms Offered: FaSp The illustration and understanding of how space can be used to add emotional undertone, contextual information and strong staging ideas to a production. Instruction Mode: Lecture Grading Option: Letter

THTR 555 Directing Fundamentals
Units: 2 To provide the basic foundations for the conceptualization and execution of works for the stage. Instruction Mode: Lecture Grading Option: Letter

THTR 556a Directing
Units: 2 A seminar/workshop in developing and testing directorial skills: text, design, acting, producing, and communication with an audience. *Prerequisite:* THTR 555. Instruction Mode: Lecture Grading Option: Letter

THTR 556b Directing
Units: 2 A seminar/workshop in developing and testing directorial skills: text, design, acting, producing, and communication with an audience. *Prerequisite:* THTR 556a. Instruction Mode: Lecture Grading Option: Letter

THTR 558a Design for Directors
Units: 2 Basic elements of scenic, costume, props, lighting, sound, and make-up design, as they apply to the art of directing. *Prerequisite:* THTR 555.

THTR 558b Design for Directors
Units: 2 Basic elements of scenic, costume, props, lighting, sound, and make-up design, as they apply to the art of directing. *Prerequisite:* THTR 558a.

THTR 566 Dramatic Writing Studio
Units: 4 Max Units: 20.0 Investigates gestalt of the student dramatic writer's professional development from the empty page and writing fundamentals to the first-draft script, business affairs, and dramaturgical advancement. Instruction Mode: Lecture Grading Option: Letter

THTR 567a Studies in Playwriting
Units: 4 Extensive examination of playwriting, dramaturgical development process, and readings of work toward the completion of professionally promising plays. Instruction Mode: Lecture Grading Option: Letter

THTR 567b Studies in Playwriting
Units: 4 Continued extensive examination of playwriting, dramaturgy, development, and readings of work toward the completion of professionally promising plays. Instruction Mode: Lecture Grading Option: Letter

THTR 568 Popular Theatre for Education and Development
Units: 3 Terms Offered: Sp Theory and practice of Theatre in Education and Theatre for Development as resources for conscientization and liberation of communities at the margins of power. Instruction Mode: Lecture Grading Option: Letter

THTR 570 Acting on Camera: The Collaborative Process
Units: 2 Study of acting methods and techniques for the camera, focusing on collaboration with directors in the realization of screenplays. Instruction Mode: Lecture Grading Option: Letter

THTR 571 Professional Seminar
Units: 2 Terms Offered: Sp Introduction to the world of the professional actor. Instruction Mode: Lecture Grading Option: Letter

THTR 572 Global Dramatic Writing
Units: 4 Terms Offered: FaSp "Tour" of non-European and non-European American cultures with regard to their dramatic subject matter and traditions. Instruction Mode: Lecture Grading Option: Letter

THTR 574 Dramatic Writing Across Media for the Playwright
Units: 4 Terms Offered: FaSp Intensive overview of career paths for playwrights in a wide array of media as they exist now, and as new opportunities arise. Instruction Mode: Lecture Grading Option: Letter

THTR 575 Creative Production Projects
Units: 6 Advanced creative projects for production with emphasis on theatre as a synthesis of the performing arts. Instruction Mode: Lecture Grading Option: Letter

THTR 576 Creative Process for Dramatic Writers
Units: 4 Terms Offered: Sp An advanced writing workshop that focuses on critical and deep development of plays that are the centerpieces of student's thesis portfolios. Instruction Mode: Lecture Grading Option: Letter

THTR 577 Theatre and Therapy for Cultural Fieldwork
Units: 3 Terms Offered: Sp Explores the theory and practice of theatre and therapy in the cultural fieldwork and community development settings. *Recommended*

Preparation: THTR 587. Instruction Mode: Lecture Grading Option: Letter

THTR 578 Theatre of the Oppressed: Theory, Games, and Techniques
Units: 4 Terms Offered: FaSpSm Basic theoretical foundations of game playing for populations at the margins of power. *Recommended Preparation:* THTR 521, THTR 544. Instruction Mode: Lecture Grading Option: Letter

THTR 579 Writing Culture
Units: 3 Terms Offered: FaSpSm Borrows from anthropology, popular/community-based theatre, cultural studies, and literature to provide an array of methodologies and approaches to artistic collaboration across cultures and difference. Instruction Mode: Lecture Grading Option: Letter

THTR 586a Applied Theatre Arts: Los Angeles Residency
Units: 2 Terms Offered: FaSp Academic and group process context for students' work in their chosen local internships to help students engage with communities as cultural fieldworkers. Instruction Mode: Lecture Grading Option: Letter

THTR 586b Applied Theatre Arts: Los Angeles Residency
Units: 2 Terms Offered: FaSp Supervisory, logistical, and theoretical container for THTR 586a. Engages students in their curricular experiences in the cultural field in partnership with their community-based organizations. Instruction Mode: Lecture Grading Option: Letter

THTR 587 Liberation Arts and Community Engagement — Theory
Units: 4 Terms Offered: Fa Historical foundations of liberatory movements using expressive arts towards community-based goals of reciprocal and collaborative empowerment, civil rights, psychological or political freedom and justice. Instruction Mode: Lecture Grading Option: Letter

THTR 588 Liberation Arts and Community Engagement — Praxis
Units: 3 Terms Offered: Sp Theory and practice of developing liberatory and Theatre of the Oppressed events, from first community contact to staged public event. *Prerequisite:* THTR 587. Instruction Mode: Lecture Grading Option: Letter

THTR 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Instruction Mode: Lecture Grading Option: Credit/No Credit

THTR 591 Seminar in Producing Theatre
Units: 4 A seminar in the theories and processes of producing theatre (commercial and non-profit).

THTR 592a Participatory Action Research for Community-based Theatre
Units: 2 Terms Offered: FaSp Examination of theories and practices of Participatory Action Research (PAR) to better understand its various forms in community-based contexts using theatre as the research mode. Instruction Mode: Lecture Grading Option: Letter

THTR 592b Participatory Action Research for Community-based Theatre
Units: 2 Terms Offered: Sm Implements the theories and practices of THTR 592a towards the creation of a summative research paper on the local and international applied theatre arts experience. Instruction Mode: Lecture Grading Option: Letter

THTR 593 MFA Project
Units: 2 Max Units: 4.0 Terms Offered: FaSpSm Credit awarded upon completion of project. Instruction Mode: Lecture Grading Option: Credit/No Credit

THTR 594a Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 594b Master's Thesis
Units: 2 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 594z Master's Thesis
Units: 0 Terms Offered: FaSpSm Credit on acceptance of thesis. Instruction Mode: Lecture Grading Option: In-progress to Credit/No Credit

THTR 595a Graduate Playwrights' Workshop
Units: 4 Development of thesis plays utilizing faculty dramaturgical support and involvement of student actors/directors. Includes readings with/without audiences. Simulates professional development process Instruction Mode: Lecture Grading Option: Letter

THTR 595b Graduate Playwrights' Workshop
Units: 4 Continued development of thesis plays in a simulated professional development workshop process utilizing dramaturgy and involvement of student actors/directors. Culminates in staged readings. Instruction Mode: Lecture Grading Option: Letter

THTR 596 Thesis Development and Attainment
Units: 2 Max Units: 10.0 Designed to guide the MFADW student toward refinement of thesis including vision, development, and execution. Instruction Mode: Lecture Grading Option: Letter

THTR 597 Theatre Practicum
Units: 1, 2, 3, 4 Max Units: 12.0 Terms Offered: FaSpSm Preparation, rehearsal, and performance of dramatic works in main stage repertory. Instruction Mode: Lecture Grading Option: Letter

THTR 598 Applied Theatre Arts: International Externship
Units: 2 Supervisory, logistical and theoretical container for students exploring cultural fieldwork in international settings. *Prerequisite:* THTR 588. Instruction Mode: Lecture Grading Option: Letter

THTR 599 Special Topics
Units: 2, 3, 4 Max Units: 8.0 Studies in selected areas of theatre art. Instruction Mode: Lecture Grading Option: Letter

Translational Genomics

TRGN 510 Basic Foundations in Translational Biomedical Informatics
Units: 4 Terms Offered: FaSp Translational biomedical informatics analysis of next-generation sequencing genomic data, fundamentals, foundations, and concepts for applied analysis, human ontology, application molecular tools, basic computing. Instruction Mode: Lecture Grading Option: Letter

TRGN 514 Introduction to Human Genomic Analysis Methods
Units: 4 Terms Offered: FaSp Translational next generation sequencing genomics microarrays, RNA-seq, exome sequencing, annotation, transcriptome, ontology, pipelines, variants, expression, methylation. Instruction Mode: Lecture Grading Option: Letter

TRGN 515 Advanced Human Genomic Analysis Methods
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microrarrays, analytical validation, pipelines, molecular analysis. *Prerequisite:* TRGN 510 and TRGN 514 Instruction Mode: Lecture Grading Option: Letter

TRGN 516 Translational Genomics, Applied Databases and Datastructures
Units: 4 Terms Offered: FaSp Genomics, bioinformatics resources, NCBI, portals, databases, datastructures, NoSQL, SQL, big data. *Prerequisite:* TRGN 510 and TRGN 514 Instruction Mode: Lecture Grading Option: Letter

TRGN 520 Translational Biomedical Informatics Capstone Portfolio
Units: 4 Terms Offered: FaSpSm Portfolio, translational biomedical informatics, bioinformatics, genomics, application development, web-based application. Registration Restriction: Open only to master students in Translational Biomedical Informatics Program Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 524 Applications of Genomic Technology in Biomedical Research I
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microrarrays, commercialization, microarray analysis, expression, proteomics. Instruction Mode: Lecture Grading Option: Letter

TRGN 525 Applications of Genomic Technology in Biomedical Research II
Units: 4 Terms Offered: FaSp Molecular biotechnology, genomics, next-generation sequencing, epigenomics, drug discovery, biomarkers, microarrays, analytical validation, pipelines, molecular analysis, cloning, stem cells. *Prerequisite:* TRGN 524 Instruction Mode: Lecture Grading Option: Letter

TRGN 536 Biotechnology Primer

Units: 4 Terms Offered: FaSp Examination of classical and novel techniques used to explore and manipulate gene function and implications for the use of biotechnology in areas of global need. Recommended preparation: two semesters of introductory biology; two semesters of molecular biology and genetics. *Recommended Preparation:* Two semesters of introductory biology; two semesters of molecular biology and genetics Duplicates Credit in former MEDS 536 Instruction Mode: Lecture Grading Option: Letter

TRGN 537 Pathway and Target Discovery
Units: 4 Terms Offered: FaSp Exploration of the process of discovering and developing novel therapeutic treatments. *Recommended Preparation:* Two semesters of Introductory Biology plus two semesters of Molecular Biology, Genetics, or Cell Bio Duplicates Credit in former MEDS 537 Instruction Mode: Lecture Grading Option: Letter

TRGN 538 Seminar in Translational Biotechnology
Units: 2 Terms Offered: FaSp Series of seminars that provide updated views on various sub-specialties in biotechnology. *Recommended Preparation:* Two semesters of Introductory Biology plus two semesters of Molecular Biology, Genetics, or Cell Bio Duplicates Credit in former MEDS 538 Instruction Mode: Lecture Grading Option: Letter

TRGN 539 Translational Biotechnology Practicum
Units: 2, 3, 4 Max Units: 04 Terms Offered: FaSpSm Experiential training based on a project in a biomedical, biotechnology or pharmaceutical setting. *Recommended Preparation:* Students must have completed one core and one elective course of the program prior to enrollment Duplicates Credit in former MEDS 539 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 540 Translational Biotechnology Capstone Preparation
Units: 1 Terms Offered: FaSpSm Preparation for capstone defense course. Duplicates Credit in former MEDS 540 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 541 Translational Biotechnology Capstone Defense
Units: 2 Terms Offered: FaSpSm Finalization and defense of capstone project. *Prerequisite:* TRGN 539 and TRGN 540 Duplicates Credit in former MEDS 541 Instruction Mode: Lecture Grading Option: Credit/No Credit

TRGN 542 Biotechnology-based Therapeutics
Units: 2 Terms Offered: FaSp Covers advanced biotechnology principles and applications. Duplicates Credit in former MEDS 542 Instruction Mode: Lecture Grading Option: Letter

TRGN 543 Biotechnology Entrepreneurship and Commercialization I
Units: 2 Terms Offered: FaSp Global biotechnology industry, idea generation, business plan formulation, intellectual property protection, funding, personnel management including board composition, regulatory body interaction, company exits. Instruction Mode: Lecture Grading Option: Letter

TRGN 544 Biotechnology Entrepreneurship and Commercialization II
Units: 2 Terms Offered: FaSp Advanced discussion: global biotechnology industry, idea generation, business plan formulation, intellectual property protection, funding, personnel management including board composition, regulatory body interaction, company exits. *Prerequisite:* TRGN 543 Instruction Mode: Lecture Grading Option: Letter

TRGN 545 Exploring Chemical and Biological Therapeutic Modalities
Units: 2 Terms Offered: FaSp Turning molecules into drugs and cells into therapeutics. Emphasizing selection, development, and optimization of appropriate modalities to target specific key defects in diseases. *Prerequisite:* TRGN 537 Instruction Mode: Lecture Grading Option: Letter

TRGN 590 Directed Research
Units: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 Max Units: 12 Terms Offered: FaSpSm Research leading to the master's degree. Maximum units which may be applied to the degree to be determined by the department. Registration Restriction: Open only to students enrolled in MS, Translational Biotechnology Instruction Mode: Lecture Grading Option: Credit/No Credit

University of Southern California

USC 101 Honors Research Apprenticeship
Units: 1 Max Units: 2.0 Students work directly with faculty on faculty research projects, gain experience in the process of research and thereby contribute to new scholarship. Instruction Mode: Lecture Grading Option: Credit/No Credit

USC 250 The Academic Culture
Units: 2 Terms Offered: FaSp Study the meaning of culture in society, experience the culture of learning on campus, and examine the relationship between the two. Topics will vary. Instruction Mode: Lecture Grading Option: Credit/No Credit

Visual Studies

VISS 501 Introduction to Visual Studies: Methods and Debates
Units: 4 Terms Offered: Fa A critical introduction to the field of visual studies focusing on interdisciplinary approaches to images, objects, and visual technologies as well as key texts and interpretive debates. Registration Restriction: Open only to doctoral students Duplicates Credit in MDA 501 Instruction Mode: Lecture Grading Option: Letter

VISS 599 Special Topics
Units: 2, 3, 4 Max Units: 8 Terms Offered: Sp Focuses on a comparative investigation of ways in which people in the past used images to make history by recording current events and subsequently use them to create narratives about the past. Instruction Mode: Lecture Grading Option: Letter

Writing Program

WRIT 095x Writing Tutorial
Units: 1 Terms Offered: FaSpSm Individualized instruction in writing to support instruction in WRIT 130 or WRIT 150. *Concurrent Enrollment:* Concurrent enrollment: WRIT 130 or WRIT 150. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 120 Introduction to College Writing
Units: 4 Terms Offered: FaSpSm Intensive instruction and practice in the writing process. Focuses upon the formal conventions and conceptual expectations of college writing, with emphasis upon the grammatical, stylistic, and rhetorical techniques required in successful writing. Limited to and required of students who score below specified level on the USC Writing Examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 121 Introduction to College Writing in a Second Language
Units: 4 Terms Offered: FaSp Intensive instruction and practice in the writing process for non-native speakers of English. Focuses on the formal and conceptual conventions of college writing, with emphasis upon the grammatical, stylistic, and rhetorical techniques required in successful writing. Limited to and required of students who score below specified level on the USC Writing Examination. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 130 Analytical Writing
Units: 4 Terms Offered: Sp Focuses on analytical and argumentative writing skills requisite to academic and professional writing. Emphasizes logical analysis of texts and other data, effective use of evidence, ethical argumentation, and stylistic and grammatical fluency. Enrollment limited to specified groups of students. Students must achieve a satisfactory score on the verbal portion of the SAT, the USC Writing Examination, or credit for WRIT 120 or WRIT 121 before enrolling in WRIT 130. Instruction Mode: Lecture Grading Option: Letter

WRIT 133 College Writing for International Students
Units: 4 College writing for International Students, emphasizing the expectations of academic discourse in U.S. higher education while drawing upon a context informed by cross-cultural perspectives. *Recommended Preparation:* International Academy course work. Instruction Mode: Lecture Grading Option: Letter

WRIT 150 Writing and Critical Reasoning–Thematic Approaches
Units: 4 Terms Offered: FaSpSm Academic writing, emphasizing analysis and argumentation, rhetorical judgment, critical reasoning, creative insight, the careful use of evidence, ethical perspectives, logical organization, stylistic and grammatical fluency. Duplicates Credit in WRIT 130 and

former WRIT 140. Instruction Mode: Lecture Grading Option: Letter

WRIT 340 Advanced Writing
Units: 3, 4 Terms Offered: FaSpSm Instruction in writing for various audiences on topics related to a student's professional or disciplinary interests, with some emphasis on issues of broad public concern. *Prerequisite:* WRIT 130 or WRIT 150. Instruction Mode: Lecture Grading Option: Letter

WRIT 440 Writing in Practical Contexts
Units: 4 Terms Offered: FaSpSm Advanced training in analytical and argumentative writing for particular purposes, in professional and practical contexts. *Prerequisite:* CORE 112 or WRIT 340. Instruction Mode: Lecture Grading Option: Letter

WRIT 499 Special Topics
Units: 1, 2, 4 Max Units: 08 Selected topics of current interest. Instruction Mode: Lecture Grading Option: Letter

WRIT 501a Theory and Practice in Teaching Expository Writing
Units: 1 Terms Offered: Fa Pedagogical application of rhetorical and linguistic theory to teaching university-level expository writing. Accompanies supervised teaching. Limited to assistant lecturers and teaching assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

WRIT 501b Theory and Practice in Teaching Expository Writing
Units: 1 Terms Offered: Fa Pedagogical application of rhetorical and linguistic theory to teaching university-level expository writing. Accompanies supervised teaching. Limited to assistant lecturers and teaching assistants. Instruction Mode: Lecture Grading Option: Credit/No Credit

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University Park Campus
Los Angeles, California 90089
(213) 740-2311

Contact Us

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Managing Editor: Diane Ver Steeg Anderson

Contributing Editors: Julie Wood, Lesley Zanich (The Oak Co)